JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

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

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

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

(P)23.159

SEP 13 2023

MEMORANDUM

TO: Mary Alice Evans, Interim Director
Environmental Review Program
Office of Planning and Sustainable Development

FROM: Christine L. Kinimaka
Public Works Administrator

SUBJECT: Draft Environmental Assessment for
Pearl City Public Library
Renovation and Community Learning Center
DAGS Job Nos. 62-36-6618 and 12-36-6629

The Department of Accounting and General Services (DAGS), State of Hawaii, hereby transmits the draft environmental assessment and anticipated finding of no significant impact (DEA-AFONSI) for Pearl City Public Library, Renovation and Community Learning Center, situated at TMK: 9-7-094:026 and 029, in the Manana Ahupuaa, Ewa, on the island of Oahu, for publication in the next available edition of the Environmental Notice.

Submitted through your online portal is an electronic copy of the DEA-AFONSI in pdf format and the action location map. Bradley Furuya from PBR Hawaii & Associates Inc. is authorized to submit these documents on behalf of DAGS.

If there are any questions, please have your staff call Lance Maja of the Planning Branch at (808) 586-0483.

LM:mo
Attachments
c: Mallory Fujitani, HSPLS w/o attachments
Dean Sakamoto Architects, w/o attachments

From: webmaster@hawaii.gov
To: DBEDT OPSD Environmental Review Program
Subject: New online submission for The Environmental Notice
Date: Friday, September 29, 2023 2:10:21 PM

Action Name

Pearl City Public Library Renovation and Community Library Learning Center

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

ʻEwa, Oʻahu

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

(1) 9-7-094: 026; (1) 9-7-094: 029

Action type

Agency

Other required permits and approvals

Dust Control Plan; Noise Permit (if necessary); Americans with Disabilities Act Compliance; Board of Land and Natural Resources Disposition; Industrial Wastewater Discharge Permit (application submitted); Waiver Permit (to exceed maximum lot coverage); Grading, Grubbing, and Stockpiling Permits; Occupancy Permit; Building Permit (electrical, plumbing, civil); Site Development Master Application for Sewer Connection; Storm Drain Connection License (if necessary); Storm Water Quality Strategic Plan; and Rules Relating to Water Quality and Storm Drainage Standards Compliance

Proposing/determining agency

Department of Accounting and General Services

Agency contact name

Lance Maja

Agency contact email (for info about the action)

lance.y.maja@hawaii.gov

Agency contact phone

(808) 586-0483

Agency address

1151 Punchbowl Street
Room 430
Honolulu, HI 96810
United States
Map It

Was this submittal prepared by a consultant?

Yes

Consultant

PBR HAWAII

Consultant contact name

Bradley Furuya

Consultant contact email

bfuruya@pbrhawaii.com

Consultant contact phone

(808) 954-6348

Consultant address

1001 Bishop Street
ASB Tower, Suite 650
Honolulu, HI 96813
United States
Map It

Action summary

The proposed Project involves the renovation of the existing library, including creating flexible meeting rooms, upgrading digital technology and equipment, creating inviting outdoor reading areas with Wi-Fi access, and removing an existing mechanical enclosure. The floor area of the library will be slightly reduced from approximately 24,064 square feet to approximately 23,500 square feet. The proposed Project also includes the construction of a new, approximately 2,400 square-foot Community Library Learning Center (CLLC) and approximately 2,700 square-foot Pre-Kindergarten facility on TMK 9-7-094: 029. The new CLLC is intended to support various community uses including early learning programs, childcare, library programs, kupuna classes, and a flexible meeting space. A small outdoor recreation area and community lawn will offer comfortable play and learning spaces for keiki. The existing parking lot will be reconfigured to accommodate the safe use of the improved library and CLLC.

Reasons supporting determination

Please refer to Section 7.2 (Significance Criteria) of the Draft EA

Attached documents (signed agency letter & EA/EIS)

- 2023-09-15-Pearl-City-Public-Library-Draft-EA-and-Appendicies.pdf
- Pearl-City-Public-Library-ERP-Transmittal-from-DAGS.pdf

Action location map

- Project-Area.zip

Authorized individual

Bradley Furuya

Authorization

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

Pearl City Public Library Renovation and Community Library Learning Center

Draft Environmental Assessment/Anticipated Finding of No Significant Impact

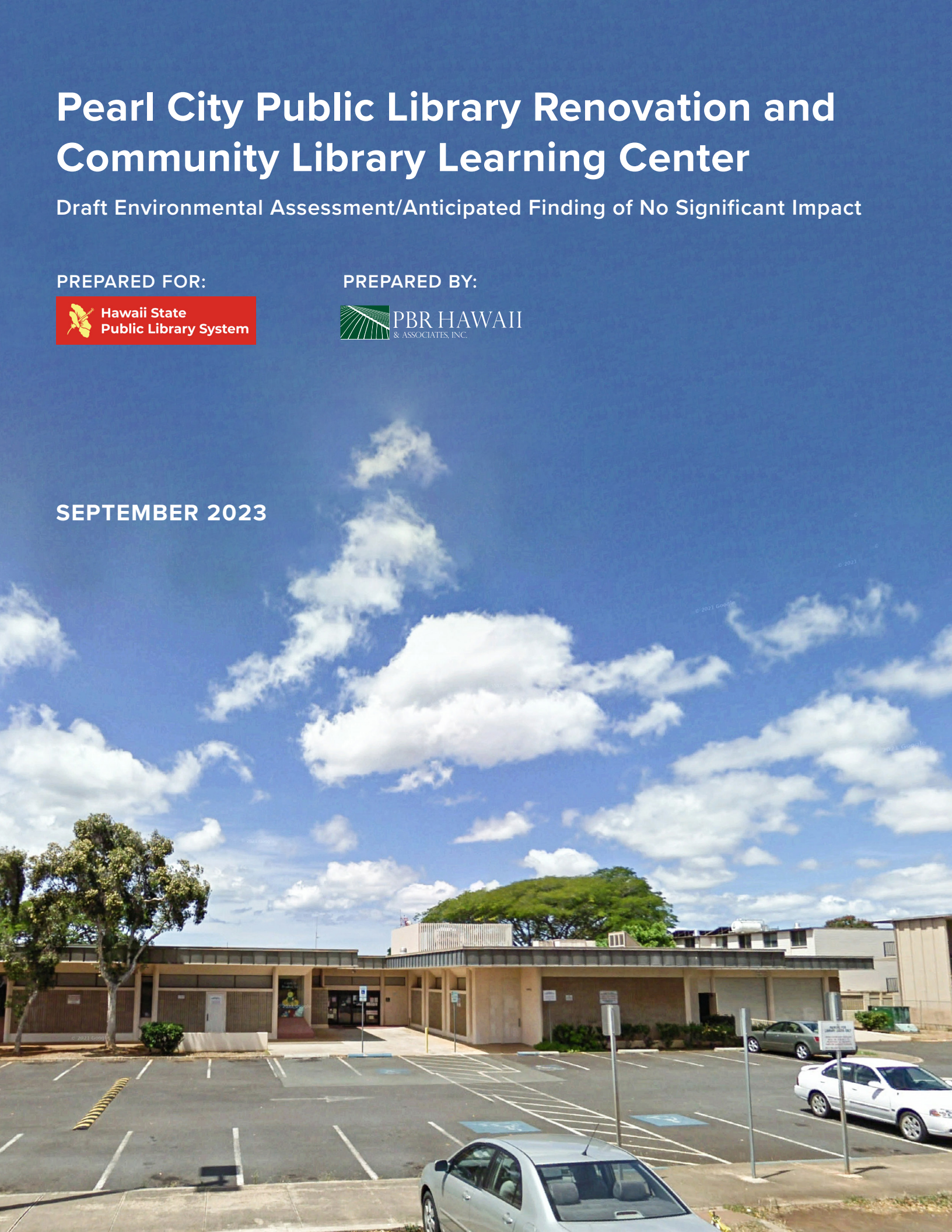
PREPARED FOR:

Hawaii State Public Library System

PREPARED BY:

PBR HAWAII & ASSOCIATES, INC.

SEPTEMBER 2023



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LIST OF ABBREVIATIONS & ACRONYMS

The following is a list of terms, abbreviations, and acronyms used in this document.

A	
AC	Air Conditioning
ADA	Americans with Disabilities Act
AFONSI	Anticipated Finding of No Significant Impact
ALISH	Agricultural Lands of Importance to the State of Hawai‘i
AM	Morning
AMSL	Above Mean Sea Level
ASM	ASM Affiliates
B	
BMPs	Best Management Practices
BWS	City and County of Honolulu, Board of Water Supply
C	
CCH	City and County of Honolulu
CGG	University of Hawai‘i Coastal Geology Group
CLLC	Community Library Learning Center
CMU	Concrete Masonry Unit
CWPPP	Certified Water Pollution Plan Preparer
CZM	Coastal Zone Management
D	
DAGS	Department of Accounting and General Services
DCS	City and County of Honolulu, Department of Community Services
DEA	Draft Environmental Assessment
DFM	City and County of Honolulu, Department of Facility Maintenance
DHS	State of Hawai‘i, Department of Human Services
DFU	Drainage Fixture Unit
DLNR	State of Hawai‘i, Department of Land and Natural Resources
DOE	State of Hawai‘i, Department of Education
DOFAW	State of Hawai‘i, DLNR, Division of Forestry and Wildlife
DOT	State of Hawai‘i, Department of Transportation
DPP	City and County of Honolulu, Department of Planning & Permitting
DTS	City and County of Honolulu, Department of Transportation Services
E	
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESCP	Erosion and Sediment Control Plan
F	
FDC	Fire Department Connection
FEA	Final Environmental Assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact

G	
GPD	Gallons Per Day
H	
H-POWER	Honolulu Program of Waste Energy Recovery
HAR	Hawai‘i Administrative Rules
HECO	Hawaiian Electric Company
HFD	Honolulu Fire Department
HPD	Honolulu Police Department
HRS	Hawai‘i Revised Statutes
L	
LID	Low-Impact Development
LOS	Level of Service
LRFI	Literature Review and Field Inspection
LSB	Land Study Bureau
LUC	State of Hawai‘i, Land Use Commission
LUO	Land Use Ordinance
M	
MGD	Million Gallons Per Day
MPH	Miles Per Hour
N	
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System Permit
NRCS	Natural Resources Conservation Service
O	
OPSD	State of Hawai‘i, Office of Planning and Sustainable Development
OTS	O‘ahu Transit Services
P	
PCBMP	Post-Construction Best Management Practices
PIFWO	Pacific Islands Fish and Wildlife Office
PM	Afternoon
R	
ROH	Revised Ordinances of Honolulu
RPBP	Reduced Pressure Principal Backflow Preventer
S	
SCP	Sustainable Communities Plan
SEFP	State Education Functional Plan
SFP	State Functional Plan
SHPD	State of Hawai‘i, Historic Preservation Division
SLR	Sea Level Rise
SLR-XA	Sea Level Rise Exposure Area
SMA	Special Management Area
T	
TIAR	Transportation Impact Analysis Report
TMK	Tax Map Key

U

UIC	Underground Injection Control
UPC	Uniform Plumbing Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

This Environmental Assessment (EA) is prepared in accordance with Chapter 343, Hawai‘i Revised Statutes (HRS) for the construction of the proposed Pearl City Public Library Renovation and Community Library Learning Center (CLLC).

1.1 PROJECT SUMMARY

Project Name:	Pearl City Public Library Renovation and Community Library Learning Center
Location:	1138 Waimano Home Road in Pearl City, O‘ahu, Hawai‘i, 96782
Judicial District:	Pearl City
Tax Map Key (TMK):	(1) 9-7-094: 026 and (1) 9-7-094: 029
Proposing Agency:	State of Hawai‘i – Department of Accounting and General Services (DAGS)
Landowner:	State of Hawai‘i – Department of Land and Natural Resources (DLNR)
Existing Uses:	Public library, surface parking, and vacant
Proposed Action:	The proposed Project involves the renovation of the existing library, including creating flexible meeting rooms, upgrading digital technology and equipment, creating inviting outdoor reading areas with Wi-Fi access, and removing an existing mechanical enclosure. The floor area of the library will be slightly reduced from approximately 24,064 square feet to approximately 23,500 square feet. The proposed Project also includes the construction of a new, approximately 2,400 square-foot CLLC and approximately 2,700 square-foot Pre-Kindergarten facility on TMK 9-7-094: 029. The new CLLC is intended to support various community uses including early learning programs, childcare, library programs, kupuna classes, and a flexible meeting space. A small outdoor recreation area and community lawn will offer comfortable play and learning spaces for keiki. The existing parking lot will be reconfigured to accommodate the safe use of the improved library and CLLC.
Project Area:	Approximately 98,470 square feet (2.26 acres)
Land Use Designations:	• State Land Use: *Urban* (Figure 15) • Primary Urban Center Deelopment Plan Land Use Map: *Lower-Density Residential* (Figure 16) • City and County Zoning: *Residential District (R-5)* (Figure 17)
Special Management Area:	None

Permits/Approvals Required:	• Chapter 343, HRS Compliance • Dust Control Plan • Noise Permit (if necessary) • Americans with Disabilities Act (ADA) Compliance • Section 6E, Hawai‘i Revised Statutes (HRS) Review • Grading, Grubbing, and Stockpiling Permits • Building Permit (electrical, plumbing, civil) • Occupancy Permit • Site Development Master Application for Sewer Connection • Storm Drain Connection License (if necessary) • Storm Water Quality Strategic Plan • Rules Relating to Water Quality and Storm Drainage Standards Compliance
Determining Agency:	State of Hawai‘i – Department of Accounting and General Services
Anticipted Determination:	Finding of No Significant Impact (FONSI)

1.2 LOCATION

The existing Pearl City Public Library is located at 1138 Waimano Home Road in Pearl City, O‘ahu, Hawai‘i, on TMK 9-7-094: 026, which is approximately 56,000 square feet in area. The existing library is bound by Hoomalu Street (mauka), Waimano Home Road (Diamond Head), Luehu Street (makai), and private properties (‘Ewa). The existing library is approximately 24,064 square feet and features a children’s room, young adult area, large reading room, computers, Wi-Fi, a meeting room for the public, and a surface parking lot. TMK 9-7-094: 029, which is currently vacant, is located immediately mauka of TMK 9-7-094: 026 and is roughly 42,470 square feet in area. Combined, the two parcels total approximately 98,470 square feet or 2.26 acres. Figure 2 illustrates existing conditions of the Project site.

1.3 SURROUNDING LAND USES

The Pearl City Public Library is surrounded by a diversity of land uses (Figure 3). Across Hoomalu Street (mauka) is the Pearl City Bus Facility and Breene Harimoto Mānana Community Park. Across Waimano Home Road (Diamond Head) is a commercial shopping center and single-family houses. Across Luehu Street (makai) is the Honolulu Police Department’s Pearl City Police Station, Pearl City Elementary School, and Pacheco Neighborhood Park. Single-family houses and multifamily apartments are located Ewa of the Pearl City Public Library.

1.4 LAND OWNERSHIP

Utilizing the Tax Map Key (TMK) system, the land under the Pearl City Public Library Renovation and CLLC site is TMK 9-7-094: 026 and 9-7-094: 029, which is owned by the State of Hawai‘i (Figure 4).

Contact: Mallory Fujitani
Special Assistant to the State Librarian
Hawai‘i State Public Library System
(By Governor's Order Executive Orders 2438 and 3929)
State of Hawai‘i
44 Merchant Street
Honolulu, HI 96813
Phone: (808) 586-3714

1.5 IDENTIFICATION OF PROPOSING AGENCY

The Department of Accounting and General Services (DAGS) is the Proposing Agency.

Contact: Lance Maja
Planning Branch
Department of Accounting and General Services
State of Hawai‘i
1151 Punchbowl Street
Room 430
Honolulu, HI 96810
Phone: (808) 586-0483

1.6 IDENTIFICATION OF ENVIRONMENTAL CONSULTANT

The environmental consultant is PBR HAWAII & Associates, Inc. dba PBR HAWAII.

Contact: Bradley Furuya
PBR HAWAII
1001 Bishop Street
ASB Tower, Suite 650
Honolulu, HI 96813
Phone: (808) 521-5631
Fax: (808) 523-1402

1.7 COMPLIANCE WITH STATE OF HAWAI‘I AND CITY AND COUNTY OF HONOLULU ENVIRONMENTAL LAWS

Preparation of this document is in accordance with the provisions of Chapter 343, HRS (2007) and Title 11, Chapter 200.1, Hawai‘i Administrative Rules (HAR) pertaining to Environmental Impact Statements. Section 343-5, HRS established nine "triggers" that require either an EA or an Environmental Impact Statement (EIS). The use of State or County lands or funds requires the preparation of an EA.

1.8 IDENTIFICATION OF AGENCIES CONSULTED

1.8.1 Early Consultation

A Pre-Assessment consultation was conducted from February 10, 2023, to March 12, 2023, prior to the preparation of the Draft Environmental Assessment (DEA). The purpose of the Pre-Assessment consultation was to consult with agencies, organizations, and individuals with technical expertise or an interest in, or will be affected by, the Proposed Project. This process is part of the scoping process for the DEA. Comments and input received during this period were used to identify environmental issues and concerns to be addressed in the DEA.

As part of this early consultation process, the agencies, organizations, and individuals who were sent Pre-Assessment consultation letters are listed in Table 1 below. Those who provided written comments (either by hard copy or electronically) are indicated in Table 1. Copies of the written comments and responses are reproduced in Appendix A.

Table 1: Pre-Assessment Consultation

Agencies/Organizations/Individuals	Pre-Assessment Consultation Letter Sent	Pre-Assessment Comment Received
STATE		
Department of Agriculture	X	
Department of Business, Economic Development & Tourism (DBEDT)	X	
DBEDT – Hawai'i State Energy Office/Strategic Industries Division	X	
DBEDT - Office of Planning and Sustainable Development	X	
Department of Defense	X	2/23/2023
Department of Hawaiian Home Lands	X	
Department of Health (DOH)	X	
DOH – Environmental Health Administration	X	
Department of Human Services	X	3/1/2023
Department of Labor and Industrial Relations	X	
Department of Land and Natural Resources (DLNR)	X	3/23/2023
DLNR – Historic Preservation Division	X	
Department of Transportation	X	3/14/2023
Hawai'i Housing Finance and Development Corporation	X	
Office of Hawaiian Affairs	X	
Hawaii State Public Library System	X	
Department of Education	X	3/10/2023
FEDERAL		
U.S. Army Corps of Engineers, Honolulu District	X	
U.S. Fish and Wildlife Service	X	3/13/2023
Federal Emergency Management Agency, Region IX	X	

Agencies/Organizations/Individuals	Pre-Assessment Consultation Letter Sent	Pre-Assessment Comment Received
COUNTY		
Board of Water Supply	X	2/28/2023
Department of Community Services	X	2/16/23
Department of Customer Services	X	
Department of Design and Construction	X	2/24/2023
Department of Environmental Services	X	
Department of Facility Maintenance	X	2/24/2023
Department of Planning and Permitting	X	3/13/2023
Department of Transportation Services	X	4/14/2023
O'ahu Transit Services (OTS)	X	
Fire Department	X	2/23/2023
Police Department	X	3/10/2023
Office of Climate Change, Sustainability, and Resiliency	X	
ELECTED OFFICIALS		
State Senator Glenn Wakai	X	
State Senator Brandon Elefante	X	
State Senator Donovan Dela Cruz	X	
State Senator Henry Aquino	X	
State Representative Sam Kong	X	
State Representative Cory Chun	X	
State Representative Gregg Takayama	X	
City Councilmember Val Okimoto	X	
Neighborhood Board No. 21 Chair Larry Veray	X	
UTILITIES		
Hawaiian Electric Company, Inc.	X	
Spectrum	X	
Hawaiian Telcom	X	
CITIZEN GROUPS/INDIVIDUALS, OTHER CONSULTED PARTIES		
Pearl City Elementary School	X	
Pearl City Highlands Elementary School	X	
Manana Elementary School	X	
Palisades Elementary School	X	
Momilani Elementary School	X	
Kanoelani Elementary School	X	
Lehua Elementary School	X	
Waiau Elementary School	X	
Pearl City Highlands Intermediate School	X	
Pearl City High School	X	

Agencies/Organizations/Individuals	Pre-Assessment Consultation Letter Sent	Pre-Assessment Comment Received
The Friends of Pearl City Library	X	

Q:\Oahu\Pearl City Public Library Expansion EA\GIS\Projects

DATE: 3/14/2023

LEGEND

Project Area

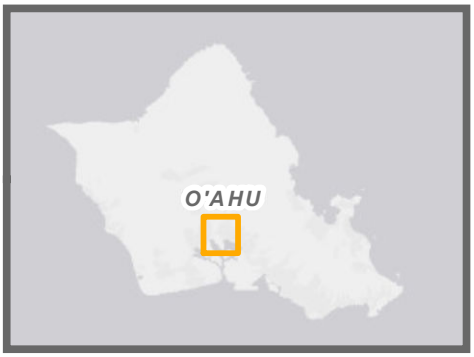


Figure 1 :
Regional Location

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 1000 2000

Source: City & County of Honolulu, 2022. ESRI Online Basemap.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

Photo 1

Photo 2

Photo 3

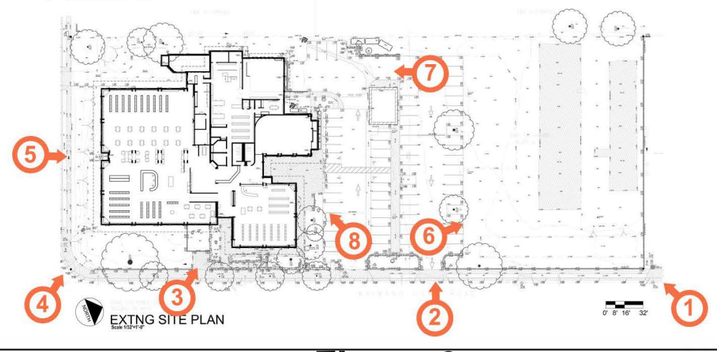
Photo 4

Photo 5

Photo 6

Photo 7

Photo 8



Path - Q:\Oahu\Pearl City Public Library Expansion EA\PSD

Figure 2 :
Site Photos
Pearl City Public Library
Renovation and Expansion &
Community Learning Center

DRAFT 03/14/2023

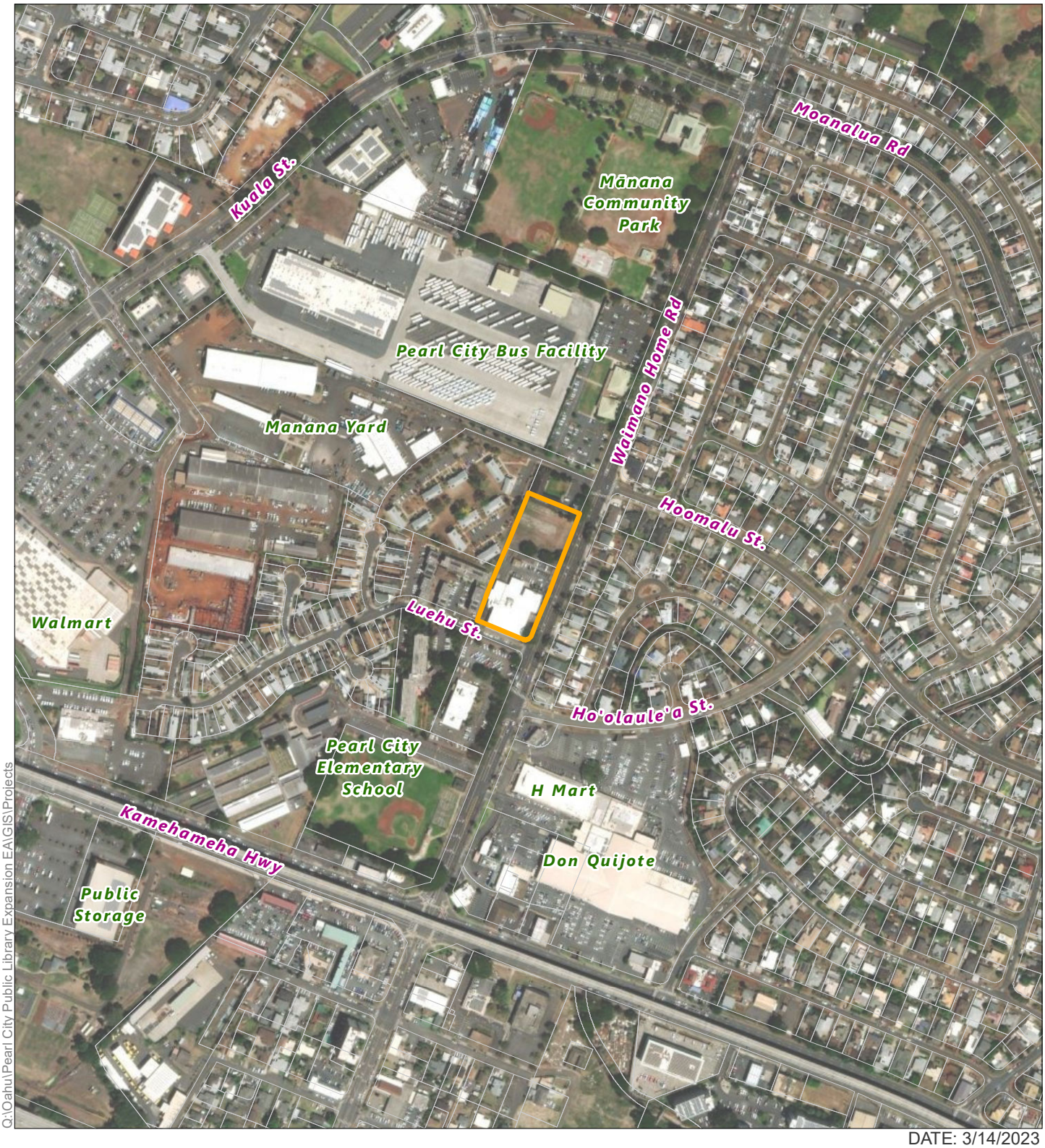
Client's Name

Island of Oahu

PBR HAWAII & ASSOCIATES, INC.

Source: Google Street View, 2019

Disclaimer: This Graphic has been prepared for general Planning purposes only and should not be used for boundary Interpretations or other spatial analysis.



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DATE: 3/14/2023

LEGEND

- Project
- TMK Boundaries

Figure 3 :
Surrounding Land Uses

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 250 500

PBR HAWAII & ASSOCIATES, INC.

Source: City & County of Honolulu, 2022. ESRI Online Basemap.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

Q:\Oahu\Pearl City Public Library Expansion EA\GIS\Projects

DATE: 3/14/2023

LEGEND

- Project Area
- TMK Boundaries

Figure 4 :
Tax Map Key

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 75 150

Source: City & County of Honolulu, 2022. ESRI Online Basemap.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

2.0 PROJECT DESCRIPTION

This section provides background information and a general description of the Pearl City Public Library Renovation and CLLC ("Project").

2.1 BACKGROUND AND NEED FOR THE PROJECT

The Pearl City Public Library opened on November 15, 1969, and is one of the largest public libraries on O'ahu. As a regional library it was built to support not only the local community but also the smaller libraries in the region.

The library is centrally located in the Pearl City community, in walking distance to schools, parks, shopping centers, and transit routes. When the library was constructed, the population of Pearl City was roughly 19,600 residents. In 2021, it was 45,605 residents. As educational uses, community needs, and technology evolve, an improved library space and CLLC is needed to support a growing population.

2.2 PROJECT OBJECTIVES

As the Pearl City Public Library continues to be a vital point of social infrastructure and educational resources for the region, the proposed Project aims to reimagine the entire site to better serve the changing and growing needs of the Pearl City community. As such, the Pearl City Public Library Renovation and CLLC is intended to support an increasing range of community needs including early learning programs, childcare, library programs, kupuna classes, and flexible meeting spaces.

2.3 DESCRIPTION OF THE PROJECT

During the Pre-Assessment consultation process, the City and County of Honolulu Department of Design and Construction wrote: "Thank you for the opportunity to review and comment. The Department of Design and Construction has no comments to offer at this time."

The proposed Project involves the renovation of the existing library, including creating flexible meeting rooms, upgrading digital technology and equipment, creating inviting outdoor reading areas with Wi-Fi access, and removing an existing mechanical enclosure. The floor area of the library will be slightly reduced from approximately 24,064 square feet to approximately 23,500 square feet. The proposed Project also includes the construction of a new, approximately 2,400 square-foot CLLC and approximately 2,700 square-foot Pre-Kindergarten facility on TMK 9-7-094: 029. The new CLLC is intended to support various community uses including early learning programs, childcare, library programs, kupuna classes, and a flexible meeting space. A small outdoor recreation area and community lawn will offer comfortable play and learning spaces for keiki. The existing parking lot will be reconfigured to accommodate the safe use of the improved library and CLLC.

2.4 PROJECT COST AND IMPLEMENTATION TIMEFRAME

The construction budget is approximately $25,000,000 - $30,000,000 with construction funds lapsing in June 2024. These funds do not include furniture, fixtures, and equipment. Construction of the Pearl City Public Library Renovation and CLLC is anticipated to start in Summer 2024 and is expected to be completed in 12 months.

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3.0 DESCRIPTION OF THE NATURAL ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes the existing conditions of the physical or natural environment, potential impacts of the Project to the environment, and mitigation measures to minimize impacts.

3.1 CLIMATE

The climate of Pearl City is moderate with consistent year-round temperatures, slight variations, moderate humidity, and prevailing northeasterly trade winds, typical of the climate that characterizes most of the developed areas throughout the State of Hawai‘i. The area features mild and semi-tropical climate with slight seasonal variations. The prevailing northeasterly trade winds are present approximately 70% of the time, and generally blow 10 to 20 miles per hour (Fletcher III, 2022). During Kona weather conditions in the summer months when tradewind circulation breaks down, the winds blow from a southerly direction and occur as light and variable.

According to data from the Rainfall Atlas of Hawai‘i, the Project site experiences an average annual rainfall of 30 inches annually, with the highest precipitation occurring between the months of November through March (University of Hawaii at Manoa, 2013). Data from the Climate Atlas of Hawai‘i recorded an average annual temperature of 75 degrees Fahrenheit at the Project site.

Potential Impacts and Mitigation Measures

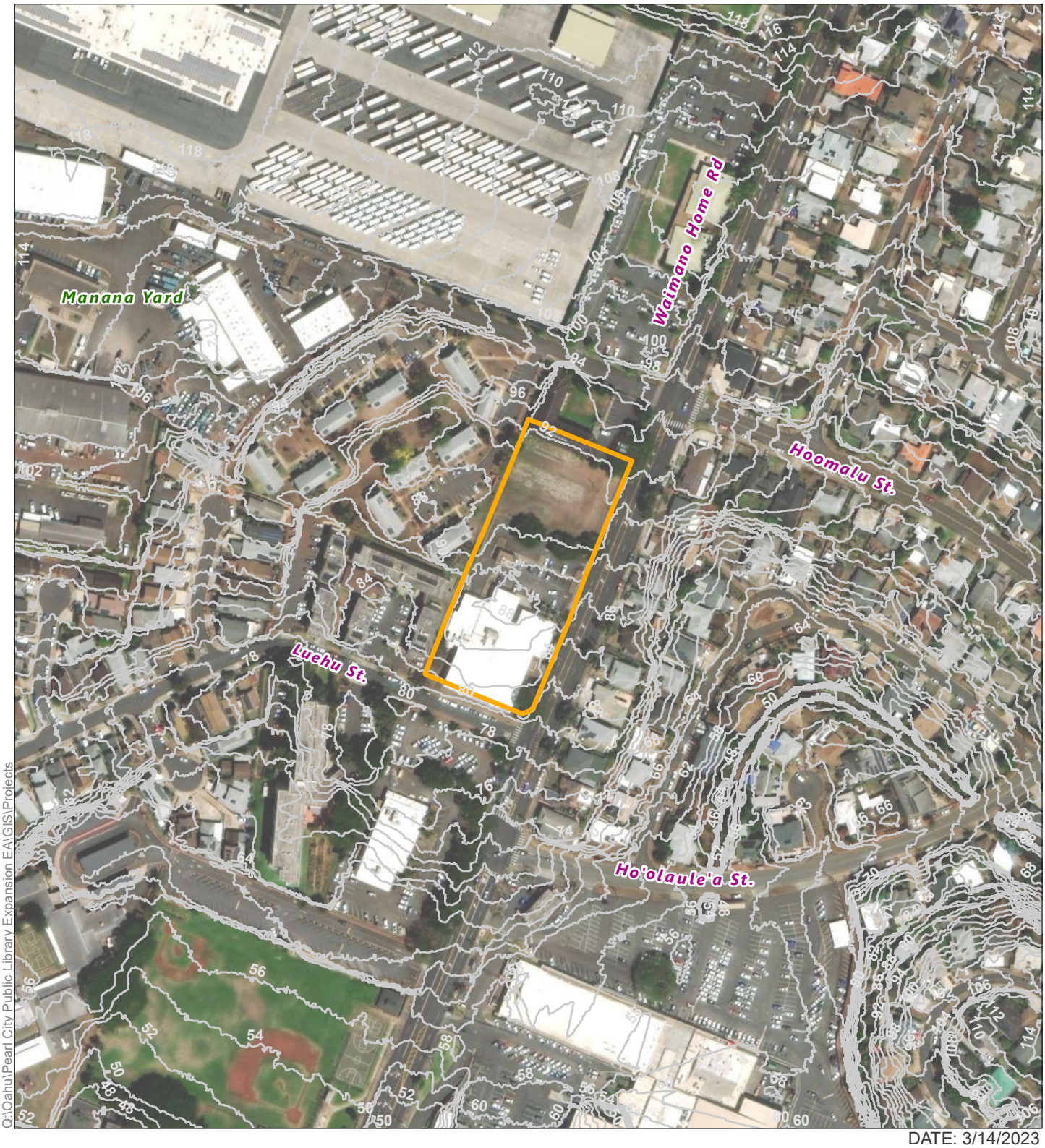
The proposed Project is not anticipated to result in nor constitute a source of impact to rainfall or climate of the Project area or region. Therefore, no mitigation measures are required.

3.2 TOPOGRAPHY

The terrain of the Project site is relatively flat, having been modified during the construction of the existing library building and surface parking lot. The elevation of the Pearl City Public Library is approximately 95 feet above mean sea level.

Potential Impacts and Mitigation Measures

The Pearl City Public Library Renovation will be built upon mostly graded land where the existing library building and surface parking lot are currently sited. The CLLC will be sited on an adjacent parcel, which is flat and undeveloped. In adding on to existing facilities and constructing a one-story building on flat ground, the proposed Pearl City Public Library Renovation and CLLC will have a negligible effect on the topography of the area (Figure 5).



Q:\Oahu\Pearl City Public Library Expansion EA\GIS\Projects

DATE: 3/14/2023

LEGEND

Project Area

2ft Topography

Figure 5 :
Topography

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 175 250

Source: City & County of Honolulu, 2022. ESRI Online Basemap.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

3.3 SOILS

There are three soil suitability studies prepared for lands in Hawai‘i whose principal focus has been to describe the physical attributes of land and the relative productivity of different land types for agricultural production. These studies are: 1) the U.S. Department of Agriculture Natural Resource Conservation Service Soil Survey; 2) the University of Hawai‘i Land Study Bureau Detailed Land Classification; and 3) the State Department of Agriculture’s Agricultural Lands of Importance to the State of Hawai‘i.

3.3.1 Natural Resources Conservation Service

The *Natural Resources Conservation Service, Soil Survey for the Island of O‘ahu*, classifies the soil underlying the site as Molokai silty clay loam (MuC), which are characterized by moderate permeability, slow to medium runoff, and slight to moderate erosion hazard (Figure 6). This soil type is found at elevations ranging from sea level to 1,500 feet above sea level, with slopes varying from 7 to 15 percent.

3.3.2 Land Study Bureau Detailed Land Classification

The University of Hawai‘i Land Study Bureau (LSB) document, *Detailed Land Classification, Island of O‘ahu,* classifies soils based on a productivity rating. Letters indicate class of productivity with A representing the highest class and E the lowest. The soils of the Project site are unclassified by LSB (Figure 7).

3.3.3 Agricultural Lands of Importance to the State of Hawai‘i

The Agricultural Lands of Importance to the State of Hawai‘i (ALISH) system classifies important agricultural lands as Prime, Unique, or Other Agricultural Land. The land underlying the Project site is unclassified (Figure 8).

Potential Impacts and Mitigation Measures

Construction of the Pearl City Public Library Renovation and CLLC will not have a deleterious effect on the soil in the Project Site. The Pearl City Public Library Renovation and CLLC site has been previously modified to accommodate the existing library and surface parking lot. As such, the proposed Pearl City Public Library Renovation and CLLC Project has no capacity to impact the availability of agricultural land for cultivation.

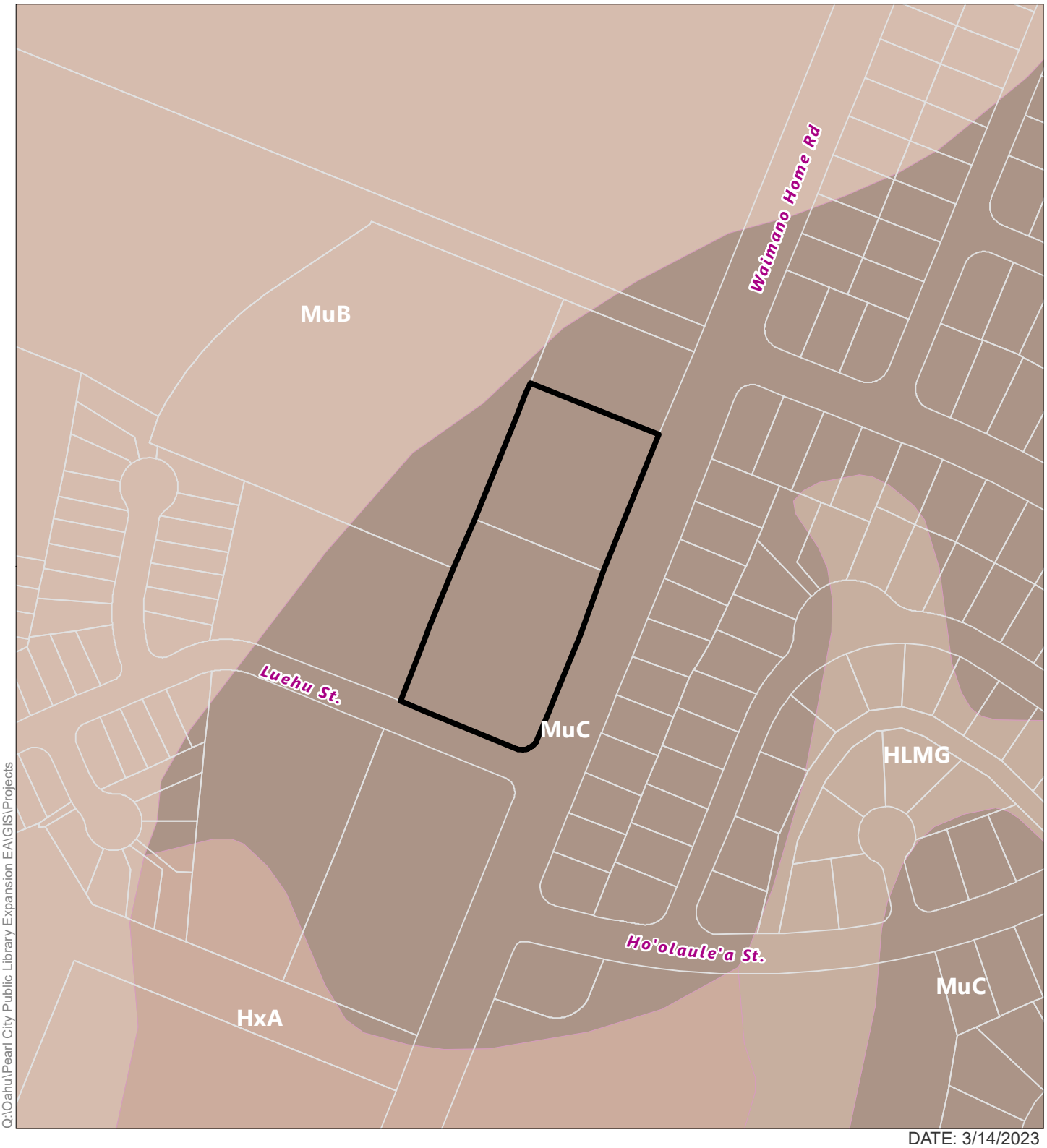
The proposed Project will be built upon mostly graded land where the makai half of the existing parking lot is currently located. By constructing on the site of an existing paved parking lot, the Project will have a negligible effect on the topography and hydrology of the Site (Figure 5). Low-Impact Development (LID) features may also be incorporated to reduce the volume of surface water runoff and improve water quality by decreasing the amount of sedimentation and pollutants.

During grading and construction, there is always the potential for soil erosion and runoff, and the generation of fugitive dust. All construction activities will comply with all applicable federal, state, and county regulations and rules for erosion, sedimentation, and dust control. Contractors will use best management practices (BMPs) to minimize erosion during construction and planting,

including watering loose soils during construction, and planting groundcover over areas where construction has been completed. Additionally, BMPs for stormwater management will be implemented to minimize impacts of the Project to the area's hydrology and existing drainage facilities, while maintaining on-site infiltration and preventing polluted runoff from storm events. These measures will address any direct impacts from construction and avoid any secondary or cumulative impacts from erosion or fugitive dust caused by construction. Following construction, exposed soils will have been built over, paved over or landscaped to control erosion. The estimated disturbed area should be less than one acre. Therefore, a general National Pollutant Discharge Elimination System (NPDES) Permit for construction activities should not be required.

Long-term impacts will be mitigated by the installation of LID measures to manage stormwater at this site before it is returned to the natural system. Such measures will be designed to manage stormwater in a way that better replicates natural systems, thereby slowing the flow of surface water from the site and reducing pollutants in the process, resulting in improved water quality of the downstream water bodies. No impacts to ground water resources are anticipated.

Construction and permanent post-construction BMPs and LID measures will be designed, implemented, and maintained in compliance with the Administrative Rules, Title 20, DPP, Chapter 3 – Rules Relating to Water Quality, effective August 2017. Onsite drainage system improvements will be designed in accordance with DPP's Storm Drainage Standards, dated August 2017. See also the discussion in Section 4.7.3 (Drainage System) below.



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DATE: 3/14/2023

LEGEND

- Project
- TMK Boundaries

NRCS Soil Classification

- HLMG: Helemano silty clay, 30 to 90 percent slopes
- HxA: Honouliuli clay, 0 to 2 percent slopes
- MuB: Molokai silty clay loam, 3 to 7 percent slopes, MLRA 158
- MuC: Molokai silty clay loam, 7 to 15 percent slopes, MLRA 158

Figure 6 :
Natural Resources Conservation Service Soil Survey

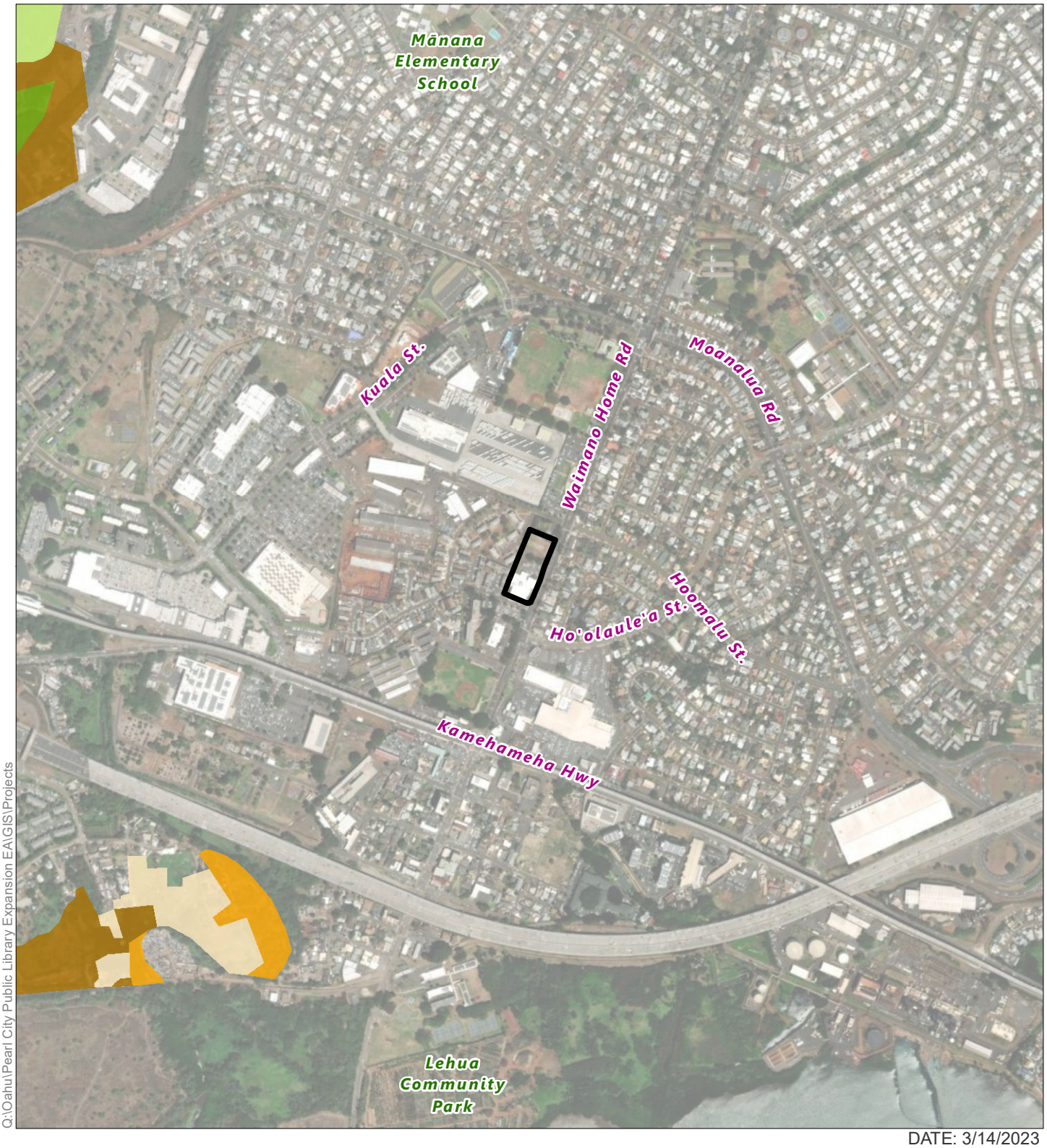
Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name — Island of O'ahu

North

Linear Scale (feet)
0 100 200

Source: USDA NRCS, 2020. City & County of Honolulu, 2022.



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DATE: 3/14/2023

LEGEND

Project Area

LSB Land Classification

- A - Very Good
- B - Good
- C - Fair
- D - Poor
- E - Very Poor

Figure 7 :
Land Study Bureau Detailed Land Classification

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 500 1000

Source: University of Hawaii Land Study Bureau, 1972, digitized by State OP, 2012. City & County of Honolulu, 2022.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

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DATE: 3/14/2023

LEGEND

Project Area

ALISH

Prime ALISH

Other ALISH

Figure 8 :
Agricultural Lands of Importance to the State of Hawai'i

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 350 700

Source: State Department of Agriculture, 1977, digitized by OP. City & County of Honolulu, 2022.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

3.4 HYDROLOGY

Surface Water

No surface water features are located on or near the Project site. The closest water body is Waiau Gulch, an unnamed intermittent drainageway, approximately 1,500 feet east of the Project site. On the Ewa and makai areas of the site, runoff drains into ditches, channels, and pipelines in adjoining residential developments, the Pearl City Post Office, and in Acacia Road, eventually discharging into Waiawa Stream. On the Diamond Head portion of the site, runoff drains into existing sewer lines in Waimano Home Road and eventually into the East Loch of Pearl Harbor.

Ground Water

The proposed Project is located above the Waimalu Aquifer System Area that is part of the Pearl Harbor Aquifer Sector Area. The Waimalu Aquifer is the 2nd largest aquifer on O‘ahu with an adopted sustainable yield of 45 million gallons per day (MGD). Sustainable yield is defined in the State Water Code (Chapter 174C HRS) as the maximum rate at which water may be withdrawn from a water source without impairing the utility or quality of the water source as determined by the commission. Water Use Permits issued to BWS total 45.86 MGD in the Waimalu Aquifer System Area out of a total 46.951 MGD in 2019. Water use permits exceed sustainable yield by 1.951 MGD, however, pumpage prior to the shutdown of BWS sources from the Red Hill fuel release was 35.5 MGD or approximately 10 MGD less than the sustainable yield, largely due to water conservation savings and aquifer management.

According to the State of Hawai‘i’s Underground Injection Control (UIC) Program, the Project site is located above the UIC line, which means the underlying aquifer is considered a drinking water source (State of Hawai‘i Department of Health, Safe Drinking Water Branch, n.d.).

Wetlands

No wetlands occur directly where the Pearl City Public Library Renovation and CLLC is proposed to be located. The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory indicates that the nearest wetlands are: 1) Freshwater Emergent Wetlands (classified as **PEM1Fh**) located southwest and southeast of the Project site and 2) Estuarine and Marine Wetland (classified as **E2EM1N**)located southeast of the Project site (U.S. Fish and Wildlife Service, n.d.).

Classification code **PEM1Fh** stands for:

System **Palustrine (P)**: The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part

of basin less than 2.5 m (8.2 ft) at low water; and (4) salinity due to ocean-derived salts less than 0.5 ppt.

Class **Emergent (EM)**: Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

Subclass **Persistent (1)**: Dominated by species that normally remain standing at least until the beginning of the next growing season. This subclass is found only in the Estuarine and Palustrine systems.

Water Regime **Semipermanently Flooded (F)**: Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land surface.

Special Modifier **Diked/Impounded (h)**: These wetlands have been created or modified by a man-made barrier or dam that obstructs the inflow or outflow of water.

Classification code **E2EM1N** stands for:

System **Estuarine (E)**: The Estuarine System consists of deepwater tidal habitats and adjacent tidal wetlands that are usually semi enclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low-energy coastlines, there is appreciable dilution of sea water. Offshore areas with typical estuarine plants and animals, such as red mangroves (Rhizophora mangle) and eastern oysters (Crassostrea virginica), are also included in the Estuarine System.

Subsystem **Intertidal (2)**: The substrate in these habitats is flooded and exposed by tides; includes the associated splash zone.

Class **Emergent (EM)**: Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

Subclass **Persistent (1)**: Dominated by species that normally remain standing at least until the beginning of the next growing season. This subclass is found only in the Estuarine and Palustrine systems.

Water Regime **Regularly Flooded (N)**: Tides alternately flood and expose the substrate at least once daily.

Potential Impacts and Mitigation Measures

No adverse impacts on groundwater are anticipated with implementation of the proposed Project. The underlying aquifer at the site is not considered a drinking water source. No direct, indirect, or cumulative impacts on surface waters within or in the vicinity of the Project area are anticipated with implementation of the proposed Project as there are no surface water features such as rivers, streams, lakes, ponds, or wetlands on or within proximity of the Project area.

During construction, soil erosion impacts would be mitigated by incorporating BMPs and erosion control measures into the Project plans and specifications. Specific measures may include but are not limited to: phasing the Project to minimize the total area of exposed soil at any given time, revegetating or stabilizing disturbed areas of soil as soon as possible after working, minimizing disturbance of soil during periods of heavy rain, applying protective covers to soil and material stockpiles, and installing appropriate erosion and sedimentation control devices during construction. Strong engineering and management controls would also need to be implemented, such as the use of personal protective equipment for workers and air monitoring.

Soil erosion impacts would also be mitigated through coordination with the appropriate agencies during permitting and construction. A NPDES permit for storm water runoff from construction activities is anticipated to be required as individual and/or cumulative soil disturbances in the Project area would exceed one acre of land area. Any discharges related to Project construction or operation activities will comply with applicable State Water Quality Standards as specified in HAR, Chapter 11-54 Water Quality Standards and Chapter 11-55 Water Pollution Control, DOH.

Because the Project Site lies outside of the floodplain, no additional flood mitigation measures are warranted.

The proposed Project is not anticipated to significantly increase the amount of impervious surface area on the proposed Project site. Any improvements to the Project's existing storm drainage system will be designed to comply with the latest City and County of Honolulu, Department of Planning and Permitting's Rules Relating to Storm Drainage Standards (August 2017). To the extent practicable, the Project will be designed to maintain post-development peak runoff rate and average volume at levels that are similar to pre-development levels.

All NPDES permit requirements will be implemented. In accordance with these requirements, the Project will utilize several BMP categories, including infiltration practices, vegetated open channel practices, and filtering practices, defined in the Environmental Protection Agency's (EPA) guidance document entitled National Management Measures to Control Nonpoint Source Pollution from Urban Areas (November 2005, EPA-841-B-05-004). EPA has found these practices to be representative of the types of practices that can be applied successfully to achieve the new development runoff management, and such measures are reflected in the State Office of Planning (OP), Coastal Zone Management's publication, Hawai'i Watershed Guidance.

OP has also created the Stormwater Impact Assessment to identify and evaluate information on hydrology, stressors, sensitivity of aquatic and riparian resources, and management measures to control runoff occurrences. Mitigation measures and BMPs listed in this guide can be applied to water runoff strategies to prevent damage to coastal ecosystems. Based on Project conditions, relevant BMPs from the Stormwater Impact Assessment that may be implemented during construction include:

- Early construction of drainage control features;
- Construction of temporary sediment basins to trap silt;
- Use of temporary berms and cut-off ditches where needed; and
- Use of temporary silt fences or straw bale barriers to trap silt.

All grading operations will be conducted in compliance with dust and erosion control requirements of Chapter 10 (Erosion and Sedimentation Control), HCC and applicable provisions of Chapter 11-60.1, HAR, Section 11-60.1-33 regarding Fugitive Dust. A watering program will be implemented during construction to minimize soil loss through fugitive dust emission. Other pollution control measures include cleaning job-site construction equipment and establishing groundcover as quickly as possible after grading. Permanent landscaping will also help to retain soil throughout the Project Site.

The proposed Project does not involve work in, over, or under waters of the United States and thus would not require permits issued by the U.S. Army Corps of Engineers. However, pursuant to Federal Water Pollution Control Act, (commonly known as the "Clean Water Act"), Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) from the State of Hawai‘i Department of Health, Clean Water Branch, will be required if it is determined that the Project may result in any discharge into navigable waters or as otherwise triggered. Direct discharges of storm water runoff into marine waters are not expected to occur due to: 1) the implementation of BMPs, to reduce airborne dust and waterborne silt during construction; and 2) the distance from the shoreline. Any discharges related to the construction and operation of the Project will comply with the State's Water Quality requirements contained in Chapters 11-54 and 11-55, HAR.

The Project is not anticipated to result in direct discharge of storm water runoff into marine waters due to its inland location. Similarly, due to distance from existing streams and topography, it is highly unlikely that storm runoff from the Project will impact surface water resources

3.5 NATURAL HAZARDS

Natural hazards like flooding, tsunami inundation, hurricanes, earthquakes, and volcanic eruptions have historically impacted the Hawaiian Islands. Climate change will also impact the Islands, as will the related sea level rise.

Flooding

According to Flood Insurance Rate Map (FIRM) Map Number 15003C0239G, the Pearl City Public Library Renovation and CLLC site is located within the Flood Hazard Zone D, areas in which flood hazards are undetermined (Figure 9). However, at approximately 95 feet above mean sea level and with no surface water bodies on or near the Project site (refer to Section 3.4), the Pearl City Public Library Renovation and CLLC site is not expected to be adversely impacted by flooding and is not subject to Chapter 21A, Flood Hazard Areas, Revised Ordinances of Honolulu.

Tsunami

Since the early 1800s, approximately 50 tsunamis have inundated Hawai‘i’s shores. Seven historical events have caused major damage. The most recent tsunami to impact O‘ahu occurred on March 11, 2011, causing damage at several locations around the island, especially the North Shore. There are no records of inundation of lands in the vicinity of the Project site during any of the recorded tsunami.

The proposed Project site is not located in a Tsunami Evacuation Zone or an Extreme Tsunami Evacuation Zone (Figure 10). Therefore, the Project site is not expected to be adversely affected by a Tsunami (City and County of Honolulu Department of Emergency Management, n.d.).

Hurricanes

Since 1980, two hurricanes have had a devastating effect on Hawai‘i: Hurricane ‘Iwa in 1982 and Hurricane ‘Iniki in 1992. Long-term prediction of future hurricanes is virtually impossible. However, one should reasonably anticipate the prospect of another hurricane impacting the islands.

Hurricane events may also cause a storm surge, which is an abnormal rise of water generated by a storm, over and above the normal tidal levels. This rise in water level can cause extreme flooding in coastal areas, particularly if a storm surge coincides with a normal high tide (NOAA, n.d.).

The proposed Project site is not located in an area identified by the US National Oceanic and Atmospheric Administration (NOAA) National Hurricane Center Storm Surge Risk Map as being inundated during even a Category 4 Hurricane event. Therefore, the Project site is not expected to be adversely affected by hurricanes (Categories 1 through 4).

Earthquake & Volcanic Hazards

The closest active volcano is located roughly 200 miles away on Hawai‘i island and therefore is no expected to directly affect the Project site.

In Hawai‘i, volcanic activity produces most earthquakes in contrast to other areas sitting on tectonic plate margins. Thousands of earthquakes occur in Hawai‘i each year. However, the vast majority of them are undetectable through normal human senses. A few historical earthquakes have reached moderate and even disastrous magnitudes.

The last major earthquakes felt statewide were magnitudes of 6.7 and 6.0. These earthquakes occurred at Kīholo Bay along Hawai‘i Island’s Kona Coast on October 15, 2006. These earthquakes resulted in more than $100 million in damages to the northwest area of Hawai‘i Island and minimal damage on O‘ahu. From that same event, O‘ahu was also subject to an earthquake induced electrical blackout that paralyzed the city of Honolulu and shut down the Honolulu International Airport for nearly a day.

Climate Change & Sea Level Rise

As global temperatures increase, established patterns of weather and climate are shifting. These erratic changes in weather patterns have increased the severity of events like droughts, storms, floods, and even hurricanes, while at the same time causing these events to be more difficult to predict and protect against. The fragility of the ecosystems and unique island nature of O‘ahu and the Hawaiian Islands at large makes the state particularly vulnerable to the damaging effects of climate change. Global sea levels are on the rise and have the potential to erode and even inundate coastal areas over the course of the next century.

In 2018, the City and County of Honolulu (“City”) Mayor issued Directive 18-2 with the purpose of establishing policies to address, minimize risks from, and adapt to the impacts of climate change and sea level rise. This directive establishes the policy for each City department and agency to *“consider the need for both climate change mitigation and adaptation as pressing and urgent matters, to take a proactive approach in both reducing greenhouse gas emissions and adapting to impacts caused by sea level rise, and to align programs wherever possible to help protect and*

prepare the infrastructure, assets, and citizens of the City for the physical and economic impacts of climate change."

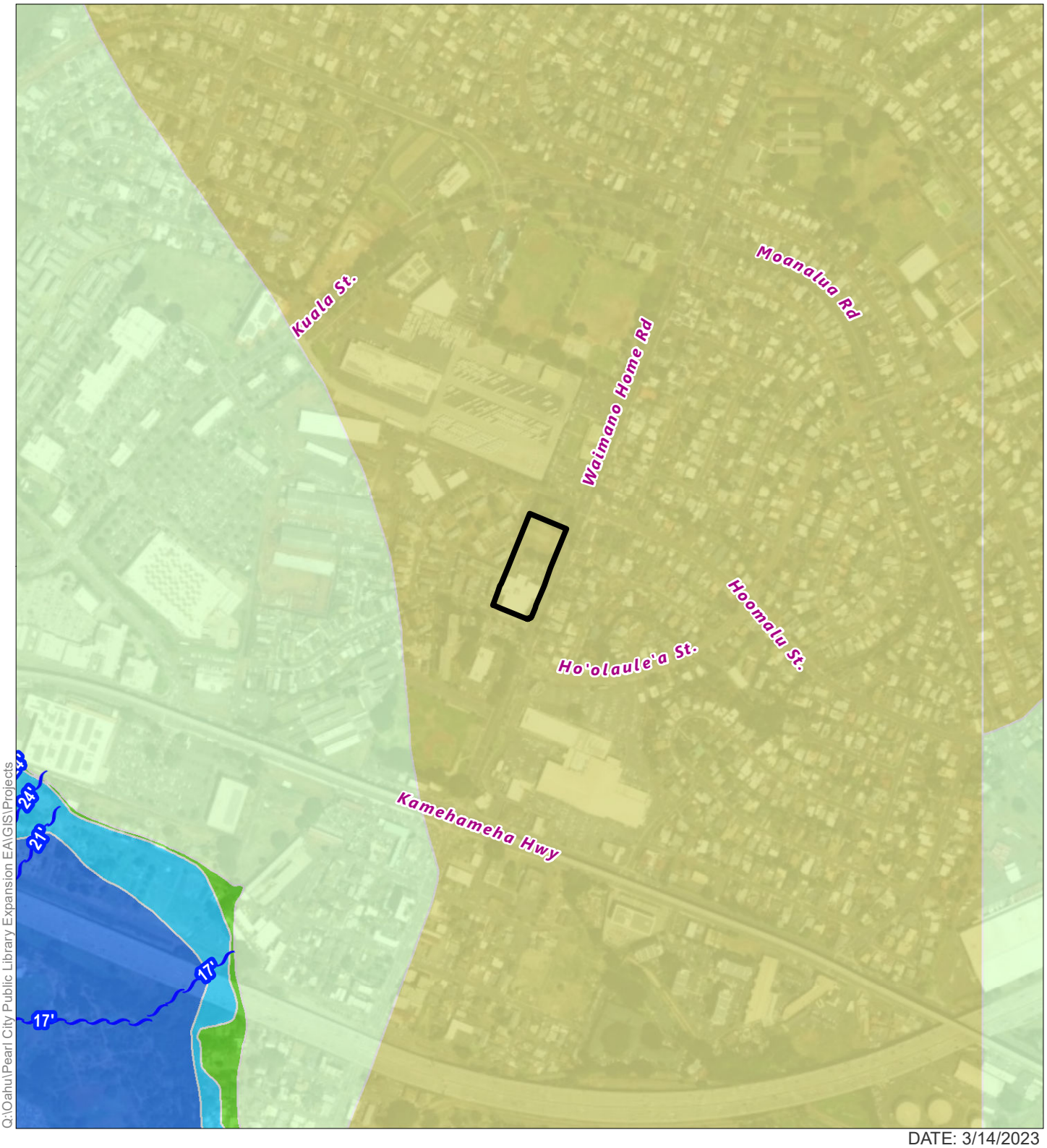
In particular, City departments and agencies are required to: *"(5) work cooperatively to develop and implement land use policies, hazard mitigation actions, and design and construction standards that mitigate and adapt to the impacts of climate change and sea level rise" as well as "(7) work cooperatively to develop a process to review applications for new development in shoreline areas in conjunction with other agencies and entities with expertise in shoreline hazards and erosion in order to protect and enhance open space, the environment especially beaches, public access to and along the shoreline, public safety, and public resources."*

These policies and procedures are addressed in accordance with the findings of the *Hawai'i Sea Level Rise Vulnerability and Adaptation Report* issued by the State of Hawai'i in December 2017. This 2017 report includes scientific modeling of sea level rise impacts such as a 3.2-foot Sea Level Rise Exposure Area (SLR-XA) as modeled by the University of Hawai'i Coastal Geology Group (CGG) and the 6-foot SLR line as modeled by the National Oceanic and Atmospheric Administration (NOAA) Digital Coast Sea Level Rise Viewer. These scientific models also informed the *Sea Level Rise Guidance* issued by City and County of Honolulu's Climate Change Commission, which recommended that the City start planning for a 3.2-foot SLR-XA by mid-century and a 6-foot SLR-XA in later decades.

No portion of the Pearl City Public Library Renovation and CLLC would be located inside the 3.2-foot SLR-XA as modeled by the University of Hawai'i CGG (see Figure 11), although this is projected to not occur in the worst case, until the year 2070, and in the best case 2100. In addition, the Pearl City Public Library Renovation and CLLC will not be built within the shoreline setback, nor will it impact or exacerbate shoreline hazards related to existing open space, nearby beaches, public access to and along the shoreline, public safety, and public resources.

Potential Impacts and Mitigation Measures

The proposed Project is not anticipated to have any impact or any deleterious effects on natural hazard conditions, including floods, tsunamis, hurricanes, earthquakes, volcanic hazards, climate change, and sea level rise. As such, no unique mitigation measures are planned, other than observing the International Building Code in the design of the facility (to address the potential impacts from hurricanes and earthquakes).



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DATE: 3/14/2023

LEGEND

- Project Area
- Base Flood Elevation (BFE) Line

Flood Hazard Areas

- AE: 1%-Annual-Chance Flood, with BFE
- AEF: Floodway Areas in AE
- XS: 0.2%-Annual-Chance Flood
- X: Outside 0.2%-Annual-Chance Floodplain
- D: Unstudied Areas

Figure 9 :
Flood Insurance Rate Map

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 350 700

Source: FEMA Flood Map Service Center, 2021. City & County of Honolulu, 2022.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

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DATE: 3/14/2023

LEGEND

- Project Area
- Tsunami Evacuation Zone
- Extreme Tsunami Evacuation Zone

Figure 10 :
Tsunami Evacuation Zone

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 350 700

Source: City & County of Honolulu, 2010 & 2022.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

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DATE: 3/14/2023

LEGEND

- Project Area
- PacIOOS 3.2 ft Sea Level Rise Scenario

Figure 11 :
Sea Level Rise

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 350 700

PBR HAWAII & ASSOCIATES, INC.

Source: City & County of Honolulu, 2022. University of Hawaii Coastal Geology Group & Tetra Tech, Inc., 2017.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

3.6 FLORA & FAUNA

The Pearl City Public Library site (TMK 9-7-094: 026) has been subject to intense human utilization since its construction in 1969. The future CLLC site (TMK 9-7-094: 029) is undeveloped and consists of overgrown weeds, grasses, and utility poles. According to the USFWS National Wetlands Inventory map, within the immediate proximity of the Project Site, there are no wetlands or open bodies of water. The Pearl City Public Library site includes paved walkways, a parking lot, and landscaped areas around the library and parking lot. Because the Project is proposed where there is an existing building and parking lot, there are no known habitats for rare, threatened, or endangered flora or faunal species (Figure 12) on the Project Site. The Project proposes to remove twelve existing trees, none of which are considered Exeptional Trees by The Outdoor Circle: four monkeypod trees, four paperbark trees, two shower trees, and two papaya trees (see Appendix B Existing Conditions).

Potential Impacts and Mitigation Measures

The proposed Project is not expected to impact endangered or threatened plant or animal species. There are no known significant habitats or rare, endangered, or threatened species of flora, fauna, and avifauna on the Project site. While temporary disturbance of wildlife during construction is possible, mitigation measures will be implemented to minimize impacts.

Hawaiian hoary bat

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

During the Pre-Assessment consultation process, USFWS wrote:

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

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

Hawaiian seabirds

"Hawaiian seabirds" is the collective term referring to birds including the endangered Band-rumped storm-petrel/ʻakēʻakē (*Oceanodroma castro*), the endangered Hawaiian petrel/ʻuaʻu

(*Pterodroma sandwichensis*), the threatened Newell's shearwater/ʻaʻo (*Puffinus auricularis newelli*), and the migratory Wedge-tailed shearwater/ʻuaʻu kani (*Ardenna pacificus*).

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

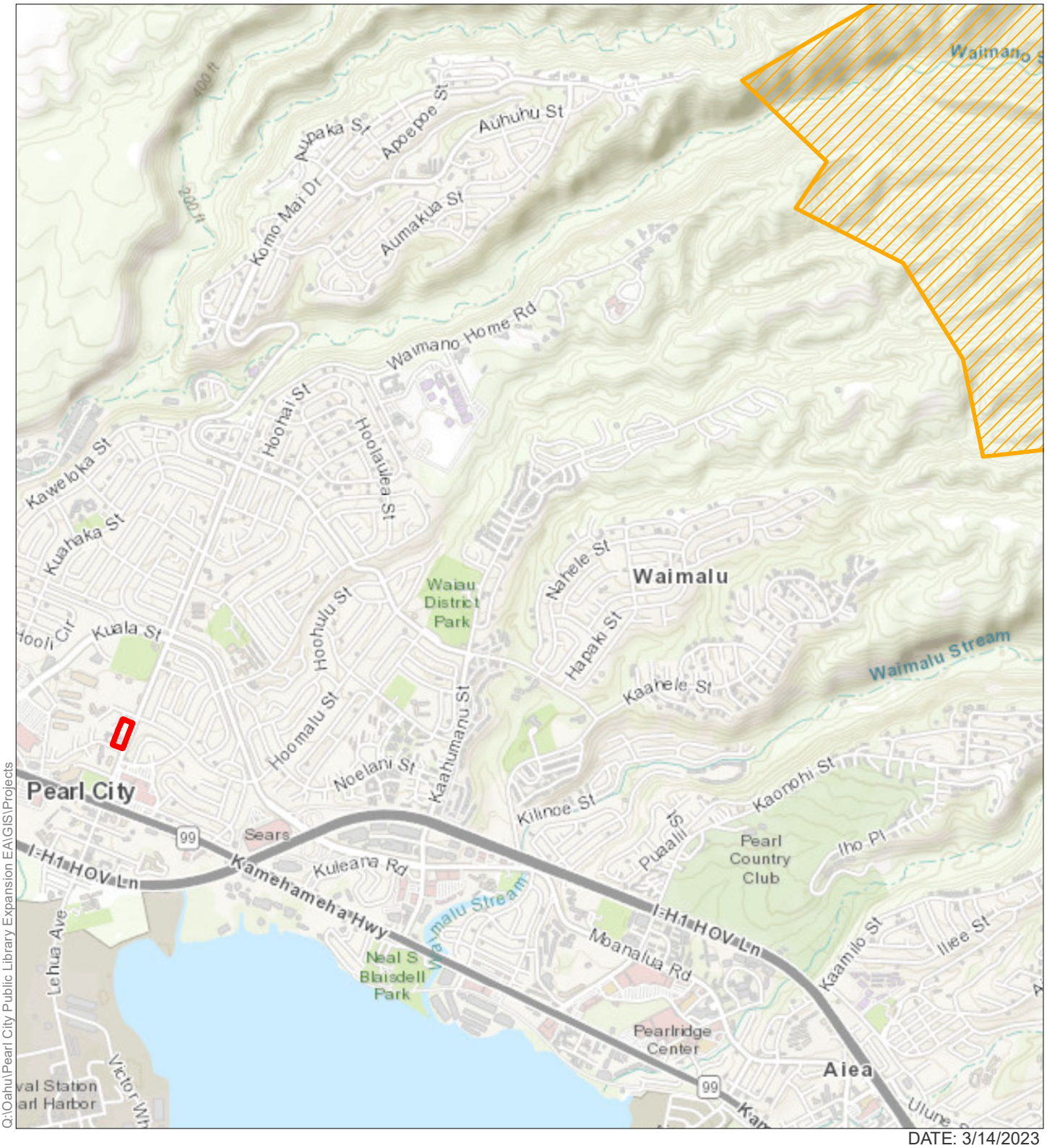
For all projects, Hawaiian seabirds may traverse the Project area at night during the breeding season (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted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

During the Pre-Assessment consultation process, USFWS wrote:

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

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

Some ground disturbances will be necessary for construction and new landscaping related to the new Pearl City Public Library Renovation and CLLC building. Plant and soil movement will be minimized where possible for these activities and excess soil and debris will be removed from all equipment, materials, and personnel to avoid the risk of spreading invasive species. New landscaping for the Project will incorporate grass and native plant species where appropriate and practicable for the intended uses of the new Pearl City Public Library Renovation and CLLC building as well as the surrounding climate conditions. As recommended by the USFWS, if it is determined that the proposed Project may affect federally listed species, DAGS will contact the USFWS Pacific Islands Fish and Wildlife Office early in the planning process for further guidance.



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DATE: 3/14/2023

LEGEND

- Project Area
- Critical Habitats

Figure 12 :
Critical Habitats

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 1750 2500

PBR HAWAII & ASSOCIATES, INC.

Source: City & County of Honolulu, 2022. USFWS, 2022.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

4.0 DESCRIPTION OF THE HUMAN ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes the existing conditions of the human environment, potential impacts of the Pearl City Public Library Renovation and CLLC, and mitigation measures to minimize any impacts.

4.1 ARCHAEOLOGICAL AND CULTURAL RESOURCES

4.1.1 Archaeological Resources

Only one previous archaeological study, the field inspection for the current Pearl City Library Renovation project (Belluzzo 2023), has been conducted within the extant of the current project area. However, 15 archaeological and two cultural studies have been conducted within the nearby vicinity of the subject parcels. Appendix D, Table 1 contains a list of previous archaeological and cultural studies conducted in the vicinity of the Project area. Appendix D, Figure 25 illustrates the location of previous archaeological and cultural studies conducted in the vicinity of the Project area.

The results of previous archaeology conducted in the near vicinity of the project demonstrate the scarcity of surface archaeological historic properties within the Pearl City area. Historic commercial agriculture along with historic and modern military development in the area likely destroyed any previous extant Precontact sites. However, several studies have encountered subsurface deposits, particularly those associated with loʻi deposits (Groza et al. 2008; Hammatt 2010; Sroats et al. 2012). Therefore, while no surface archaeological sites are anticipated in the Project area due to the development activities associated with the library, there is a small possibility that subsurface archaeological deposits be extant within the Project area.

For this EA, in February 2023, ASM Affiliates (ASM) conducted an archaeological literature review and field inspection (LRFI) of the current project area for the proposed Pearl City Library Renovation Project. The soil appears to be mostly graded, imported fill soil. Exposed portions of soil indicated previous disturbance (refer to Figures 5-8 of Appendix D). The Project site is vegetated with overgrown Bermuda grass (Cynodon dactylon) and monkey-pod trees (Pithecellobium saman) (Figure 4 of Appendix D). A concrete retaining wall along Waimano Home Road, a cinderblock wall along the site's mauka border, and a graded slope along the site's makai border indicate prior disturbance on the Project site.

Although the Pearl City Public Library was constructed in 1969 and is now over 50 years old, it is not considered a significant historic property, nor does it appear eligible for listing in either the State or National Register of Historic Properties.

Potential Impacts and Mitigation Measures

Given the negative findings of the current study with respect to the identification of any traditional cultural properties or practices located within the boundaries of Project area, ASM concluded that the proposed Project will not result in any direct impacts to valued cultural, historical, or natural resources; or associated traditional and customary practices. Nevertheless, due to the proximity of

the project area to sites of historical importance including traditional Hawaiian sites as well as historical sites, ASM recommends that the Pearl City Library strive to serve as an educational resource about the history of the surrounding area. Possible Project features may include hosting speakers to lecture about the history and culture of the area, permanent exhibits or collections of books related to local history, and educational panels.

With respect to the historic preservation review process of the Department of Land and Natural Resources–State Historic Preservation Division (DLNR–SHPD), it is recommended that no further work needs to be conducted within the current project area prior to, or during project implementation. In the unlikely event that archaeological resources are discovered during ground-disturbing activity associated with the proposed development, work should cease in the area of the discovery and the DLNR-SHPD contacted pursuant to HAR §13-280-3. No further mitigation measures are planned.

4.1.2 Cultural Resources

This EA utilized previous literature to determine the presence of any potential cultural resources either located within or impacted by disruption of the Project Site. In 2023, ASM prepared an LRFI for the Pearl City Public Library, Mānana Ahupuaʻa, ʻEwa District, Island of Oʻahu, TMKs: [1] 9-7-094:026 & 029 (included as Appendix E).

In an effort to identify individuals knowledgeable about traditional cultural practices and/or uses associated with the current project and study area, a public notice containing (a) locational information about the project area, (b) a description of the proposed project, and (c) contact information was printed in a newspaper with state-wide readership. The public notice was submitted to the Office of Hawaiian Affairs (OHA) on March 2, 2022, for publication in their monthly newspaper, Ka Wai Ola. This notice was published in the April 2023 edition of Ka Wai Ola and a copy of the public notice is included in Appendix D. From the public notice, no responses were received.

To investigate further the potential for cultural practices within the Mānana Ahupuaʻa, ASM attempted to contact ten individuals or organizations listed in Table 2 of Appendix D. Of the ten people or organizations contacted, only one person, Dorinda Nicholson, responded to the interview request and consented to participate in the consultation process.

On June 6, 2023 ASM staff met with Dorinda Nicholson at the Pearl City Public Library in Pearl City, Mānana Ahupuaʻa, ʻEwa District, Island of Oʻahu. Prior to the meeting, Ms. Nicholson arranged for a visit with her friend and Pearl City resident, Michiko Iguchi at her house in Pearl City. Following the meeting with Ms. Iguchi, the meeting attendees drove around Pearl City Peninsula and visited areas significant to the history of the area. The meeting focused on the history of Pearl City Peninsula, especially concerning the attack on Pearl Harbor and life during World War II.

Ms. Nicholson was born Dorinda Stagner in 1935 in Hawaiʻi. She lived with her family on Pearl City Peninsula during World War II, including during the attack on Pearl Harbor on December 7th, 1941, which she witnessed from her home. She lived on the peninsula until after the war when the military forcibly removed her family along with all other civilians from the area. Her mother worked for Pan American, who had offices on the peninsula. Her mother also practiced hula and

would teach hula to neighborhood children. Ms. Nicholson attended St. Andrews School in Honolulu and later Punahou School. For college, she attended the University of Hawai‘i at Mānoa and now lives in the continental United States.

Ms. Iguchi was born in August 1920 at her family's home on Pearl City Peninsula. Prior World War II, Ms. Iguchi explained that Pearl City Peninsula was primarily occupied by civilians, many Japanese immigrants like her family. Unlike surrounding towns, Pearl City was not a plantation town and, therefore, their resources such as hospitals, schools, and stores were not provided by a plantation. As a result, the community had to stick together and support each other. Most people had small gardens and sold vegetables to neighbors. Additionally, many of the residents worked at Pearl Harbor or Schofield military bases.

While the community was primarily composed of civilians, the Military Police (MP) also had an office on the peninsula and, therefore, a presence in the neighborhood prior to the war. According to Ms. Iguchi, the military and civilians got along, and the military personnel were often a part of their close-knit community. For example, her mother did laundry for Pan American employees who had offices and houses on the Peninsula, and the MP would trunk the laundry back and forth for her. The MP officers eventually asked if her mother could also do their laundry to which she agreed . Ms. Iguchi said they were even friendly with the military during the war even though the MP would show up at their houses when there were "holes in the walls" during a blackout, referring to light that escaped from their houses. She recalled how one time an MP came to their house but was sick. Her mother insisted that the soldier take a special drink that she had rationed to get better. She shared this story to depict the friendliness between the civilians and military even during the war. In addition, many people from the area joined the war effort after Pearl Harbor, including Ms. Iguchi's brother, who was sent to Europe to fight with the 100th Infantry Battalion of the 442nd Infantry Regiment of the Army, a battalion made up entirely of Japanese American Soldiers. Unfortunately, Ms. Iguchi's brother was killed while serving.

When discussing the Pearl City Peninsula community during the mid-20th century, Ms. Iguchi focused on the establishment of the church, which is located next to her current house near the top of the peninsula. She explained the church was once used by a Hawaiian Church group. However, they eventually abandoned the building. Following the war in the 1950s, the Japanese community was looking for a place to gather and worship in Pearl City and they began gathering in the empty church as a mission group. Eventually, they founded a church in this building which is still active today.

On December 7th, 1941, Ms. Nicholson was 6 years old, and Ms. Iguchi was approximately 21 years old when the Japanese military attacked Pearl Harbor. Both recalled the events of the day and described how the Japanese planes flew directly over their houses. The planes were so low that they could see the pilots and Ms. Iguchi added that she remembers seeing one pilot smiling as he flew over. During the attack, the military evacuated all the families who lived on the peninsula. Ms. Nicholson's family evacuated up Waimano Home Road where they hid in sugarcane fields, though the rest of evacuees were taken to Waipahu. Later her family stayed in Waipahu for a few days after the attack before the military allowed them to return to their home. Ms. Nicholson recalled being told by a Japanese classmate of hers that while their family was evacuated from the peninsula, the military kept them separate from others because they were Japanese. Ms. Iguchi did not recall being kept separate due to her Japanese ancestry and said her family was also evacuated to Waipahu where she recalled they could still see explosions and smoke. Ms. Iguchi recalls her

father upon realizing the consequences of the attack for the U.S. and for Japanese Americans saying, "this is war, we must be very careful."

On the night following the attack, Ms. Nicholson described how six American planes off of the USS Enterprise flew into Pearl Harbor at night as it was too dark for them to land on the deck of their carrier at sea. However, American forces shot at these planes as they believed the incoming planes were a second Japanese attack. One of these planes crashed on Pearl City Peninsula and Ms. Nicholson remembers going with her family to see it. At the time, the neighborhood thought it was a Japanese plane and it was only years later that Ms. Nicholson learned it was an American plane shot down by friendly fire. Following the attack, martial law was declared in Hawai'i and blackouts were regularly implemented. Ms. Nicholson remembered a Japanese dentist who lived on the Peninsula and had a gate with two pillars that had Japanese writing on them. She said that the military suspected him of being a spy.

At the end of the war, meeting attendees recalled the celebrations in Pearl City. Ms. Nicholson said that the streets were crowded with people hugging and being cheerful. She described how flares and jets of water were set off from the ships in Pearl Harbor to celebrate. Following the war, all civilians were forced to relocate from the peninsula.

On the topic of traditional cultural resources in the area, the meeting attendees discussed the sharks of Pearl Harbor. Mrs. Iguchi shared one story she knew which occurred when the military was dredging Pearl Harbor to allow aircraft carriers to enter the harbor. During this effort, there was one area in which they would build repeatedly but the construction kept collapsing. Mrs. Iguchi believes that it was sharks that were knocking down this area to prevent the development. Additionally, Mrs. Iguchi noted that there is a huge flat rock located in the stream which travels to Waipahu. She recalled a story in which a king and queen shark lived under this flat rock.

During the tour around Peal City Peninsula, Ms. Nicholson pointed out many of the sites she had previously discussed including the railroad station and post office near the top of the peninsula. She recalled having to take the train from the railroad station in Pearl City to downtown Honolulu for elementary school. While driving south down Lehua Ave, Ms. Nicholson discussed how a guard shack used to control access to the peninsula. She additionally pointed out open fields to the west of the road which she said once held multiple storage fuel tanks. To the right of the road, she pointed out old warehouses and said they have been standing for as long as she can remember. On the southwest coast of the peninsula, Ms. Nicholson identified the landing site for the Pan Am clippers. Nearby is the location where the USS Monaghan and USS Curtis sunk a Japanese midget submarine on Dec 7th, 1941. Two plaques commemorate the location as the landing spots of the Pan Am Clippers and as the spot of the sunken submarine. Nearby, Ms. Nicholson pointed out several houses previously owned by Pan Am. She also identified a nearby concrete platform as the remains of the patio belonging to the original Pan Am World Airways building. In addition, Ms. Nicholson identified the house of the dentist accused of being a Japanese spy. The gate with the two pillars inscribed with Japanese writing remains standing. Several other places on the peninsula that Ms. Nicholson mentioned but that no longer exist include Palms Hotel and a ferry which served as the original transportation to Ford Island. On the topic of traditional Hawaiian sites on the Peninsula, Ms. Nicholson knew that there were once fishponds present in the area. She mentioned that the Pearl Harbor Hawaiian Civic Club is working with the Navy to restore the ponds.

In conversation via email prior to the meeting, Ms. Nicholson stated that she thought the proposed project would be beneficial to the community. During the interview, she suggested that the library could work to highlight the history of the area and, therefore, should know about people such as Ms. Iguchi and herself who lived through such history and would be willing to share it with the community.

Potential Impacts and Mitigation Measures

As discussed in Section 4.1.1 above, the previous uses of the Project Site for grading and construction of the current Pearl City Public Library make the presence of cultural resources within the Project Site unlikely. ASM's LRFI did not identify significant cultural resources within the Project site and a subsequent field inspection did not uncover cultural or historic resources. Previous literature did not identify the presence of any cultural activities connected to or affected by the location of Project Site. While previous cultural studies have identified several cultural practices associated with Pearl Harbor and the ʻEwa District including fishing, pipi collection, and kalo agriculture, interviewees have also noted that due to historic and modern development, the area is unable to support many of these cultural practices today.

Ms. Nicholson and Ms. Iguchi provided information about Pearl City during the mid-20th century including highlighting the influence of the U.S. military in the area during and after World War II. From this meeting, it is apparent that the area experienced rapid change following the events of Pearl Harbor and throughout the latter half of the 20th century as Pearl City developed. While the interviewees discussed locations of historical importance on the Pearl City Peninsula, none of these were identified as being within the footprint of the Project area.

There are no specific ongoing traditional cultural practices or valued cultural resources that were identified within the immediate footprint of the Project area. Due to the presence of a Naval Supply Depot of the project area from 1944 to 1948 followed by the development of the current Pearl City Library, any traditional cultural practices that may have once taken place within the Project area likely predate these developments. While the Pearl City Library, as a public space, may serve as a gathering area in which people may conduct and participate in traditional cultural practices, the current consultation effort did not identify any traditional cultural practices. Additionally, as the proposed Project seeks to enlarge the spaces in which people may gather at the library, the Project will likely not impact any practices that may exist but were not identified and rather, will develop a larger space for any such events.

Given the negative findings of the current study with respect to the identification of any traditional cultural properties or practices located within the boundaries of project area, the proposed Project will not result in any direct impacts to valued cultural, historical, or natural resources; or associated traditional and customary practices. Therefore, no mitigation measures are proposed.

4.2 TRANSPORTATION

During the Pre-Assessment consultation process, the State of Hawai‘i Department of Transportation (DOT) wrote: "the proposed project does not appear to have any potential impact

on the nearby state highways". Nevertheless, WSP prepared a Transportation Impact Analysis Report (TIAR) which is summarized below and included as Appendix F.

4.2.1 Roadways and Traffic

The key roadway in the vicinity of the Pearl City Public Library is Waimano Home Road.

Waimano Home Road

Waimano Home Road provides mauka-makai mobility and access within the Pearl City area. It originates at Kamehameha Highway and travels mauka up the mountain through upper Pearl City, terminating about 1.5 miles beyond Pearl City High School. Within the study area between Moanalua Road/Kuala Street and Kamehameha Highway, Waimano Home Road is a five-lane roadway with a two-way left turn lane. On-street parking is provided in the mauka-bound direction. The posted speed limit on Waimano Home Road is 25 miles per hour (mph). The intersections with Moanalua Road, Hoolaulea Street, and Kamehameha Highway are signalized.

Hoomalu Street

Hoomalu Street is a minor collector which provides Ewa-Diamond Head access within the study area, primarily within the residential parts of Pearl City. Hoomalu Street is a two-lane roadway with on-street parking in both directions. The posted speed limit on Hoomalu Street is 25 mph. The Waimano Home Road/Hoomalu Street intersection is unsignalized with two-way stop control provided for the Hoomalu Street approaches. Marked crosswalks are provided at the makai leg of Waimano Home Road and the Diamond Head leg of Hoomalu Street.

Luehu Street

Luehu Street is a two-lane roadway which provides Ewa-Diamond Head access to residential uses within the study area. Luehu Street is a two-lane roadway with on-street parking provided in the Ewa-bound direction. The posted speed limit on Luehu Street is 20 mph. The Waimano Home Road/Luehu Street intersection is unsignalized with two-way stop control provided for the Luehu Street approach. Left turns from Waimano Home Road and from Luehu Street are restricted from 6:30 AM-8:30 AM and 3:30 PM-5:30 PM. A marked crosswalk is provided at the Ewa leg of Luehu Street.

Pearl City Public Library Driveways

The library is currently accessed via two driveways on Waimano Home Road. The makai driveway is an in-only driveway and the mauka driveway is out-only.

Roadway Intersection Conditions

For the TIAR, four intersections were evaluated. All four are located along Waimano Home Road:

- Waimano Home Road /Pearl City Public Library Driveway (mauka);
- Waimano Home Road /Pearl City Public Library Driveway (makai);
- Waimano Home Road/Hoomalu Street; and
- Waimano Home Road/Luehu Street.

The AM and PM peak hours were found to occur from 7:15 AM to 8:15 AM and from 4:00 PM to 5:00 PM, respectively.

Existing Traffic Operations

The intersections were analyzed in Synchro 11 using the methodologies for unsignalized and signalized intersections outlined in the Highway Capacity Manual 6th Edition (HCM6) and the Highway Capacity Manual 2000 (HCM 2000).

Operating conditions at an intersection by approach are expressed as a qualitative measure known as Level of Service (LOS) ranging from A to F. LOS A represents free-flow operations with low delay, while LOS F represents congested conditions with relatively high delay. The overall intersection LOS is a weighted average of the LOS of individual traffic movement groups. In sum, the study area intersections along Waimano Home Road operate well in the existing condition. The stop-controlled approaches at the unsignalized intersections operate at LOS C or better.

Appendix F has more detailed definitions of intersection LOS and contains the Synchro worksheets. Table 2 below displays the existing conditions LOS for each intersection.

1. Waimano Home Road/Hoomalu Street

As shown in Table 2, Ewa-bound and Diamond Head-bound Hoomalu Street approaches operate at LOS C during the AM peak hour. During the PM peak hour, the Diamond Head-bound approach operates at LOS B while the Ewa-bound approach operates at LOS C. Vehicles were occasionally observed to use the 16'-wide Ewa-bound Hoomalu Street approach as two lanes but this was rare.

2. Waimano Home Road/Pearl City Library Mauka Driveway

The mauka library egress operates at LOS B overall during the AM and PM peak hours.

3. Waimano Home Road/Pearl City Library Makai Driveway

The makai library egress operates at LOS A overall during the AM and PM peak hours.

4. Waimano Home Road/Luehu Street

The Diamond Head-bound Luehu Street approach operates at LOS B during the AM and PM peak hours. Although signage on mauka-bound Waimano Home Road and Diamond Head-bound Luehu Street restrict left turns during the AM and PM peak periods, motorists were observed to make the left turns regardless as shown in Appendix F, Figure 3.

Table 2: Existing Year 2023 Peak Hour Intersection Operations

			AM Peak Hour			PM Peak Hour		
Intersection	Movement		LOS	Delay	V/C	LOS	Delay	V/C
Waimano Home Road /Hoomalu Street	Mauka-bound Waimano Home Rd	L	A	8.8	0.02	A	8.3	0.01
	Makai-bound Waimano Home Rd	L	A	8.3	0.02	A	8.4	0.01
	KKHD-bound Hoomalu Street	LTR	C	17.4	0.11	B	14.7	0.09
	Ewa-bound Hoomalu Street	LTR	C	21.3	0.18	C	20.9	0.27
	Overall		**C**	**21.3**		**C**	**20.9**	
Pearl City Library Mauka Driveway	KKHD-bound Library Drwy	LR	B	11.0	0.02	B	10.1	0.01
	Overall		**B**	**11.0**		**B**	**10.1**	
Pearl City Library Makai Driveway	Mauka-bound Waimano Home Rd	L	A	9.1	0.03	A	8.7	0.01
	Overall		**A**	**9.1**		**A**	**8.7**	
Waimano Home Road /Luehu Street	Mauka-bound Waimano Home Rd	LT	A	9.0	0.02	A	8.0	0.04
		TR	A	0.1		A	0.2	
	KKHD-bound Luehu St	LR	B	14.4	0.20	B	11.5	0.09
	Overall		**B**	**14.4**		**B**	**11.5**	

Source: Transportation Impact Analysis Report (WSP, 2023)

Future Traffic Conditions

2026 is the anticipated Project buildout year. The 2026 conditions without the Project were analyzed to identify the Project's impacts on study area intersections. No changes to the existing land use were assumed.

As part of the City & County of Honolulu Complete Streets Program, Waimano Home Road will be converted into a more pedestrian and bicycle-friendly roadway. As shown in Appendix F, Figure 5, the Waimano Home Road travel way will be reduced by one lane in each direction, leaving one through lane in each direction and a two-way left turn lane for motorized vehicles. While an 8' parking strip will remain in the mauka-bound direction, the two through lanes will be repurposed into 6' bike lanes with a 3' buffer in both directions. Bicycle conflict stripes will be added across Hoomalu Street, Luehu Street, and the library driveways.

O'ahu Transit Services (OTS) and HDOT have expressed a preference to locate bus stops on the near side of intersections. As part of the implementation of the Complete Streets cross section on Waimano Home Road, the makai-bound bus stop on the far side of the Waimano Home Road/Hoomalu Street intersection will be relocated to the near side as shown in Appendix F, Figure 5.

Future Traffic Operations Without Project

The four intersections were analyzed in Synchro 11 using the methodologies for unsignalized and signalized intersections outlined in the Highway Capacity Manual 6th Edition (HCM6) and the Highway Capacity Manual 2000 (HCM 2000). The Ewa-bound Hoomalu Street approach at the Waimano Home Road/Hoomalu Street intersection is projected to operate at LOS E during the AM peak hour and at LOS D during the PM peak hour due to fewer through lanes and fewer gaps in traffic on Waimano Home Road.

As shown in Table 3, the two library driveways are projected to operate at LOS B or better while the Waimano Home road/Luehu Street intersection is projected to operate at LOS C or better during the AM and PM peak hours.

1. Waimano Home Road/Hoomalu Street

The Ewa-bound Hoomalu Street approach is projected to operate at LOS E during the AM peak hour while the Diamond Head-bound approach is projected to operate at LOS C. Although the difference in volume between the existing and future condition is small, the reduction in through lanes from two to one lane in each direction is projected to result in higher delay.

During the PM peak hour, the Ewa-bound Hoomalu Street approach is projected to operate at LOS D while the Ewa-bound approach operates at LOS C.

2. Waimano Home Road/Pearl City Library Mauka Driveway

The mauka library egress is projected to operate at LOS B overall during the AM and PM peak hours.

3. Waimano Home Road/Pearl City Library Makai Driveway

The makai library egress is projected to operate at LOS A overall during the AM and PM peak hours.

4. Waimano Home Road/Luehu Street

The Diamond Head-bound Luehu Street approach is projected to operate at LOS C during the AM peak hour and at LOS B during the PM peak hour.

Table 3: Projected 2026 Without Project Level of Service

			AM Peak Hour			PM Peak Hour		
Intersection	Movement		LOS	Delay	V/C	LOS	Delay	V/C
Waimano Home Road /Hoomalu Street	Mauka-bound Waimano Home Rd	L	A	8.9	0.02	A	8.3	0.01
	Makai-bound Waimano Home Rd	L	A	8.4	0.02	A	8.5	0.01
	KKHD-bound Hoomalu Street	LTR	C	21.3	0.14	C	16.6	0.11
	Ewa-bound Hoomalu Street	LTR	E	35.5	0.29	D	31.7	0.39
	Overall		**E**	**35.5**		**D**	**31.7**	
Pearl City Library Mauka Driveway	KKHD-bound Library Drwy	LR	B	14.1	0.03	B	11.9	0.02
	Overall		**B**	**14.1**		**B**	**11.9**	
Pearl City Library Makai Driveway	Mauka-bound Waimano Home Rd	L	A	9.3	0.03	A	8.8	0.01
	Overall		**A**	**9.3**		**A**	**8.8**	
Waimano Home Road /Luehu Street	Mauka-bound Waimano Home Rd	LT	A	9.2	0.02	A	8.7	0.04
		TR	A	0.0		A	0.0	
	KKHD-bound Luehu St	LR	C	17.9	0.25	B	13.6	0.11
	Overall		**C**	**17.9**		**B**	**13.6**	

Source: Transportation Impact Analysis Report (WSP, 2023)

Future Traffic Conditions With Project

2026 is the Pearl City Library Renovation and CLLC buildout year. The 2026 conditions with the Project were analyzed to identify the project's impacts on study area intersections.

Relative to the existing library building footprint, the Pearl City Public Library Renovation and CLLC will remain relatively unchanged. The Institute of Transportation Engineers (ITE), Trip Generation, 11th edition was used to estimate the number of trips generated by the Project based on their proposed land use. Table 4 summarizes the trips generated by the proposed Project in its build year 2026.

Table 4: Project Trip Generation Summary

ITE Code	Land Use	Density	Peak	Entering	Exiting	Total
565	Day Care Center	2.7k SF	AM	16	14	30
			PM	14	16	30
495	Recreational Community Center	3.2k SF	AM	4	2	6
			PM	4	4	8
Total			**AM**	**20**	**16**	**36**
			PM	**18**	**20**	**38**

Source: Transportation Impact Analysis Report (WSP, 2023)

Future Traffic Operations With Project

The intersections were analyzed in Synchro 11 using the methodologies for unsignalized and signalized intersections outlined in the Highway Capacity Manual 6th Edition (HCM6) and the Highway Capacity Manual 2000 (HCM 2000). Table 5 displays the projected 2026 LOS with the Project for each intersection.

Table 5: Projected 2026 With Project Level of Service

			AM Peak Hour			PM Peak Hour		
Intersection	Movement		LOS	Delay	V/C	LOS	Delay	V/C
Waimano Home Road /Hoomalu Street	Mauka-bound Waimano Home Rd	L	A	9.0	0.02	A	8.4	0.01
	Makai-bound Waimano Home Rd	L	A	8.4	0.02	A	8.5	0.01
	KKHD-bound Hoomalu Street	LTR	C	21.6	0.14	C	16.7	0.11
	Ewa-bound Hoomalu Street	LTR	E	36.0	0.30	D	32.3	0.39
	Overall		**E**	**36.0**		**D**	**32.3**	
Pearl City Library Mauka Driveway	Mauka-bound Waimano Home Rd	L	A	9.3	0.05	A	8.8	0.02
	KKHD-bound Library Drwy	LR	C	15.2	0.08	B	12.8	0.06
	Overall		**C**	**15.2**		**B**	**12.8**	
Pearl City Library Makai Driveway	Mauka-bound Waimano Home Rd	L	A	9.2	0.01	A	8.8	0.00
	Overall		**A**	**9.2**		**A**	**8.8**	
Waimano Home Road /Luehu Street	Mauka-bound Waimano Home Rd	LT	A	9.2	0.03	A	8.7	0.04
		TR	A	0.0		A	0.0	
	KKHD-bound Luehu St	LR	C	18.3	0.26	B	13.8	0.11
	Overall		**C**	**18.3**		**B**	**13.8**	

Source: Transportation Impact Analysis Report (WSP, 2023)

The Ewa-bound Hoomalu Street approach at the Waimano Home Road/Hoomalu Street intersection is projected to operate at LOS E during the AM peak hour and at LOS D during the PM peak hour with project. The Project adds a small amount of new traffic to Waimano Home Road, resulting in insignificant increases in delay.

The two library driveways are projected to operate at LOS C or better while the Waimano Home road/Luehu Street intersection is projected to operate at LOS C or better during the AM and PM peak hours.

1. Waimano Home Road/Hoomalu Street

As shown in Table 5, the Ewa-bound Hoomalu Street approach is projected to operate at LOS E during the AM peak hour while the Diamond Head-bound approach is projected to operate at LOS C. The intersection's AM peak hour LOS is the same with and without project.

During the PM peak hour, the Ewa-bound Hoomalu Street approach is projected to operate at LOS D while the Ewa-bound approach operates at LOS C.

2. Waimano Home Road/Pearl City Library Mauka Driveway

The mauka library driveway approach is projected to operate at LOS C overall during the AM peak hour and at LOS B overall during the PM peak hour.

3. Waimano Home Road/Pearl City Library Makai Driveway

The makai library driveway approach is projected to operate at LOS A overall during the AM and PM peak hours.

4. Waimano Home Road/Luehu Street

The Diamond Head-bound Luehu Street approach is projected to operate at LOS C during the AM peak hour and at LOS B during the PM peak hour.

Conclusions

Based on the LOS analysis comparing the with and without project scenarios, it is concluded that the project will not have a significant impact on traffic operations at the study area intersections. As shown in Tables 6 and 7, the project is not projected to add a significant amount of delay to the study area intersections.

While one of the Hoomalu Street approaches is projected to operate at LOS E during the AM peak with project, the projected increase in delay is primarily due to the narrower Complete Streets cross section. The project is only expected to add about a half second of delay to vehicle movement.

The other study area intersections are projected to operate at LOS C or better overall and can handle the additional Project-related trips. Delays for the Waimano Home Road/Luehu Street intersection are projected to increase by a half second of delay at most. The library driveways are projected to operate at LOS C or better.

Table 6: Projected 2026 Without/With Project AM Peak Hour Level of Service

			Without Project		With Project	
Intersection	Movement		LOS	Delay	LOS	Delay
Waimano Home Road /Hoomalu Street	NB Waimano Home Rd	L	A	8.9	A	9.0
	SB Waimano Home Rd	L	A	8.4	A	8.4
	EB Hoomalu Street	LTR	C	21.3	C	21.6
	WB Hoomalu Street	LTR	E	35.5	E	36.0
	Overall		**E**	**35.5**	**E**	**36.0**
Pearl City Library Mauka Driveway	NB Waimano Home Rd	L			A	9.3
	EB Library Drwy	LR	B	14.1	C	15.2
	Overall		**B**	**14.1**	**C**	**15.2**
Pearl City Library Makai Driveway	NB Waimano Home Rd	L	A	9.3	A	9.2
	Overall		**A**	**9.3**	**A**	**9.2**
Waimano Home Road /Luehu Street	NB Waimano Home Rd	LT	A	9.2	A	9.2
		TR	A	0.0	A	0.0
	EB Luehu St	LR	C	17.9	C	18.3
	Overall		**C**	**17.9**	**C**	**18.3**

Source: Transportation Impact Analysis Report (WSP, 2023)

Table 7: Projected 2026 Without/With Project PM Peak Hour Level of Service

			Without Project		With Project	
Intersection	Movement		LOS	Delay	LOS	Delay
Waimano Home Road /Hoomalu Street	NB Waimano Home Rd	L	A	8.3	A	8.4
	SB Waimano Home Rd	L	A	8.5	A	8.5
	EB Hoomalu Street	LTR	C	16.6	C	16.7
	WB Hoomalu Street	LTR	D	31.7	D	32.3
	Overall		**D**	**31.7**	**D**	**32.3**
Pearl City Library Mauka Driveway	NB Waimano Home Rd	L			A	8.8
	EB Library Drwy	LR	B	11.9	B	12.8
	Overall		**B**	**11.9**	**B**	**12.8**
Pearl City Library Makai Driveway	NB Waimano Home Rd	L	A	8.8	A	8.8
	Overall		**A**	**8.8**	**A**	**8.8**
Waimano Home Road /Luehu Street	NB Waimano Home Rd	LT	A	8.7	A	8.7
		TR	A	0.0	A	0.0
	EB Luehu St	LR	B	13.6	B	13.8
	Overall		**B**	**13.6**	**B**	**13.8**

Source: Transportation Impact Analysis Report (WSP, 2023)

Potential Impacts and Mitigation Measures

The TIAR focuses on determining if there will be traffic impacts following construction of the proposed Project. The TIAR evaluates vehicle, pedestrian, bicycle, and public transit safety, stress, and comfort levels at the nearby intersections and driveways with corresponding improvements to mitigate these impacts by applying Complete Streets principles. The TIAR includes future year growth rate, trip distribution, mode split, and route assignment assumptions.

The TIAR provides the following recommendations to mitigate potential transportation-related impacts:

- Ensure that sight distance is adequate at the library driveways to maximize pedestrian and bike safety.
- Consider other design elements to help improve pedestrian/bike safety at the project access points such as narrowing driveways or reducing driveway radii in order to reduce the speed of vehicles entering and exiting the site.
- Base any changes to Waimano Home Road on the Complete Streets plans shown in Appendix F, Figure 5, which may include bicycle conflict strips.

The Pearl City Public Library Renovation and CLLC is intended to serve the existing population and is not expected to generate any new vehicle trips to the site. Accordingly, long-term

transportation impacts are not anticipated. Most of the potential traffic impacts would be short-term, occurring during the construction of the facility, and would be caused by construction traffic. A street usage permit from DTS will be obtained for any construction-related work that may require the temporary closure of any traffic lane or pedestrian mall on a City street. The proposed Project is not expected to have any impact on the City and County of Honolulu's Complete Streets Plan for Waimano Home Road.

As recommended, Pearl City Elementary School, area representatives, the Pearl City Neighborhood Board, nearby businesses, emergency personnel (fire, ambulance, and police), and OTS will be kept apprised of Project details that may affect the local street network. Project plans (vehicular and pedestrian circulation, sidewalks, parking and pedestrian pathways, vehicular ingress/egress, etc.) will be submitted to the Disability and Communication Access Board (DCAB) to ensure full compliance with Americans with Disabilities Act requirements.

4.2.2 Parking

During the Pre-Assessment consultation process, the City and County of Honolulu Department of Transportation Services (DTS) wrote:

> *"A discussion regarding off-street parking and site generated parking demand should be added to this report. The project shall provide bike parking at a minimum as required by the Land Use Ordinance."*

Potential Impacts and Mitigation Measures

The existing parking lot contains 61 parking stalls. The proposed Project will provide approximately 74 parking stalls, including 8 for staff and 66 for library visitors. The Project will also include a drop-off area between the library and the CLLC.

The proposed Project involves the renovation of the existing library, construction of an approximately 2,400 square-foot CLLC, and construction of an approximately 2,700 square-foot Pre-Kindergarten facility. The renovated library, new CLLC, and new Pre-Kindergarten facility is not expected to have any long-term impacts on the availability of parking on the Project site. However, short-term parking impacts may result from construction access or staging. Prior to construction, parking areas and/or alternatives for staff and visitors should be determined to minimize impacts to on-site parking or on-street parking on streets in the vicinity of the library.

4.2.3 Public Transportation

The City and County of Honolulu DTS provides municipal bus service called TheBus, operated by OTS. OTS also operates the TheHandi-Van, which provides paratransit service for semi-ambulatory and non-ambulatory persons with disabilities. Figure 13 shows public transportation stops and routes in the vicinity of the Project site.

Route 40 Honolulu-Makaha provides daily service between Honolulu and Makaha via Kamehameha Highway between the hours of 3:00 AM to 5:00 PM. The closest stops to the Project site are stop numbers 681 and 491 on Kamehameha Highway.

Route 42 Ewa Beach-Waikiki provides daily service between Ewa Beach and Waikiki via Kamehameha Highway between the hours of 5:30 AM to 3:00 AM. The closest stops to the Project site are stop numbers 681 and 491 on Kamehameha Highway.

Route 51 Honolulu-Wahiawa provides daily service between Honolulu and Wahiawa via Kamehameha Highway between the hours of 4:30 AM to 1:00 PM. The closest stops to the Project site are stop numbers 681 and 491 on Kamehameha Highway.

Route 53 Pacific Palisades-Honolulu provides daily service between Pacific Palisades-Pearl City and Honolulu-Ala Moana via Waimano Home Road and Kamehameha Highway between the hours of 5:00 AM to midnight. The closest stops to the Project site are stop numbers 2081 and 2045 on Waimano Home Road.

Route 73 Leeward Community College provides weekday service between Pearl City and Leeward Community College via Waimano Home Road between the hours of 6:00 AM to 6:00 PM. The closest stops to the Project site are stop number 2045 on Waimano Home Road and stop number 2632 on Hoʻolauleʻa Street.

Route 88A North Shore Express provides daily circular service connecting the north shore and windward Oʻahu to Honolulu and central Oʻahu. The route runs from 4:00 AM to 4:30 AM in the morning and 4:30 PM to 5:00 PM in the afternoon. The closest stops to the Project site are stop numbers 681and 491 on Kamehameha Highway.

Route A-CityExpress! Provides daily service between Waipahu and the University of Hawaii Manoa Campus between the 4:30 AM and 3:30 PM. The closest stops to the Project site are stop numbers 681 and 491 on Kamehameha Highway.

Additionally, the Project site is less than a quarter-mile from the Pearl City Bus Facility, which serves as a stop, originating point, or terminating point for many of TheBus routes listed above. Though not a designated Park and Ride location, many transit riders park in the residential streets nearby and use the Pearl City Bus Facility stop to catch TheBus to and from work or school. As such, the Pearl City Public Library Renovation and CLLC will be conveniently located for many Pearl City transit riders.

Potential Impacts and Mitigation Measures

In both the long and short term, no change to resident population is anticipated as a result of the proposed Project; as such, no increase in public transit demand is expected. No significant impacts to public transportation services are anticipated. No further mitigation measures are planned.

4.2.4 Bicycle and Pedestrian Facilities

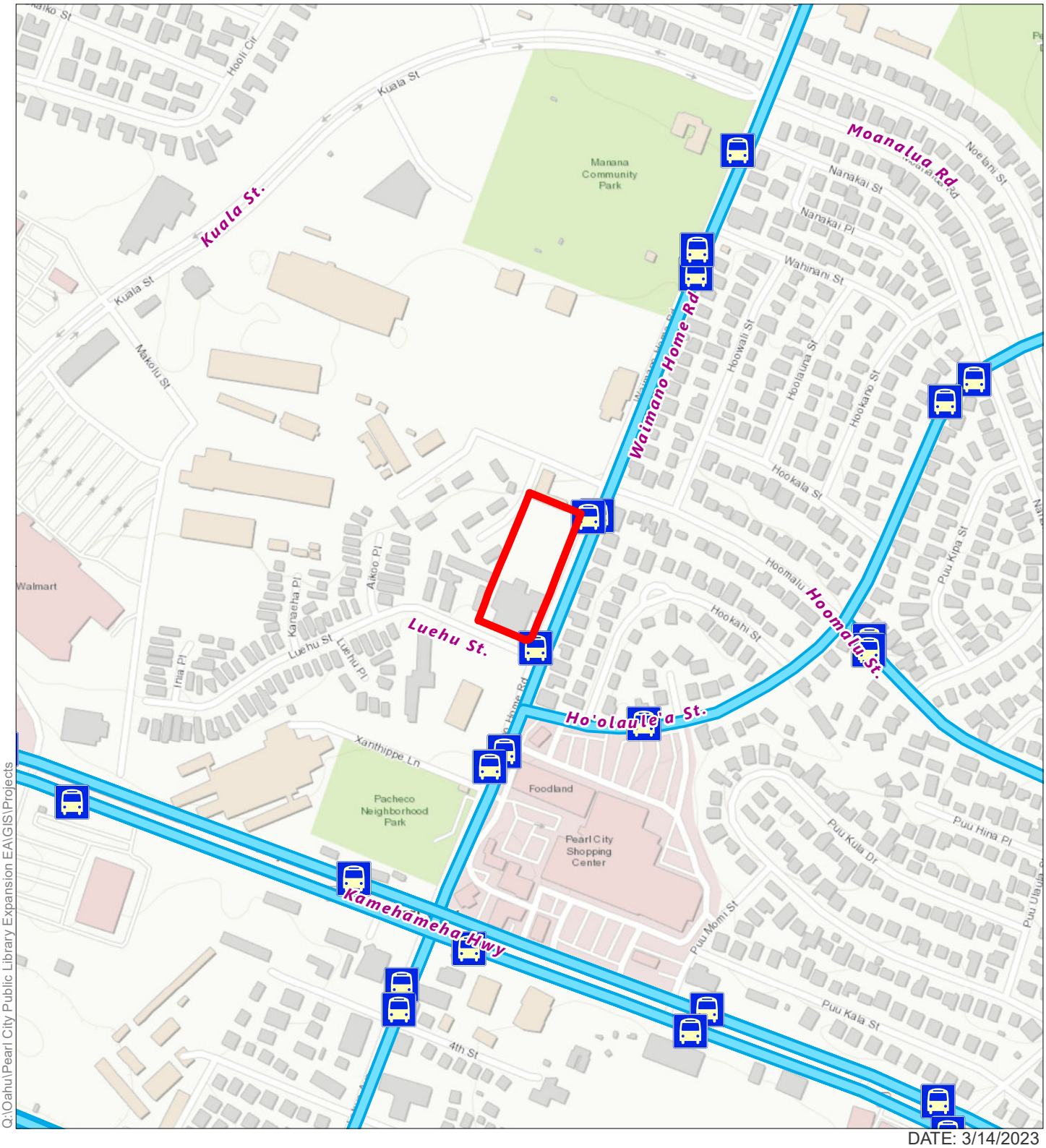
There are no formal bicycle lanes on Waimano Home Road, though it is shown as a "Buffered Bike Lane" by the Oʻahu Bike Plan Update (2019). Thus, bicyclists typically ride on the sidewalks. There are attached sidewalks on both sides of Waimano Home Road in the vicinity or the Pearl City Public Library.

In this area, there are two crosswalks across Waimano Home Road:

- Waimano Home Road and Hoomalu Street
- Waimano Home Road and Hoʻolauleʻa Street (signalized)

Potential Impacts and Mitigation Measures

In both the long and short term, no change to resident population is anticipated as a result of the proposed Project. Additionally, visitors on bicycles are expected to continue to access the library from the adjacent neighborhoods. Refer to Section 5.2.5 for a discussion on the Project's relationship to the City and County of Honolulu's Complete Streets policies and principles. As the proposed Project will not present any negative long-term impacts to area bicycle and pedestrian facilities, no mitigation measures are required.



Q:\Oahu\Pearl City Public Library Expansion EA\GIS\Projects

DATE: 3/14/2023

LEGEND

- Bus Stops
- Bus Routes

Figure 13 :
Public Transortation

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 250 500

Source: State Land Use Commission, 2016. City & County of Honolulu, 2022.

4.3 NOISE

Ambient noise in the Project area is predominantly attributed to vehicular traffic servicing or passing by the Project site. Existing noise levels at and immediately adjacent to the Pearl City Public Library Renovation and CLLC site are those typical of a public library.

Potential Impacts and Mitigation Measures

During the Pre-Assessment consultation process, the City and County of Honolulu Department of Community Services (DCS), which administers programs to meet the human services, workforce and housing needs of economically challenged individuals and families with special needs in the City and County of Honolulu, wrote: "our review indicates that the project area is located directly adjacent to a property on Waimano Home Road, TMK (1) 9-7-094:028, leased by The Arc in Hawaii (Arc) for the provision of services and special needs housing to people with intellectual and development disabilities…we ask that the project take into consideration the health, safety, accessibility, and long-term wellbeing of Arc residents and others living nearby and/or involved with activities in the surrounding neighborhood" (refer to letter in Appendix A).

During construction and operation, the proposed Project will be mindful of the health, safety, accessibility, and long-term wellbeing of Arc residents and other neighbors. While construction activities for the Project will inevitably create some temporary noise impacts, the building contractor may employ mitigation measures to minimize those temporary noise impacts, including the use of mufflers and implementing construction curfew periods. Pursuant to Chapter 11-46, HAR, all project activities must comply with all community noise controls.

Once in operation, the Pearl City Public Library Renovation and CLLC will not produce noises louder than the ambient noise of the surrounding land uses and traffic along Waimano Home Road. Therefore, no mitigation measures are proposed as the noise generated as a result of the proposed Project represents no substantial change from current noise occurrences.

4.4 AIR QUALITY

The State's good air quality is largely a function of the predominant trade winds blowing from the northeast. However, during non-trade wind periods, man-made and volcanic pollutants tend to accumulate on island impacting visibility ("vog").

Potential Impacts and Mitigation Measures

DAGS recognizes the potential for impacts to air quality during construction. This could occur from additional traffic generated by construction vehicles, machinery, and dust generated during demolition and construction.

An effective dust control plan will be implemented as necessary. All construction activities will comply with the provisions of Title 11, Chapter 59, HAR related to Ambient Air Quality Standards and Section 11-60.1-33, HAR related to Fugitive Dust. Measures to control dust during various phases of construction include:

- Planning the different phases of construction, focusing on minimizing the amount of airborne, visible fugitive dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
- Minimizing airborne, visible fugitive dust from shoulders and access roads;
- Controlling airborne, visible fugitive dust from debris being hauled away from the Project Site.
- Providing an adequate water source at the site prior to start-up construction activities;
- Irrigating the construction site during periods of drought or high winds;
- Landscaping and rapid covering of bare areas, starting from the initial grading phase;
- Disturbing only the areas of construction that are in the immediate zone of construction to limit the amount of time that the areas will be subject to erosion;
- Providing adequate dust control measures during weekends, after hours, and before daily start-up of construction activities; and
- Installing silt screening in the areas of disturbance.

In the long-term, the proposed Project is not anticipated to have a long-term impact on air quality in the immediate vicinity. As the proposed Project will not present any long-term impacts to air quality, no mitigation measures are required

4.5 VISUAL RESOURCES

The Pearl City Public Library Renovation and CLLC will be located on the site of the existing library and as discussed in section 1.3 above, is surrounded by a variety of land uses (see Figure 3). The Project site fronts Waimano Home Road, a two-way, six-lane road that serves as a major mauka-makai artery between Kamehameha Highway and the larger Pearl City neighborhood. As such, vehicle traffic is constant throughout the day and evening. The Project site is relatively flat and does not exhibit unique topographic features. There are no significant views identified in the City's Coastal View Study (1987) at the Project site.

Potential Impacts and Mitigation Measures

Short-term minor impacts of the Project on the surrounding area are related to construction activities and will be minimized through avoidance and minimization measures. If night-time construction activity or equipment maintenance is proposed during construction phases of the Project, all associated lights will be shielded, and when large flood/work lights are used, they will be placed on poles to allow the lights to be pointed directly at the ground. Upon completion of the project, temporary lighting would be removed, and disturbed areas would be revegetated with non-invasive plant species appropriate for the project area. As the Proposed project will match the height of the existing library building and new massing will be equal or subordinate in scale, the proposed Project will not cause adverse visual impacts and thus, no additional mitigation measures are proposed.

4.6 SOCIAL & ECONOMIC CHARACTERISTICS

The project site is located within the City's Primary Urban Center planning region, which was forecasted to accommodate a significant portion of O'ahu's projected growth in residential population and jobs for the considered 20-year period from 2004 through 2025. The Primary Urban Center functions as an economic center of importance to both O'ahu and the State of Hawaii. Honolulu is a leading city and travel destination in the Pacific region.

The Pearl City Census Designated Place (CDP) has a median household and family income of $94,417 and a resident population of 46,605. Most residential development was built between the late 1950s through the early 1980s. Schools in the project area include Pearl City Elementary School, Pearl City Highlands Elementary School, Manana Elementary School, Palisades Elementary School, Momilani Elementary School, Pearl City Highlands Intermediate School, and Pearl City High School. The proposed Project is centrally located in the Pearl City community, in walking distance to schools, parks, shopping centers, and transit routes. As educational uses, community needs, and technology evolve, an expanded library space and CLLC is needed to support a growing population.

Potential Impacts and Mitigation Measures

In the short-term, the proposed Project will contribute positively to the construction industry and construction employment. In the long-term, the proposed Pearl City Public Library Renovation and CLLC is projected to be vital point of learning and community engagement. As the proposed Project is likely to have a positive impact on socio-economic conditions, no mitigation measures are required.

4.7 INFRASTRUCTURE AND UTILITIES

4.7.1 Water System

The Board of Water Supply provides water service to the Project site via an existing 12-inch cast iron water main located along Waimano Home Road. Meter readings indicate an average daily use of approximately 1,900 gallons per day of domestic water from the 1 1/2-inch meter. Domestic water from this meter serves the buildings on-site, via an existing 4-inch, on-site waterline.

The Pearl City Public Library is currently serviced by the municipal water system along Waimano Home Road. According to the BWS Service Engineering records, domestic water is delivered to the Project Site by an existing 1 1/2-inch meter (Meter No. 15060065/Premise I.D. #1449378691), and fire protection water is delivered to the Project site by three (3) existing fire hydrants in the area.

The Pearl City Public Library domestic water system is composed of an existing 1 1/2-inch water meter, on site water lines, backflow prevention devices, hose bib assemblies, shut-off valves, etc. Based on the BWS Cross-Connection records, a reduced pressure principle backflow preventer (RPBP) device is currently installed immediately downstream of the existing 1 1/2-inch meter.

Potential Impacts and Mitigation Measures

For the Pearl City Public Library Renovation and CLLC, a new minimum 3-inch water line would connect to an existing 4-inch water main located in the landscaped area adjacent to Building A.

If required by the 2002 BWS Water System Standards, a new BWS approved, RPBP devices shall be installed immediately downstream of the new water line connections. A new building shut-off valve with valve box and pressure regulator assembly with valve box will be installed downstream of the new water line connection.

During the Pre-Assessment consultation period, the BWS wrote (refer to letter in Appendix A):

> *'The existing water system is adequate to accommodate the proposed development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.*
>
> *When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission, and daily storage.*
>
> *Water conservation measures are required for all proposed developments. These measures include low flow plumbing fixtures, utilization of nonpotable water for irrigation using rain catchment and chiller/air handler condensate, cooling tower conductivity meters, and water softening recycling systems, drought tolerant plants, xeriscape landscaping, efficient irrigation systems and the use of water Sense labeled ultra-low-flow water fixtures and toilets. Prior to BWS approval of water availability, the developer is required to submit a Water Conservation and Reuse Plan for BWS review and approval.*
>
> *The proposed project is subject to BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.*
>
> *The construction drawings should be submitted for our approval, and the construction schedule should be coordinated to minimize impact to the water system.*
>
> *The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department."*

As designed, the Project is expected to include various water conservation features such as low-flow plumbing fixtures, drought tolerant landscaping, native plants, green infrastructure systems, and pervious pavement.

Close coordination will be maintained with the BWS to ensure that the water system will not be adversely impacted and to minimize interruption of water services to adjacent areas. During the design phase, the construction drawings will be submitted to the BWS for review and approval. Water demands and calculations will be provided to the DLNR Engineering Division for inclusion in the State Water Projects Plan Update projections.

When water is made available, the DAGS will pay the BWS Water System Facilities Charges for resource development, transmission and daily storage. BWS Cross-Connection Control and Backflow Prevention requirements will be fulfilled prior to the issuance of the building permit.

On-site fire protection requirements will be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

4.7.2 Wastewater System

The Pearl City Public Library is currently serviced by one (1) 6-inch sewer laterals connected to the municipal sewer system along Luehu Street. The municipal sewer system along Luehu Street is composed of an existing 8-inch sewer main and sewer manholes. Wastewater generated at the Pearl City Public Library is conveyed by a series of gravity lines, pump stations, and force mains to the Sand Island Wastewater Treatment Plant.

Potential Impacts and Mitigation Measures

The Project will require a sewer line connection to the existing 6-inch sewer lateral along Waimano Home Road. The Project may also require a minimum new sewer line connection to the existing on site 6-inch sewer lateral servicing the library. As we do not anticipate a significant increase in the number of staff, there should only be a relatively minor increase in sanitary sewer flows.

4.7.3 Drainage System

The Project site drainage system generally collects surface runoff via a system of storm drainage/trench drain inlets and conveyance pipes that generally outlets at the southeast corner of the site. The predominant drainage pattern is in the southeastern direction towards Waimano Home Road and Leuhu Street.

Potential Impacts and Mitigation Measures

In the long-term, the Project will result in an increase in impervious surface area and therefore more potential storm runoff. However, the City and County of Honolulu, Department of Planning and Permitting's Rules Relating to Storm Drainage Standards, August 2017, will be incorporated in drainage design to ensure the Proposed Project does not impact the existing storm water quality or volume of runoff. To satisfy Honolulu's standards for the protection of water quality, LID features will be integrated into the Project design to maintain or improve the existing storm peak flows and storm water quality exiting the Proposed Project. Filtration/infiltration areas through vegetation will be proposed (as feasible/available) to mitigate the increased runoff resulting from the Proposed Project allowing it to seep into the ground rather than leaving the Site.

4.7.4 Electrical and Telecommunications Systems

The Project site is served by the Hawaiian Electric Company (HECO) for electrical service.

Potential Impacts and Mitigation Measures

The Pearl City Public Library Renovation and CLLC building will be served by the existing HECO infrastructure. The existing service is anticipated to have adequate capacity to serve this

additional electrical load. As the proposed Project will not present any long-term impacts to electrical and telecommunications systems, no mitigation measures are required.

4.7.5 Solid Waste

Solid waste is currently collected regularly by the City and County of Honolulu.

Potential Impacts and Mitigation Measures

During the construction phase, solid waste generated at the site is anticipated to increase over current conditions. The additional waste is expected to include materials from demolition, grading, construction and landscaping activities. Any demolition or construction waste generated by the Project will be disposed of at a solid waste disposal facility that complies with the applicable provisions (Chapter 11-58.1, HAR "Solid Waste Management Control"). Solid waste that cannot be recycled will be disposed of at landfills, the incinerator, or transfer stations. A waste-to-energy combustor, H-POWER (Honolulu Program of Waste Energy Recovery), is located at the Campbell Industrial Park and incinerates about 1,800 tons of combustible waste per day. The electricity generated is bought by HECO. Currently, the H-POWER facility receives all residential and commercial packer truck wastes on the island. Waste contractors will be asked to submit disposal receipts and invoices to ensure proper disposal of waste. The proposed Project will also comply with the provisions of Chapters 11-260 to 11-280, HAR, relating to hazardous waste.

In the long term, additional solid waste may be generated by the Pearl City Public Library Renovation and CLLC. The amount of new solid waste can be accommodated by existing waste infrastructure. In addition, design elements may be considered to facilitate the separation and collection of materials for recycling.

4.8 PUBLIC SERVICES AND FACILITIES

4.8.1 Police Protection

The Project site is located within Honolulu Police Department (HPD) District 3 – Pearl City, which covers Aiea, Pearl Harbor, Pearl City, and Waipahu. The main police station for District 3 is the Pearl City Police Station located at 1100 Waimano Home Road, just makai of the Project site across Luehu Street (Figure 14).

Potential Impacts and Mitigation Measures

During the Pre-Assessment consultation process, the Honolulu Police Department (HPD) wrote:

> *"The Honolulu Police Department (HPD) has reviewed the plans and anticipates short-term impacts to pedestrian and vehicular traffic in the area as the project is located directly off of Waimano Home Road, the main thoroughfare in the area. The HPD recommends public notification be made to affected businesses and/or residents due to the possible ingress and egress of construction vehicles, equipment, and deliveries during the construction phase of the project."*

HPD's full letter is included in Appendix A. As recommended, during construction, contractors will notify affected business and residents when ingress and egress of construction vehicles, equipment, and deliveries is expected to affect nearby properties. Additional construction-related transportation impacts and their corresponding mitigation measures are discussed in Section 4.2.1.

During daily operation, The Pearl City Public Library Renovation and CLLC is expected to have onsite security guards. The proposed Project is not expected to create an increased demand on existing police protection services. As such, no mitigation measures are required.

4.8.2 Fire Protection

Pearl City Fire Station 20 is the closest fire station to the Pearl City Public Library Renovation and CLLC (Figure 14), located at 880 1st Street, approximately 1 minute or 0.6 mile southwest of the Project site. The new Pearl City Public Library Renovation and CLLC is easily accessible off of Waimano Home Road.

Potential Impacts and Mitigation Measures

On February 23, 2023, during the EA Pre-Assessment consultation process, the City and County of Honolulu Fire Department (HFD) wrote:

1. *Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 meters) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; 2018 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1, as amended.)*

   A fire department access road shall extend to within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; 2018 Edition, Section 18.2.3.2.1.)

2. *The fire department access roads shall be in accordance with NFPA 1; 2018 Edition, Section 18.2.3.*

3. *An approved water supply capable of supply the required fire flow for fire protection shall be provided to all premises upon which facilities, buildings, or portions of buildings are hereafter constructed or moved into the jurisdiction. The approved water supply shall be in accordance with NFPA 1; 2018 Edition, Sections 18.3 and 18.4.*

4. *Submit civil drawings to the City and County of Honolulu's Department of Planning and Permitting and route them to the HFD for review and approval*

5. *The abovementioned provisions are required by the HFD. This project may necessitate that additional requirements be met as determined by other agencies.*

The Project proposes a new fire access lane terminating at along the west end of the site. The new Pearl City Public Library Renovation and CLLC may also need to be fire sprinklered (as required) to meet fire safety requirements.

4.8.3 Health Care Services

Health care facilities located near the proposed Pearl City Public Library Renovation and CLLC that provide emergency services include the Queen's Medical Center West O'ahu (4.1 miles) and Pali Momi Medical Center (2.26 miles).

Potential Impacts and Mitigation Measures

Although there may be an unavoidable and occasional need for emergency health care services by employees or patrons of the library, the proposed Project is not expected to significantly increase the need for emergency services. Additionally, the proposed Project is not expected to have a long-term adverse impact on emergency medical providers or their ability to service the community. No mitigation measures are proposed.

4.8.4 Recreational Facilities

Recreational facilities near the Pearl City Public Library Renovation and CLLC include Breene Harimoto Mānana Community Park, Pearl City District Park, and Pacheco Neighborhood Park.

Potential Impacts and Mitigation Measures

The proposed Project is not anticipated to displace any existing recreational facilities or add to the resident population and create any additional demand on recreational facilities in the vicinity of the Project. No mitigation measures are proposed.

4.8.5 Schools

The Project will include an approximately 2,700 square foot Pre-Kindergarten facility and small outdoor recreation area designed to provide early childhood education for approximately 40 students. The Pre-Kindergarten facility will operate on weekdays from during normal business hours.

Public schools within the Pearl City Complex include Pearl City Elementary School, Pearl City Highlands Elementary School, Manana Elementary School, Palisades Elementary School, Kanoelani Elementary School, Lehua elementary School, and Waiau Elementary School, Momilani Elementary School, Pearl City Highlands Intermediate School, and Pearl City High School. As indicated in Section 1.8.1, all public schools within the Pearly City Complex received a Pre-Assessment Consultation letter.

Potential Impacts and Mitigation Measures

During the Pre-Assessment consultation process, the State of Hawai'i Department of Education (DOE), wrote:

> *"Although we understand the importance of providing this facility to support the surrounding Pearl City community, we have concerns regarding traffic that may affect nearby Pearl City Elementary school. The Department strongly requests to consult with Pearl City elementary administration prior to and during construction to identify and minimize impacts in general and especially before and after school hours."*

As referenced in Section 1.8, Pearl City Elementary School received a Pre-Assessment Consultation letter. As of this writing, a response has not been received. Pearl City Elementary School also received a letter of notice with the publication of this Draft EA so that they may provide input on the Draft EA and the proposed Project. DAGS will continue to consult with Pearl City Elementary School administration throughout the EA and construction process to minimize construction related impacts, especially before and after school hours.

As recommended, during construction, contractors will notify surrounding properties, including Pearl City Elementary School, whenever ingress and egress of construction vehicles, equipment, and deliveries may affect nearby properties.

The Project will directly benefit the public school system by providing additional facilities and resources for early childhood education and learning outside of the classroom. Both the library and the Pre-Kindergarten facility are expected serve local Pearl City residents. The Project will have no long term impact on enrollment or operations of other nearby public or private schools and no mitigation measures are proposed.

4.8.6 Other Public Services and Facilities

The Project site contains the existing Pearl City Public Library and an accompanying surface parking lot. The Pearl City Bus Facility and Breene Harimoto Mānana Community Park are located across Hoomalu Street (mauka). The Honolulu Police Department's Pearl City Police Station, Pearl City Elementary School, and Pacheco Neighborhood Park are located across Luehu Street (makai).

During the Pre-Assessment consultation process, the City and County of Honolulu Department of Community Services (DCS), which administers programs to meet the human services, workforce and housing needs of economically challenged individuals and families with special needs in the City and County of Honolulu, wrote:

> *"The Department of Community Services (DCS) would like to thank the State Department of Accounting and General Services and the Hawai'i State Public Library System for planning a project that seems to align well with our mission to create opportunities that improve the quality of life for the people of O'ahu. Robust public libraries are invaluable community resources and gathering places that many of our own partners and programs utilize.*
>
> *Regarding this specific project our review indicates that the project area is located directly adjacent to a property on Waimano Home Road, Tax Map Key (1) 9-7-094:028, leased by*

the Arc in Hawai'i (Arc) for the provision of services and special needs housing to people with intellectual and developmental disabilities.

DCS supported the construction of said housing using public funds and continues to monitor the property for compliance with a use restriction agreement it has with Arc. As such, we ask that this project take into consideration the health, safety, accessibility, and long-term wellbeing of Arc residents and others living nearby and/or involved with activities in the surrounding neighborhood.

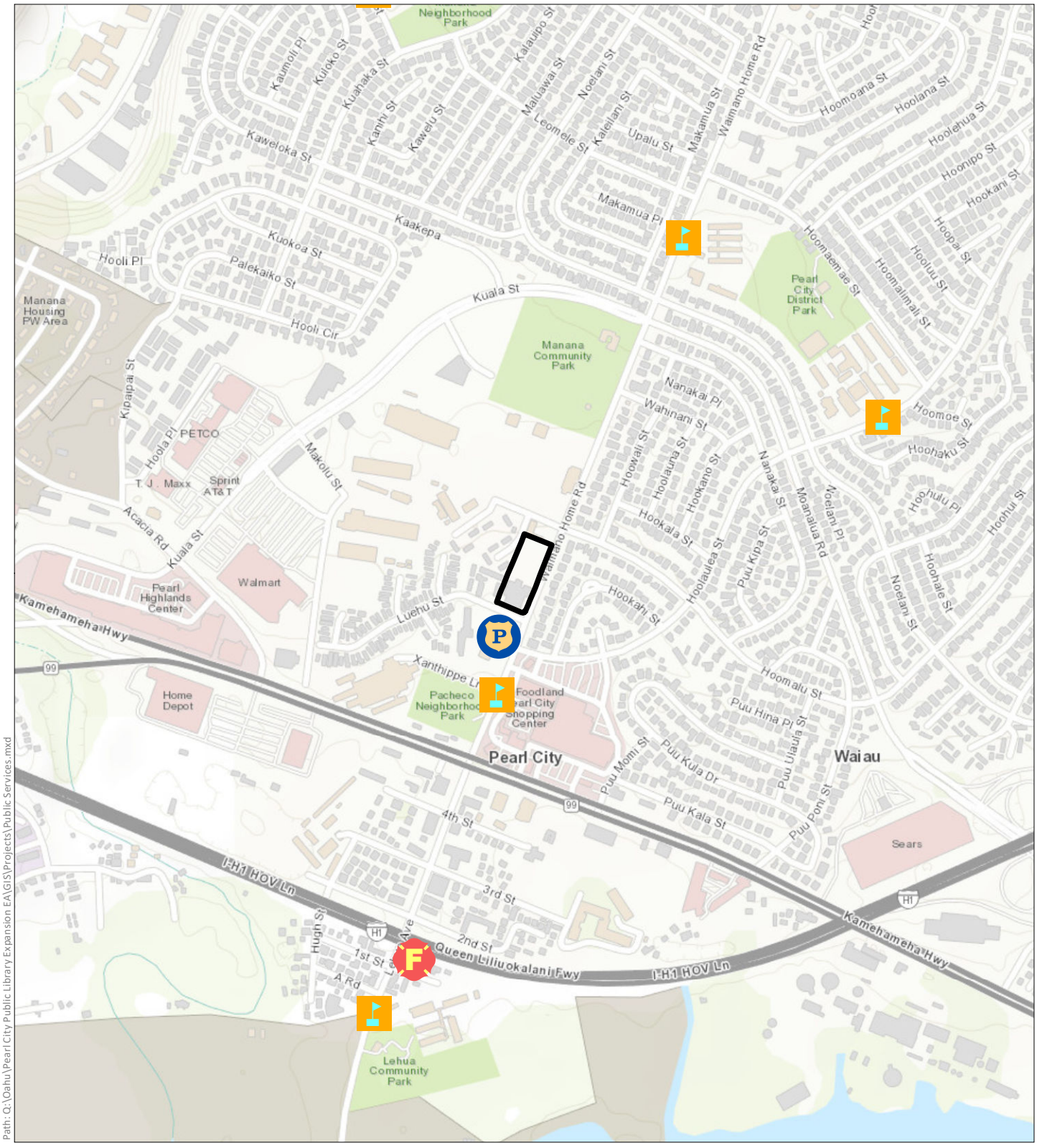
We further ask PBR HAWAII to ensure that this Draft EA pre-assessment requests comments directly from Arc, as well as from the State Department of Land and Natural Resources which leases the property to Arc."

Also during the Pre-Assessment consultation process, DFM, which administers maintenance programs for City and County of Honolulu facilities, wrote: "The Department of Facility Maintenance has no comments at this time, as we do not have any facilities or easements on the subject property" (refer to letter in Appendix A).

Finally, during the Pre-Assessment consultation process, the State of Hawai'i Department of Human Services (DHS), which licenses childcare facilities throughout the State, wrote: "DHS has reviewed the proposed Pearl City Public Library Renovation, and Community Library Learning Center project and the map of the area. A check on DHS' internal data system and Google Maps found two (2) licensed Group Child Care Centers, two (2) licensed Before and After School Facilities, and one (1) licensed Infant and Toddler Child Care Center located within a one (1) mile radius of the area that may be affected" (refer to letter in Appendix A).

Potential Impacts and Mitigation Measures

The proposed Pearl City Public Library Renovation and CLLC is projected to be vital point of learning and community engagement, serving many of the same constituents that rely on DCS and DHS for support. As the population of Pearl City is projected to grow in the coming years, the accompanying need for high-quality educational resources and community gathering spaces will only become more important. As the proposed Project is expected to increase the availability and accessibility of convenient public services and facilities, no mitigation measures are required.



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DATE: 3/14/2023

LEGEND

- Project Area
- Police Stations/ Substations
- Fire Stations
- Schools

Figure 14 :
Public Services

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 500 1000

Source: City and County of Honolulu (2017 & 2022). State DOE (2020). Hawaii Association of Independent Schools (2017). ESRI Online Basemap.

PBR HAWAII & ASSOCIATES, INC.

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5.0 LAND USE CONFORMANCE

State and County land use plans and policies and required permits and approvals relevant to the Project are described below.

5.1 STATE OF HAWAIʻI

5.1.1 State Land Use Law, Chapter 205, Hawaiʻi Revised Statutes

The State Land Use Law (Chapter 205, HRS), establishes the State Land Use Commission (LUC) and authorizes this body to designate all lands in the State into one of four districts: Urban, Rural, Agricultural, or Conservation. These districts are defined and mapped by the State Land Use Commission in order to ensure compatibility with neighboring land uses and protection of public health.

The proposed Project is located within the State Urban District; public libraries and schools are permitted uses in the State Land Use Urban District (Figure 15).

5.1.2 Coastal Zone Management Act, Chapter 205A, Hawaiʻi Revised Statutes

The Coastal Zone Management Area, as defined in Chapter 205A, HRS, includes all the lands of the State. Therefore, the proposed Project lies within the Coastal Zone Management Area.

The Coastal Zone Management (CZM) Program aims to provide recreational opportunities, protect historic resources, protect scenic and open space resources, protect coastal ecosystems, provide facilities for economic development, reduce hazards, and manage development. Program objectives and applicability to the proposed Project are discussed in Table 8 below:

Table 8: Coastal Zone Management Act, Chapter 205A, HRS

COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
Recreational Resources			
Objective: *(A) Provide coastal recreational opportunities accessible to the public.*			
Policies:			
(A) Improve coordination and funding of coastal recreational planning and management; and			X
(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;			X
(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;			X

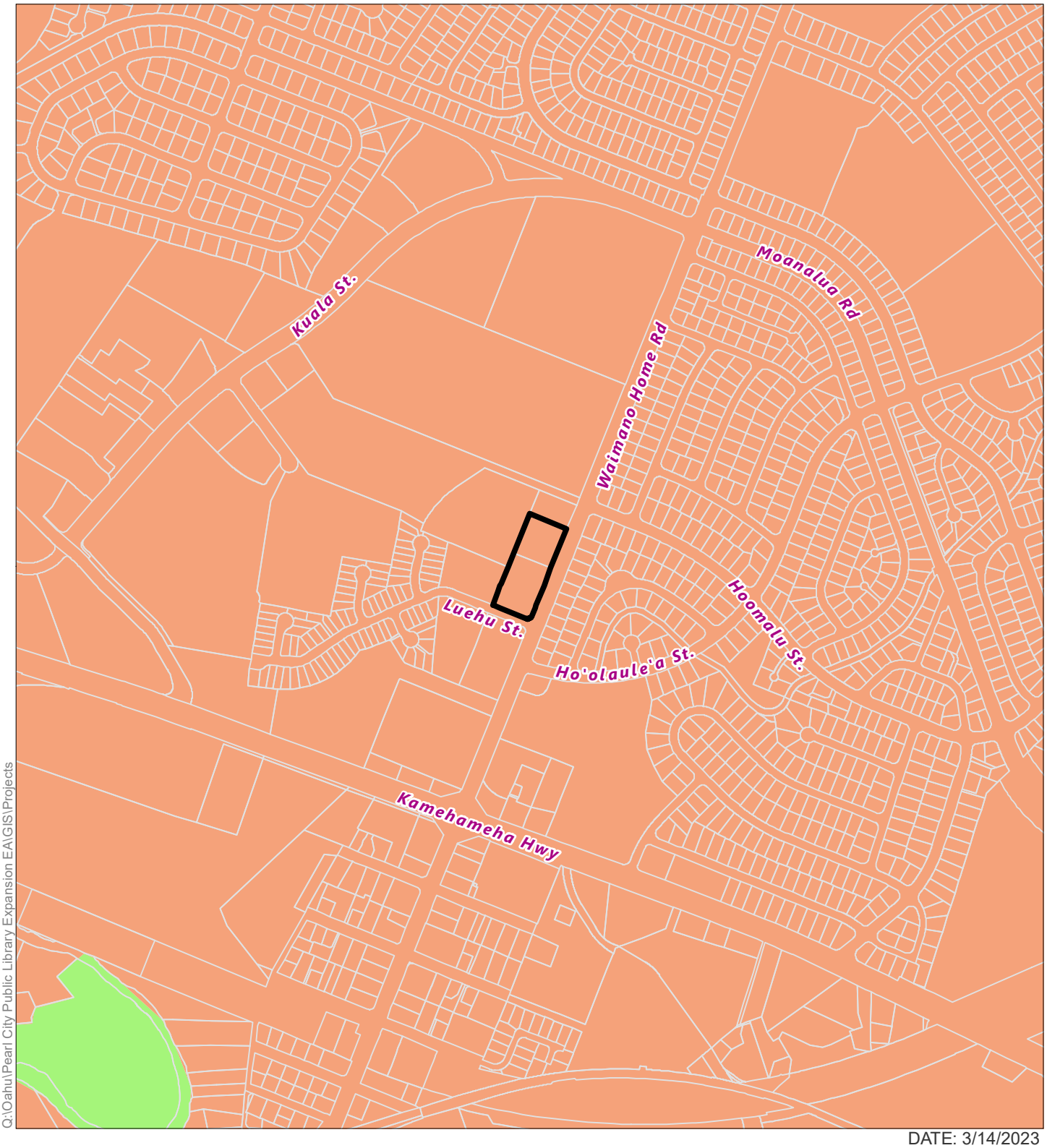
COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)		**S**	**N/S**	**N/A**
(iii)	Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;			X
(iv)	Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;			X
(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;			X
(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;	X		
(vii)	Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and			X
(viii)	Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.			X
Discussion: The proposed Project is not a coastal development and is not located on the coastline. Therefore, policies regarding shoreline recreation resources and shoreline public access are not applicable to the proposed Project. The water quality standards are discussed under the Coastal Ecosystems objectives and policies.				
Historic Resources				
Objective: *(A) 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;	X		
(B)	Maximize information retention through preservation of remains and artifacts or salvage operations; and			X
(C)	Support state goals for protection, restoration, interpretation, and display of historic resources.	X		
Discussion: Due to the extensive disturbance that the Project Site has experienced during the development of the existing library site, it is unlikely that subsurface historic resources are present. Should any archaeological or cultural remains be encountered during construction, all work in the immediate vicinity of the find will cease and the State Historic Preservation Division will be contacted for establishment of appropriate mitigation in accordance with Chapter 6E, Hawai‘i Revised Statutes.				

COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
Scenic and Open Space Resources			
Objective: *(A) 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;			X
(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;	X		
(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and			X
(D) Encourage those developments that are not coastal dependent to locate in inland areas.			X
Discussion: The Project is not coastal dependent, and is located inland, away from any scenic resources. The Project will be located on the site of the existing library, which does not contain any significant views identified in the City's Coastal View Study (1987).			
Coastal Ecosystems			
Objective: *(A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*			
Policies:			
(A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;			X
(B) Improve the technical basis for natural resource management;			X
(C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;			X
(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			X
(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.	X		
Discussion: The Project will not directly impact coastal ecosystems as it is setback from the nearest shoreline. BMPs will be implemented during construction to prevent erosion and stormwater runoff during the construction phase.			

COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
Economic Uses			
Objective: *(A) 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;			X
(B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and			X
(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:			
(i) Use of presently designated locations is not feasible;			X
(ii) Adverse environmental effects are minimized; and			X
(iii) The development is important to the State's economy.			X
Discussion: The Proposed Project is not a coastal dependent development.			
Coastal Hazards			
Objective: *(A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.*			
Policies:			
(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;	X		
(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;			X
(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and	X		
(D) Prevent coastal flooding from inland projects.			X
Discussion: Information regarding flooding, tsunami evacuation zones, hurricane storm surge hazards and sea level rise are presented in section 3.5 of this EA.			
Managing Development			
Objective: *(A) 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;			X
(B) Facilitate timely processing of applications for development permits and resolve			X

COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
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.	X		
Discussion: Early consultation (scoping) comments were obtained, incorporated into this EA and are reproduced in Appendix A. In addition, this EA discusses potential impacts and mitigation measures of the proposed Project and will provide an opportunity for input during the DEA Public Comment period.			
Public Participation			
Objective: *(A) Stimulate public awareness, education, and participation in coastal management.*			
Policies:			
(A) Promote public involvement in coastal zone management processes;	X		
(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			X
(C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.			X
Discussion: Early consultation (scoping) comments were obtained, incorporated into this EA and are reproduced in Appendix A. In addition, this EA discusses potential impacts and mitigation measures of the proposed Project and will provide an opportunity for input during the DEA Public Comment period.			
Beach Protection			
Objective: *(A) Protect beaches for public use and recreation.*			
Policies:			
(A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;			X
(B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and			X
(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.			X
(D) Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and			X
(E) Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor.			X

COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
Discussion: The proposed Project is located outside of the closest shoreline setback, and does not involve shoreline erosion protection structures, or actions that prohibit transit to the shoreline or lateral shoreline access.			
Marine Resources			
Objective: *(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;			X
(B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;			X
(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;			X
(D) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and			X
(E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.			X
Discussion: The Project is located inland from the closest shoreline and will not impact marine or coastal resources.			



Q:\Oahu\Pearl City Public Library Expansion EA\GIS\Projects

DATE: 3/14/2023

LEGEND

- Project Area
- TMK Boundaries

State Land Use District

- Urban
- Agricultural

Figure 15 :
State Land Use Districts

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name — Island of O'ahu

North

Linear Scale (feet)

0 350 700

PBR HAWAII & ASSOCIATES, INC.

Source: State Land Use Commission, 2016. City & County of Honolulu, 2022.

5.1.3 Hawai‘i State Planning Act, Chapter 226, Hawai‘i Revised Statutes

The Hawai‘i State Plan, Chapter 226 HRS (2007) provides guidelines for the future growth of the State of Hawai‘i. The Hawai‘i State Plan identifies goals, objectives, policies, and priorities for allocating the State's resources, including public funds, services, human resources, land, energy, and water. The Plan was enacted to achieve “a desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.” Table 9 below outlines the proposed Project’s conformance with each theme, goal, objective, policy, and guideline of the Plan.

5.1.3.1 Hawai‘i State Plan, Part I: *Overall Theme, Goals, Objectives and Policies*

Table 9: Hawai‘i State Plan, Chapter 226, HRS – Part I

HAWAI‘I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
HRS § 226-1: Findings and Purpose			
HRS § 226-2: Definitions			
HRS § 226-3: Overall Theme.			
Hawai‘i’s people, as both individuals and groups, generally accept and live by a number of principles or values which are an integral part of society. This concept is the unifying theme of the State Plan. The following principles or values are established as the overall theme of the Hawai‘i State Plan: (1) Individual and family self-sufficiency refers to the rights of people to maintain as much self-reliance as possible. It is an expression of the value of independence, in other words, being able to freely pursue personal interests and goals. Self-sufficiency means that individuals and families can express and maintain their own self-interest so long as that self-interest does not adversely affect the general welfare. Individual freedom and individual achievement are possible only by reason of other people in society, the institutions, arrangements and customs that they maintain, and the rights and responsibilities that they sanction. (2) Social and economic mobility refers to the right of individuals to choose and to have the opportunities for choice available to them. It is a corollary to self-sufficiency. Social and economic mobility means that opportunities and incentives are available for people to seek out their own levels of social and economic fulfillment. (3) Community or social well-being is a value that encompasses many things. In essence, it refers to healthy social, economic, and physical environments that benefit the community as a whole. A sense of social responsibility, of caring for others and for the well-being of our community and of participating in social and political life, are important aspects of this concept. It further implies the aloha spirit--attitudes of tolerance, respect, cooperation and unselfish giving, within which Hawai‘i’s society can progress. *One of the basic functions of our society is to enhance the ability of individuals and groups to pursue their goals freely, to satisfy basic needs and to secure desired socio-economic levels. The elements of choice and mobility within society’s legal framework are fundamental rights. Society’s role is to encourage conditions within which individuals and groups can approach their desired levels of self-reliance and self-determination. This enables people to gain confidence and self-esteem; citizens contribute more when they possess such qualities in a free and open society.*			

HAWAIʻI STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
Government promotes citizen freedom, self-reliance, self-determination, social and civic responsibility and goals achievement by keeping order, by increasing cooperation among many diverse individuals and groups, and by fostering social and civic responsibilities that affect the general welfare. The greater the number and activities of individuals and groups, the more complex government's role becomes. The function of government, however, is to assist citizens in attaining their goals. Government provides for meaningful participation by the people in decision-making and for effective access to authority as well as an equitable sharing of benefits. Citizens have a responsibility to work with their government to contribute to society's improvement. They must also conduct their activities within an agreed-upon legal system that protects human rights.			
Discussion: Education is a force that promotes self-sufficiency, social and economic mobility, and community well-being. By providing new technology and expanded facilities for learning and community gathering, the proposed Project is supportive of the State's principles for a free and prosperous society.			
HRS § 226-4: State Goals.			
In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve: (1) A strong, viable economy, characterized by stability, diversity and growth that enables fulfillment of the needs and expectations of Hawaiʻi's present and future generations. (2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people. (3) Physical, social and economic well-being, for individuals and families in Hawaiʻi, that nourishes a sense of community responsibility, of caring and of participation in community life.			
Discussion: Education is a force that promotes self-sufficiency, social and economic mobility, and community well-being. By providing new technology and expanded facilities for learning and community gathering, the proposed Project is supportive of the State's goal of mental well-being and a stable, robust society for future generations.			
HRS § 226-5: Objectives and policies for population.			
(a) Objective: *It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic and social objectives contained in this chapter.*			
(b) Policies:			
(1) Manage population growth statewide in a manner that provides increased opportunities for Hawaiʻi's people to pursue their physical, social and economic aspirations while recognizing the unique needs of each county.			X
(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.			X
(3) Promote increased opportunities for Hawaiʻi's people to pursue their socio-economic aspirations throughout the islands.			X

HAWAIʻI STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
(4) Encourage research activities and public awareness programs to foster an understanding of Hawaiʻi's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawaiʻi's population.			X
(5) Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among the states, provided that such actions do not prevent the reunion of immediate family members.			X
(6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population.			X
(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.	X		
Discussion: The Project will not increase population growth. The Pearl City Public Library Renovation and CLLC is consistent with the State's goals to accommodate population needs and socioeconomic opportunities for the population in the Pearl City region.			
HRS § 226-6: Objectives and policies for the economy in general.			
(a) Objectives: *Planning for the State's economy in general shall be directed toward achievement of the following objectives:*			
(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaiʻi's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			X
(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.			X
(b) Policies:			
(1) Promote and encourage entrepreneurship within Hawaiʻi by residents and nonresidents of the State.			X
(2) Expand Hawaiʻi's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State.			X
(3) Promote Hawaiʻi as an attractive market for environmentally and socially sound investment activities that benefit Hawaiʻi's people.			X
(4) Transform and maintain Hawaiʻi as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(5) Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawai'i.			X
(6) Seek broader outlets for new or expanded Hawai'i business investments.			X
(7) Expand existing markets and penetrate new markets for Hawai'i's products and services.			X
(8) Assure that the basic economic needs of Hawai'i's people are maintained in the event of disruptions in overseas transportation.			X
(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.			X
(10) Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawai'i's small scale producers, manufacturers, and distributors.			X
(11) Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility.			X
(12) Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawai'i.			X
(13) Foster greater cooperation and coordination between the government and private sectors in developing Hawai'i's employment and economic growth opportunities.			X
(14) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.			X
(15) Maintain acceptable working conditions and standards for Hawai'i's workers.			X
(16) Provide equal employment opportunities for all segments of Hawai'i's population through affirmative action and nondiscrimination measures.			X
(17) Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			X
(18) Encourage businesses that have favorable financial multiplier effects within Hawai'i's economy, particularly with respect to emerging industries in science and technology.			X
(19) Promote and protect intangible resources in Hawai'i, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
(20) Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new, potential growth industries in particular.			X
(21) Foster a business climate in Hawai'i--including attitudes, tax and regulatory policies, and financial and technical assistance programs--that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.			X
Discussion: The proposed Project will not have a significant impact on the overall state economy. The Project will involve the renovation of the existing Pearl City Public Library to provide enhanced learning and community engagement opportunities for Pearl City residents.			
HRS § 226-7: Objectives and policies for the economy – agriculture			
(a) Objectives: *Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:*			
• Viability of Hawai'i's sugar and pineapple industries.			X
• Growth and development of diversified agriculture throughout the State.			X
• An agriculture industry that continues to constitute a dynamic and essential component of Hawai'i's strategic, economic, and social well-being.			X
(b) Policies:			
(1) Establish a clear direction for Hawai'i's agriculture through stakeholder commitment and advocacy.			X
(2) Encourage agriculture by making best use of natural resources.			X
(3) Provide the governor and the legislature with information and options needed for prudent decision making for the development of agriculture.			X
(4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.			X
(5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawai'i's economy.			X
(6) Seek the enactment and retention of federal and state legislation that benefits Hawai'i's agricultural industries.			X
(7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawai'i's food producers and consumers in the State, nation, and world.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
(8) Support research and development activities that strengthen economic productivity in agriculture, stimulate greater efficiency, and enhance the development of new products and agricultural by-products.			X
(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.			X
(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.			X
(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.			X
(12) In addition to the State's priority on food, expand Hawai'i's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.			X
(13) Promote economically competitive activities that increase Hawai'i's agricultural self-sufficiency, including the increased purchase and use of Hawai'i-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D-104.			X
(14) Promote and assist in the establishment of sound financial programs for diversified agriculture.			X
(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.			X
(16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.			X
Discussion: The proposed Project will not impact the state's agricultural industry. The Project will involve the renovation of the existing Pearl City Public Library to provide enhanced learning and community engagement opportunities for Pearl City residents.			
HRS § 226-8: Objectives and policies for the economy – visitor industry			
(a) Objectives: *Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawai'i's economy.*			
(b) Policies:			
(1) Support and assist in the promotion of Hawai'i's visitor attractions and facilities.			X
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people.			X
(3) Improve the quality of existing visitor destination areas by utilizing Hawai'i's strengths in science and technology.			X

HAWAIʻI STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
(4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.			X
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawaiʻi's people.			X
(6) Provide opportunities for Hawaiʻi's people to obtain job training and education that will allow for upward mobility within the visitor industry.			X
(7) Foster a recognition of the contribution of the visitor industry to Hawaiʻi's economy and the need to perpetuate the aloha spirit.			X
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawaiʻi's cultures and values.			X
Discussion: The proposed Project will not impact the state's visitor industry. The Project will involve the renovation of the existing Pearl City Public Library to provide enhanced learning and community engagement opportunities for Pearl City residents.			
HRS § 226-9: Objective and policies for the economy – federal expenditures			
(a) Objective: *Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawaiʻi's economy.*			
(b) Policies:			
(1) Encourage the sustained flow of federal expenditures in Hawaiʻi that generates long-term government civilian employment.			X
(2) Promote Hawaiʻi's supportive role in national defense, in a manner consistent with Hawaiʻi's social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawaiʻi's economy.			X
(3) Promote the development of federally supported activities in Hawaiʻi that respect state-wide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawaiʻi's environment.			X
(4) Increase opportunities for entry and advancement of Hawaiʻi's people into federal government service.			X
(5) Promote federal use of local commodities, services, and facilities available in Hawaiʻi.			X
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawaiʻi.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(7) Pursue the return of federally controlled lands in Hawai'i that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.			X
Discussion: The Project has no direct relation to the State's goals on federal expenditures.			
HRS § 226-10: Objectives and policies for the economy – potential growth and innovative activities.			
(a) Objective: *Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawai'i's economic base.*			
(b) Policies:			
(1) Facilitate investment and employment in economic activities that have the potential to expand and diversify Hawai'i's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors.			X
(2) Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawai'i through the export of services or products or substitution of imported services or products.			X
(3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements.			X
(4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity.			X
(5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus.			X
(6) Expand Hawai'i's capacity to attract and service international programs and activities that generate employment for Hawai'i's people.			X
(7) Enhance and promote Hawai'i's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts.			X
(8) Accelerate research and development of new energy- related industries based on wind, solar, ocean, and underground resources and solid waste.			X
(9) Promote Hawai'i's geographic, environmental, social, and technological advantages to attract new economic activities into the State.			X

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(10) Provide public incentives and encourage private initiative to attract new industries that best support Hawai'i's social, economic, physical, and environmental objectives.			X
(11) Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research.			X
(12) Develop, promote, and support research and educational and training programs that will enhance Hawai'i's ability to attract and develop economic activities of benefit to Hawai'i.			X
(13) Foster a broader public recognition and understanding of the potential benefits of new, or innovative growth-oriented industry in Hawai'i.			X
(14) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawai'i's social, economic, physical, and environmental objectives.			X
(15) Increase research and development of businesses and services in the telecommunications and information industries.			X
(16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation.			X
(17) Recognize and promote health care and health care information technology as growth industries.			X
Discussion: The Project has no direct relation to the State's goals on potential growth and innovative activities.			
HRS § 226-10.5: Objectives and policies for the economy – information industry			
(a) Objective: *Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawai'i as a leader in broadband and wireless communications and applications in the Pacific Region.*			
(b) Policies:			
(1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawai'i and between Hawai'i and the world, and make high speed communication available to all residents and businesses in Hawai'i.			X
(2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawai'i to accommodate future growth and innovation in Hawai'i's economy.			X
(3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawai'i.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
(4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawai'i, using technology to communicate with their headquarters, offices, or customers located out-of-state.			X
(5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry.			X
(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people.			X
(7) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the information industry.			X
(8) Foster a recognition of the contribution of the information industry to Hawai'i's economy.			X
(9) Assist in the promotion of Hawai'i as a broker, creator, and processor of information in the Pacific.			X
Discussion: The Project has no direct relation to the State's goals on information industry.			
HRS § 226-11: Objectives and policies for the physical environment – land-based, shoreline, and marine resources.			
(a) Objectives: *Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:*			
(1) Prudent use of Hawai'i's land-based, shoreline, and marine resources.	X		
(2) Effective protection of Hawai'i's unique and fragile environmental resources.			X
(b) Policies:			
(1) Exercise an overall conservation ethic in the use of Hawai'i's natural resources.			X
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.			X
(3) Take into account the physical attributes of areas when planning and designing activities and facilities.			X
(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.			X
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.			X
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.			X
(8) Pursue compatible relationships among activities, facilities, and natural resources.			X
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.	X		
Discussion: By building within the existing footprint of the Pearl City Public Library site, the Project furthers the State's goal of prudent land use and land conservation, for purposes such as education.			
HRS § 226-12: Objective and policies for the physical environment – scenic, natural beauty, and historic resources.			
(a) Objective: *Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai'i's scenic assets, natural beauty, and multi-cultural/historical resources.*			
(b) Policies:			
(1) Promote the preservation and restoration of significant natural and historic resources.			X
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.			X
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.			X
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.			X
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.			X
Discussion: The Project has no relationship to the promotion and/or availability of scenic and historic resources in the State of Hawai'i. Previous literature and development indicates that there will be no impact to cultural/archaeological/historic resources.			
HRS § 226-13: Objectives and policies for the physical environment – land, air, and water quality.			
(a) Objectives: *Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:*			
(1) Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.			X
(2) Greater public awareness and appreciation of Hawai'i's environmental resources.			X
(b) Policies:			
(1) Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.			X

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(2) Promote the proper management of Hawai'i's land and water resources.	X		
(3) Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters.			X
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.			X
(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.			X
(6) Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities.			X
(7) Encourage urban developments in close proximity to existing services and facilities.	X		
(8) Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors.			X
Discussion: More fully utilizing the existing library site and adjacent vacant parcel for the improved educational and community facilities follows the State's goal of encouraging development in proximity to existing services and facilities, while reducing impacts to land, air and water quality.			
HRS § 226-14: Objective and policies for facility systems – in general.			
(a) Objective: *Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.*			
(b) Policies:			
(1) Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.	X		
(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.			X
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.			X
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.			X
Discussion: By maintaining the parcel's "Urban" State Land Use Boundary designation and existing use as a public library, the Project is in consonance with both State and County plans.			

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
HRS § 226-15: Objectives and policies for facility systems – solid and liquid wastes.			
(a) Objectives: *Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:*			
(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.	X		
(2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.			X
(b) Policies:			
(1) Encourage the adequate development of sewerage facilities that complement planned growth.			X
(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.			X
(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.			X
Discussion: Solid waste and wastewater disposal systems will be efficiently designed to minimize impacts on existing solid and liquid waste facilities.			
HRS § 226-16: Objective and policies for facility systems – water.			
(a) Objective: *Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.*			
(b) Policies:			
(1) Coordinate development of land use activities with existing and potential water supply.	X		
(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.			X
(3) Reclaim and encourage the productive use of runoff water and wastewater discharges.			X
(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.			X
(5) Support water supply services to areas experiencing critical water problems.			X
(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.			X

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Discussion: The Project will utilize existing water infrastructure (Honolulu Board of Water Supply) and is not expected to significantly increase water consumption.			
HRS § 226-17: Objectives and policies for facility systems – transportation.			
(a) Objective: *Planning for the State's facility systems with regard to transportation shall be directed toward the achievement of the following objectives:*			
(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.			X
(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.			X
(b) Policies:			
(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter;			X
(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives;			X
(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties;			X
(4) Provide for improved accessibility to shipping, docking, and storage facilities;			X
(5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs;			X
(6) Encourage transportation systems that serve to accommodate present and future development needs of communities;			X
(7) Encourage a variety of carriers to offer increased opportunities and advantages to interisland movement of people and goods;			X
(8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs;			X
(9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification;			X
(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment;			X
(11) Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation;			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and			X
(13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.			X
Discussion: The Project has no relationship to the provision or facilitation of transportation.			
HRS § 226-18: Objectives and policies for facility systems – energy.			
(a) Objectives: *Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:*			
(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;	X		
(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawai'i's dependence on imported fuels for electrical generation and ground transportation;			X
(3) Greater diversification of energy generation in the face of threats to Hawai'i's energy supplies and systems;			X
(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and			X
(5) Utility models that make the social and financial interests of Hawai'i's utility customers a priority.			X
(b) *To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably priced, and dependable energy services to accommodate demand.*			
(c) Other Policies:			
(1) Support research and development as well as promote the use of renewable energy sources;			X
(2) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth;			X
(3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits;			X
(4) Promote all cost-effective conservation of power and fuel supplies through measures including:			
(A) Development of cost-effective demand-side management programs;			X

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(B) Education;			X
(C) Adoption of energy-efficient practices and technologies; and			X
(D) Increasing energy efficiency and decreasing energy use in public infrastructure;			X
(5) Ensure, to the extent that new supply-side resources are needed, that the development or expansion of energy systems uses the least-cost energy supply option and maximizes efficient technologies;			X
(6) Support research, development, demonstration, and use of energy efficiency, load management, and other demand-side management programs, practices, and technologies;			X
(7) Promote alternate fuels and transportation energy efficiency;			X
(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications;			X
(9) Support actions that reduce, avoid, or sequester Hawai'i's greenhouse gas emissions through agriculture and forestry initiatives.			X
(10) Provide priority handling and processing for all state and county permits required for renewable energy projects;			X
(11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources; and			X
(12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawai'i.			X
Discussion: The proposed Project will incorporate energy efficient fixtures to reduce overall energy consumption from the Project, wherever feasible. Additionally, the Project hopes to install a photovoltaic system to take advantage of solar energy.			

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HRS § 226-18.5: Objectives and policies for facility systems – telecommunications.			
(a) Objective: *Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people.*			
(b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand.			
(c) Other Policies:			
(1) Facilitate research and development of telecommunications systems and resources;			X
(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning;			X
(3) Promote efficient management and use of existing telecommunications systems and services; and			X
(4) Facilitate the development of education and training of telecommunications personnel.			X
Discussion: The Project has no relationship to the State's telecommunications policies.			
HRS § 226-19: Objectives and policies for socio-cultural advancement – housing.			
(a) Objectives: *Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:*			
(1) Greater opportunities for Hawai'i's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawai'i's population.			X
(2) The orderly development of residential areas sensitive to community needs and other land uses.			X
(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawai'i's people.			X
(b) Policies:			
(1) Effectively accommodate the housing needs of Hawai'i's people.			X
(2) Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.			X
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.			X
(4) Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas.			X

HAWAIʻI STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.			X
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.			X
(7) Foster a variety of lifestyles traditional to Hawaiʻi through the design and maintenance of neighborhoods that reflect the culture and values of the community.			X
(8) Promote research and development of methods to reduce the cost of housing construction in Hawaiʻi.			X
Discussion: The Project has no relationship to the availability of housing in the State of Hawaiʻi.			
HRS § 226-20: Objectives and policies for socio-cultural advancement – health			
(a) Objectives: *Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:*			
(1) Fulfillment of basic individual health needs of the general public.			X
(2) Maintenance of sanitary and environmentally healthful conditions in Hawaiʻi's communities.			X
(3) Elimination of health disparities by identifying and addressing social determinants of health.			X
(b) Policies:			
(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.			X
(2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.			X
(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.			X
(4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.			X
(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.			X
(6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement.			X

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(7) Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data.			X
Discussion: The Project has no direct relationship to State of Hawai'i objectives and policies on public health.			
HRS § 226-21: Objective and policies for socio-cultural advancement – education.			
(a) Objectives: *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) Policies:			
(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.	X		
(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.	X		
(3) Provide appropriate educational opportunities for groups with special needs.			X
(4) Promote educational programs which enhance understanding of Hawai'i's cultural heritage.			X
(5) Provide higher educational opportunities that enable Hawai'i's people to adapt to changing employment demands.			X
(6) Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities.			X
(7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.			X
(8) Emphasize quality educational programs in Hawai'i's institutions to promote academic excellence.			X
(9) Support research programs and activities that enhance the education programs of the State.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
Discussion: Schools in the project area include Pearl City Elementary School, Pearl City Highlands Elementary School, Manana Elementary School, Palisades Elementary School, Momilani Elementary School, Pearl City Highlands Intermediate School, and Pearl City High School. The proposed Project is centrally located in the Pearl City community, in walking distance to schools, parks, shopping centers, and transit routes. As educational uses, community needs, and technology evolve, an expanded library space and CLLC is needed to support a growing population. In the short-term, the proposed Project will contribute positively to the local construction industry and construction employment. In the long-term, the proposed Pearl City Public Library Renovation and CLLC is projected to be vital point of learning and community engagement.			
HRS § 226-22: Objective and policies for socio-cultural advancement – social services.			
(a) Objective: *Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.*			
(b) Policies:			
(1) Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities.			X
(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.			X
(3) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawai'i's communities.			X
(4) Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations.			X
(5) Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect.			X
(6) Promote programs which assist people in need of family planning services to enable them to meet their needs.			X
Discussion: The Project has no direct relation to the provision of social services by the State of Hawai'i , other than providing additional community gathering spaces and educational resources.			
HRS § 226-23: Objective and policies for socio-cultural advancement – leisure.			
(a) Objective: *Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.*			
(b) Policies:			

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(1) Foster and preserve Hawai'i's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.			X
(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.			X
(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.			X
(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.			X
(5) Ensure opportunities for everyone to use and enjoy Hawai'i's recreational resources.	X		
(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.			X
(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai'i's people.	X		
(8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.			X
(9) Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawai'i's population to participate in the creative arts.			X
(10) Assure adequate access to significant natural and cultural resources in public ownership.			X
Discussion: The proposed Project is centrally located in the Pearl City community, in walking distance to schools, parks, shopping centers, and transit routes. As educational uses, community needs, and technology evolve, an expanded library space and CLLC is needed to support a growing population. In the long-term, the proposed Pearl City Public Library Renovation and CLLC is projected to be vital point of learning and community engagement.			
HRS § 226-24: Objective and policies for socio-cultural advancement – individual rights and personal well-being.			
(a) Objective: *Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations.*			
(b) Policies:			
(1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment.			X

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(2) Uphold and protect the national and state constitutional rights of every individual.	X		
(3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.			X
(4) Ensure equal opportunities for individual participation in society.	X		
Discussion: The proposed Project is centrally located in the Pearl City community, in walking distance to schools, parks, shopping centers, and transit routes. As educational uses, community needs, and technology evolve, an expanded library space and CLLC is needed to support a growing population. In the short-term, the proposed Project will contribute positively to the local construction industry and construction employment. In the long-term, the proposed Pearl City Public Library Renovation and CLLC is projected to be vital point of learning and community engagement.			
HRS § 226-25: Objective and policies for socio-cultural advancement – culture.			
(a) Objective: *Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawai'i's people.*			
(b) Policies:			
(1) Foster increased knowledge and understanding of Hawai'i's ethnic and cultural heritages and the history of Hawai'i.			X
(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.			X
(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.			X
(4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawai'i's people and visitors.			X
Discussion: The Project has no direct relation to the State's goals for the advancement of culture, aside from what may be provided through community interaction and the sharing of ideas and information.			
HRS § 226-26: Objectives and policies for socio-cultural advancement – public safety.			
Objectives: *Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:*			
(1) Assurance of public safety and adequate protection of life and property for all people.			X
(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
(3) Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people.			X
(b) Policies related to public safety:			
(1) Ensure that public safety programs are effective and responsive to community needs.			X
(2) Encourage increased community awareness and participation in public safety programs.			X
(c) Policies related to criminal justice:			
(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.			X
(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.			X
(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.			X
(d) Policies related to emergency management:			
(1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.			X
(2) Enhance the coordination between emergency management programs throughout the State.			X
Discussion: The Project has no direct relation to the State's goals for public safety, aside from the fact that the Project provides an expanded safe space for learning and community gathering.			
HRS § 226-27: Objectives and policies for socio-cultural advancement – government.			
(a) Objectives: *Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:*			
(1) Efficient, effective, and responsive government services at all levels in the State.			X
(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.			X
(b) Policies:			
(1) Provide for necessary public goods and services not assumed by the private sector.	X		
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.			X
(3) Minimize the size of government to that necessary to be effective.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawai'i.			X
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.	X		
(6) Provide for a balanced fiscal budget.			X
(7) Improve the fiscal budgeting and management system of the State.			X
(8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.			X
Discussion: The Project will provide the public good that is an educated citizenry and fulfills the goal of government responsiveness – specifically to the needs of Pearl City residents.			

5.1.3.2 Hawai'i State Plan, Part II: *Planning Coordination and Implementation*

Part II of the State Plan establishes a statewide planning system to coordinate and guide all major state and county activities and to implement the overall theme, goals, objectives, policies, and priority guidelines. The system implements the State Plan through the development of functional plans and county general plans. Functional plans, general plans, and the formulation, administration, and implementation of state programs must be in conformance with the State Plan.

- State Functional Plans

State Functional Plans (SFPs) set forth the policies, statewide guidelines, and priorities within a specific field of activity, when such activity or program is proposed, administered, or funded by any agency of the state. Functional plans are developed by the state agency primarily responsible for a given functional area, which include: Agriculture, Conservation Lands, Education, Employment, Energy, Health, Higher Education, Historic Preservation, Housing, Human Services, Recreation, Tourism, and Transportation. Functional plans must identify priority issues in the functional area and contain objectives, policies, and implementing actions to address those priority issues. Actions may include organizational or management initiatives, facility or physical infrastructure development initiatives, initiatives for programs and services, or legislative proposals. Functional plans are approved by the governor and serve as guidelines for funding and implementation by state and county agencies. In addition, functional plans shall be used to guide the allocation of resources for the implementation of state policies adopted by the legislature.

- State Education Functional Plan

The applicable functional plan is the *State Education Functional Plan* (SEFP 1989). Specific SEFP policies and goals applicable to the proposed Project are discussed below.

A(4): Services and Facilities

- **Policy:** Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs. [Hawai‘i State Plan, §226-21(b)(21)]
- **Goal:** Provide facilities that are sufficient in number, functional, well-paced [sic] and compatible with the physical surroundings.

- **Discussion:** The proposed Project is centrally located in the Pearl City community, in walking distance to schools, parks, shopping centers, and transit routes. As educational uses, community needs, and technology evolve, an expanded library space and CLLC is needed to support a growing population. In the long-term, the proposed Pearl City Public Library Renovation and CLLC is projected to be vital point of learning and community engagement.

As established in the Part II of the State Plan, a statewide planning system implements the State Plan through the development of SFPs and county general plans. The applicable county general plan is the City and County of Honolulu General Plan, which is discussed in Section 5.2.1 of this EA below.

5.1.3.3 Hawai'i State Plan, Part III: *Priority Guidelines*

Table 10: Hawai'i State Plan, Chapter 226, HRS – Part III

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

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

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(C) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.			X
(D) Promote career opportunities in all industries for Hawai'i's people by encouraging firms doing business in the State to hire residents.			X
(E) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on-the-job training opportunities.			X
(F) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.			X
(b) Priority guidelines to promote the economic health and quality of the visitor industry:			
(1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawai'i's residents and visitors.			X
(2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.			X
(3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.			X
(4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawai'i's significant natural, scenic, historic, and cultural resources.			X
(5) Develop and maintain career opportunities in the visitor industry for Hawai'i's people, with emphasis on managerial positions.			X
(6) Support and coordinate tourism promotion abroad to enhance Hawai'i's share of existing and potential visitor markets.			X
(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.			X
(8) Support law enforcement activities that provide a safer environment for both visitors and residents alike.			X
(9) Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.			X
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:			
(1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawai'i.			X
(3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.			X
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:			
(1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.			X
(2) Assist in providing adequate, reasonably priced water for agricultural activities.			X
(3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.			X
(4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.			X
(5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawai'i's agricultural community.			X
(6) Seek favorable freight rates for Hawai'i's agricultural products from interisland and overseas transportation operators.			X
(7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.			X
(8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.			X
(9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.			X
(10) Support the continuation of land currently in use for diversified agriculture.			X
(11) Encourage residents and visitors to support Hawai'i's farmers by purchasing locally grown food and food products.			X
(e) Priority guidelines for water use and development:			
(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.			X
(2) Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes.			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(3) Increase the support for research and development of economically feasible alternative water sources.			X
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.			X
(f) Priority guidelines for energy use and development:			
(1) Encourage the development, demonstration, and commercialization of renewable energy sources.			X
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.			X
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.			X
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.			X
(g) Priority guidelines to promote the development of the information industry:			
(1) Establish an information network, with an emphasis on broadband and wireless infrastructure and capability, that will serve as the foundation of and catalyst for overall economic growth and diversification in Hawai'i.			X
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.			X
(3) Encourage the development of small businesses in the information field such as software development, the development of new information systems, peripherals, and applications; data conversion and data entry services; and home or cottage services such as computer programming, secretarial, and accounting services.			X
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.			X
(5) Encourage research activities, including legal research in the information and telecommunications fields.			X
(6) Support promotional activities to market Hawai'i's information industry services.			X
(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.			
Discussion: The Project has no direct relation to the State's economic priority guidelines.			
HRS § 226-104: Population growth and land resources priority guidelines.			
(a) Priority guidelines to effect desired statewide growth and distribution:			
(1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawai'i's people.			X
(2) Manage a growth rate for Hawai'i's economy that will parallel future employment needs for Hawai'i's people.			X
(3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.	X		
(4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.			X
(5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.			X
(6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands.			X
(7) Support the development of high technology parks on the neighbor islands.			X
(b) Priority guidelines for regional growth distribution and land resource utilization:			
(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.	X		
(2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.			X
(3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area.			X

HAWAIʻI STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
(4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use.			X
(5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.	X		
(6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.			X
(7) Pursue rehabilitation of appropriate urban areas.			X
(8) Support the redevelopment of Kakaʻako into a viable residential, industrial, and commercial community.			X
(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.	X		
(10) Identify critical environmental areas in Hawaiʻi to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.			X
(11) Identify all areas where priority should be given to preserving rural character and lifestyle.			X
(12) Utilize Hawaiʻi's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.	X		
(13) Protect and enhance Hawaiʻi's shoreline, open spaces, and scenic resources.			X
Discussion: The Project is located in an Urban district and will address the needs of Hawaiʻi's families by providing much-needed educational resources, new technology, and community gathering spaces. By expanding the existing library and building on an adjacent underutilized site, the Project is in line with the State's priorities for population growth and land resources.			
HRS § 226-105: Crime and criminal justice.			
Priority guidelines in the area of crime and criminal justice:			
(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.			X
(2) Target state and local resources on efforts to reduce the incidence of violent crime			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
and on programs relating to the apprehension and prosecution of repeat offenders.			
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.			X
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.			X
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.			X
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.			X
Discussion: The Project has no direct relationship to criminal justice.			
HRS § 226-106: Affordable housing.			
Priority guidelines for the provision of affordable housing:			
(1) Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group households.			X
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.			X
(3) Improve information and analysis relative to land availability and suitability for housing.			X
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawai'i's low- and moderate-income households, gap-group households, and residents with special needs.			X
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawai'i's people for the purchase of initial owner- occupied housing.			X
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.			X
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.			X
(8) Give higher priority to the provision of quality housing that is affordable for Hawai'i's residents and less priority to development of housing intended primarily for individuals outside of Hawai'i.			X
Discussion: The Project has no relationship to affordable housing.			

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
HRS § 226-107: Quality education.			
Priority guidelines to promote quality education:			
(1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement;			X
(2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs;			X
(3) Initiate efforts to improve the quality of education by improving the capabilities of the education work force;			X
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision-making responsibilities;			X
(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for:			
(A) The electronic exchange of information;			X
(B) Statewide electronic mail; and			X
(C) Access to the Internet.			X
Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives;			X
(6) Pursue the establishment of Hawai'i's public and private universities and colleges as research and training centers of the Pacific;			X
(7) Develop resources and programs for early childhood education;			X
(8) Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and			X
(9) Strengthen and expand educational programs and services for students with special needs.			X

Discussion: Schools in the Pearl City Complex include Pearl City Elementary School, Pearl City Highlands Elementary School, Manana Elementary School, Palisades Elementary School, Momilani Elementary School, Pearl City Highlands Intermediate School, and Pearl City High School. The proposed Project is centrally located in the Pearl City community, in walking distance to schools, parks, shopping centers, and transit routes. As educational uses, community needs, and technology evolve, an expanded library space and CLLC is needed to support a growing population. In the long-term, the proposed Pearl City Public Library Renovation and CLLC is projected to be vital point of learning and community engagement. Providing the proposed Pearl City Public Library Renovation and CLLC puts the Project in line with the above State goals.

HAWAIʻI STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES **(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)**	**S**	**N/S**	**N/A**
HRS § 226-108: Sustainability.			
Priority guidelines and principles to promote sustainability shall include:			
(1) Encouraging balanced economic, social, community, and environmental priorities;			X
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State;			X
(3) Promoting a diversified and dynamic economy;			X
(4) Encouraging respect for the host culture;			X
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations			X
(6) Considering the principles of the ahupuaʻa system; and			X
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawaiʻi.			X
Discussion: The Project has no direct relationship to the State's priority guidelines for sustainability.			
HRS § 226-109: Climate change adaptation priority guidelines.			
Priority guidelines to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and nearshore marine areas; natural and cultural resources; education; energy; higher education; health; historic preservation; water resources; the built environment, such as housing, recreation, transportation; and the economy shall:			
(1) Ensure that Hawaiʻi's people are educated, informed, and aware of the impacts climate change may have on their communities;			X
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;			X
(3) Invest in continued monitoring and research of Hawaiʻi's climate and the impacts of climate change on the State;			X
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;			X
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;			X
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;			X
(7) Promote sector resilience in areas such as water, roads, airports, and public health,			X

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;			
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;			X
(9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and			X
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.			X
Discussion: The Project is located outside the 3.2-foot SLR-XA as modeled by the University of Hawai'i CGG.			

5.1.4 State Environmental Policy, Chapter 344, Hawai'i Revised Statutes

The State Environmental Policy, as defined in Chapter 344, HRS, establishes the policy of the State of Hawai'i on natural resource conservation and the environment. The Project's consistency with the State Environmental Policy is outlined in Table 11 below:

Table 11: State Environmental Policy, Chapter 344, HRS

State Environmental Policy, Chapter 344, Hawai'i Revised Statutes (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
State Environmental Policy			
§344-3 Environmental policy. *It shall be the policy of the State, through its programs, authorities, and resources to:*			
(1) Conserve the natural resources, so that land, water, mineral, visual, air and other natural resources are protected by controlling pollution, by preserving or augmenting natural resources, and by safeguarding the State's unique natural environmental characteristics in a manner which will foster and promote the general welfare, create and maintain conditions under which humanity and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of the people of Hawai'i.			X
(2) Enhance the quality of life by:			
(A) Setting population limits so that the interaction between the natural and artificial environments and the population is mutually beneficial;			X
(B) Creating opportunities for the residents of Hawai'i to improve their quality of life through diverse economic activities which are stable and in balance with the physical and social environments;			X

State Environmental Policy, Chapter 344, Hawai'i Revised Statutes (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
(C) Establishing communities which provide a sense of identity, wise use of land, efficient transportation, and aesthetic and social satisfaction in harmony with the natural environment which is uniquely Hawaiian; and			X
(D) Establishing a commitment on the part of each person to protect and enhance Hawai'i's environment and reduce the drain on nonrenewable resources.			X
Discussion: The Project is planned in an urban area and will not involve State Conservation lands.			
Guidelines			
§344-4 Guidelines. *In pursuance of the state policy to conserve the natural resources and enhance the quality of life, all agencies, in the development of programs, shall, insofar as practicable, consider the following guidelines:*			
(1) Population.			
(A) Recognize population impact as a major factor in environmental degradation and adopt guidelines to alleviate this impact and minimize future degradation;			X
(B) Recognize optimum population levels for counties and districts within the State, keeping in mind that these will change with technology and circumstance, and adopt guidelines to limit population to the levels determined.			X
Discussion: The Project will neither encourage nor discourage population growth.			
(2) Land, water, mineral, visual, air, and other natural resources.			
(A) Encourage management practices which conserve and fully utilize all natural resources;			X
(B) Promote irrigation and waste water management practices which conserve and fully utilize vital water resources;			X
(C) Promote the recycling of waste water;			X
(D) Encourage management practices which conserve and protect watersheds and water sources, forest, and open space areas;			X
(E) Establish and maintain natural area preserves, wildlife preserves, forest reserves, marine preserves, and unique ecological preserves;			X
(F) Maintain an integrated system of state land use planning which coordinates the state and county general plans;			X
(G) Promote the optimal use of solid wastes through programs of waste prevention, energy resource recovery, and recycling so that all our wastes become utilized.			X

State Environmental Policy, Chapter 344, Hawai'i Revised Statutes (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
Discussion: The proposed Project has no direct relationship to the management of land, water, mineral, visual, air, and other natural resources, other than that the location of the Project will minimize impacts to natural and visual resources by expanding the existing Pearl City Public Library and building the CLLC on an adjacent, underutilized site.			
(3) Flora and fauna.			
(A) Protect endangered species of indigenous plants and animals and introduce new plants or animals only upon assurance of negligible ecological hazard;			X
(B) Foster the planting of native as well as other trees, shrubs, and flowering plants compatible to the enhancement of our environment.			X
Discussion: The Project is not in any critical habitat areas and will have no impact on endangered species.			
(4) Parks, recreation, and open space.			
(A) Establish, preserve and maintain scenic, historic, cultural, park and recreation areas, including the shorelines, for public recreational, educational, and scientific uses;			X
(B) Protect the shorelines of the State from encroachment of artificial improvements, structures, and activities;			X
(C) Promote open space in view of its natural beauty not only as a natural resource but as an ennobling, living environment for its people.			X
Discussion: The Project is located away from the shoreline, and will have no impact on available parks, recreation, and adjoining open spaces.			
(5) Economic development.			
(A) Encourage industries in Hawai'i which would be in harmony with our environment;			X
(B) Promote and foster the agricultural industry of the State; and preserve and conserve productive agricultural lands;			X
(C) Encourage federal activities in Hawai'i to protect the environment;			X
(D) Encourage all industries including the fishing, aquaculture, oceanography, recreation, and forest products industries to protect the environment;			X
(E) Establish visitor destination areas with planning controls which shall include but not be limited to the number of rooms;			X
(F) Promote and foster the aquaculture industry of the State; and preserve and conserve productive aquacultural lands.			X

State Environmental Policy, Chapter 344, Hawai'i Revised Statutes (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
Discussion: The Project is not directly related to the State's goals for economic development.			
(6) Transportation.			
(A) Encourage transportation systems in harmony with the lifestyle of the people and environment of the State;			X
(B) Adopt guidelines to alleviate environmental degradation caused by motor vehicles;			X
(C) Encourage public and private vehicles and transportation systems to conserve energy, reduce pollution emission, including noise, and provide safe and convenient accommodations for their users.			X
Discussion: The Project is not anticipated to have any impact on transportation systems.			
(7) Energy.			
(A) Encourage the efficient use of energy resources.	X		
Discussion: The proposed Project will incorporate energy efficient fixtures, such as LED lighting, to reduce overall energy consumption from the Project, wherever feasible. Additionally, the Project hopes to install a photovoltaic system to take advantage of solar energy.			
(8) Community life and housing.			
(A) Foster lifestyles compatible with the environment; preserve the variety of lifestyles traditional to Hawai'i through the design and maintenance of neighborhoods which reflect the culture and mores of the community;			X
(B) Develop communities which provide a sense of identity and social satisfaction in harmony with the environment and provide internal opportunities for shopping, employment, education, and recreation;			X
(C) Encourage the reduction of environmental pollution which may degrade a community;			X
(D) Foster safe, sanitary, and decent homes;			X
(E) Recognize community appearances as major economic and aesthetic assets of the counties and the State; encourage green belts, plantings, and landscape plans and designs in urban areas; and preserve and promote mountain-to-ocean vistas.			X
Discussion: The proposed Project has no direct relationship to the State's environmental policy on community life and housing.			

State Environmental Policy, Chapter 344, Hawai'i Revised Statutes (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(9) Education and culture.			
(A) Foster culture and the arts and promote their linkage to the enhancement of the environment;			X
(B) Encourage both formal and informal environmental education to all age groups.			X
Discussion: The proposed Project is centrally located in the Pearl City community, in walking distance to schools, parks, shopping centers, and transit routes. As educational uses, community needs, and technology evolve, an expanded library space and CLLC is needed to support a growing population. In the long-term, the proposed Pearl City Public Library Renovation and CLLC is projected to be vital point of learning and community engagement.			
(10) Citizen participation.			
(A) Encourage all individuals in the State to adopt a moral ethic to respect the natural environment; to reduce waste and excessive consumption; and to fulfill the responsibility as trustees of the environment for the present and succeeding generations; and			X
(B) Provide for expanding citizen participation in the decision making process so it continually embraces more citizens and more issues.	X		
Discussion: This EA discusses potential impacts and mitigation measures of the proposed Project and will provide an opportunity for resident input during the DEA Public Comment period.			

5.2 CITY AND COUNTY OF HONOLULU

5.2.1 O'ahu General Plan

The O'ahu General Plan is the policy document for the long-range development of the Island of O'ahu. The General Plan is a statement of general conditions to be sought in the 20-year planning horizon and policies to help direct attainment of the plan's objectives. Specific General Plan objectives and policies applicable to the Proposed Project are discussed below.

Health and Education

Objective B *– To provide a wide range of educational opportunities for the people of Oahu.*
Policies:

(4) Encourage the construction of school facilities that are designed for flexibility and high levels of use.

Discussion: The proposed Project is centrally located in the Pearl City community, in walking distance to schools, parks, shopping centers, and transit routes. As educational uses, community needs, and technology evolve, an expanded library space and CLLC is needed to support a growing

population. In the long-term, the proposed Pearl City Public Library Renovation and CLLC is projected to be vital point of learning and community engagement.

5.2.2 Primary Urban Center Development Plan

The City and County of Honolulu has adopted the PUC Development Plan as one of eight community-oriented plans to guide public policy, investment and decision making through the 2025 planning horizon. The document contains policies, principles, and guidelines specific to the PUC region. These policies, principles, and guidelines are then implemented through ordinances such as the Land Use Ordinance (zoning code).

The proposed Project property is located within the PUC, which is envisioned as the key location for future urban growth and development on O‘ahu. The PUC Development Plan Land Use Map illustrates the desired long-range land use pattern for the entire PUC. An Urban Community Boundary defines and contains the intended extent of developed or built-up areas of urban communities. The proposed Project property is designated as “Lower Density Residential” and is within the designated Urban Community Boundary (Figure 16). As of this writing, according to https://www.honolulu.gov/dpp/planning/planning-documents/primary-urban-center.html, an update to the PUC DP has been drafted and is available for public review until January 31, 2023.

The PUC Development Plan does not have policies or guidelines specifically for libraries, however, it offers the following policies for School and Library Facilities under section 4.7.2:

- *Support the development of a high quality educational system of schools and post-secondary institutions that increase the attractiveness of the Primary Urban Center as a place to live and work.*
- *Work with the Department of Education to develop innovative shared-use facilities, particularly on City-owned school properties.*

Discussion: By providing upgraded technology and additional learning spaces and community rooms, the Pearl City Public Library Renovation and CLLC is designed to further the educational opportunities and resources of students and residents of the surrounding community. The Project will also provide residents with additional venues for early childhood education program, classes for seniors, and community events.

5.2.3 Land Use Ordinance

The Land Use Ordinance (LUO), Chapter 21 of the Revised Ordinances of the City and County of Honolulu (ROH), implements the goals and objectives of the General Plan and the PUC Development Plan. All lands within the City and County of Honolulu are zoned into specific districts. According to the Department of Planning and Permitting, the Project Site is zoned R-5 Residential District (Figure 17). According to the LUO Master Use Table (Table 21-3 of the LUO), “Public uses and structures” are permitted in all zoning districts.

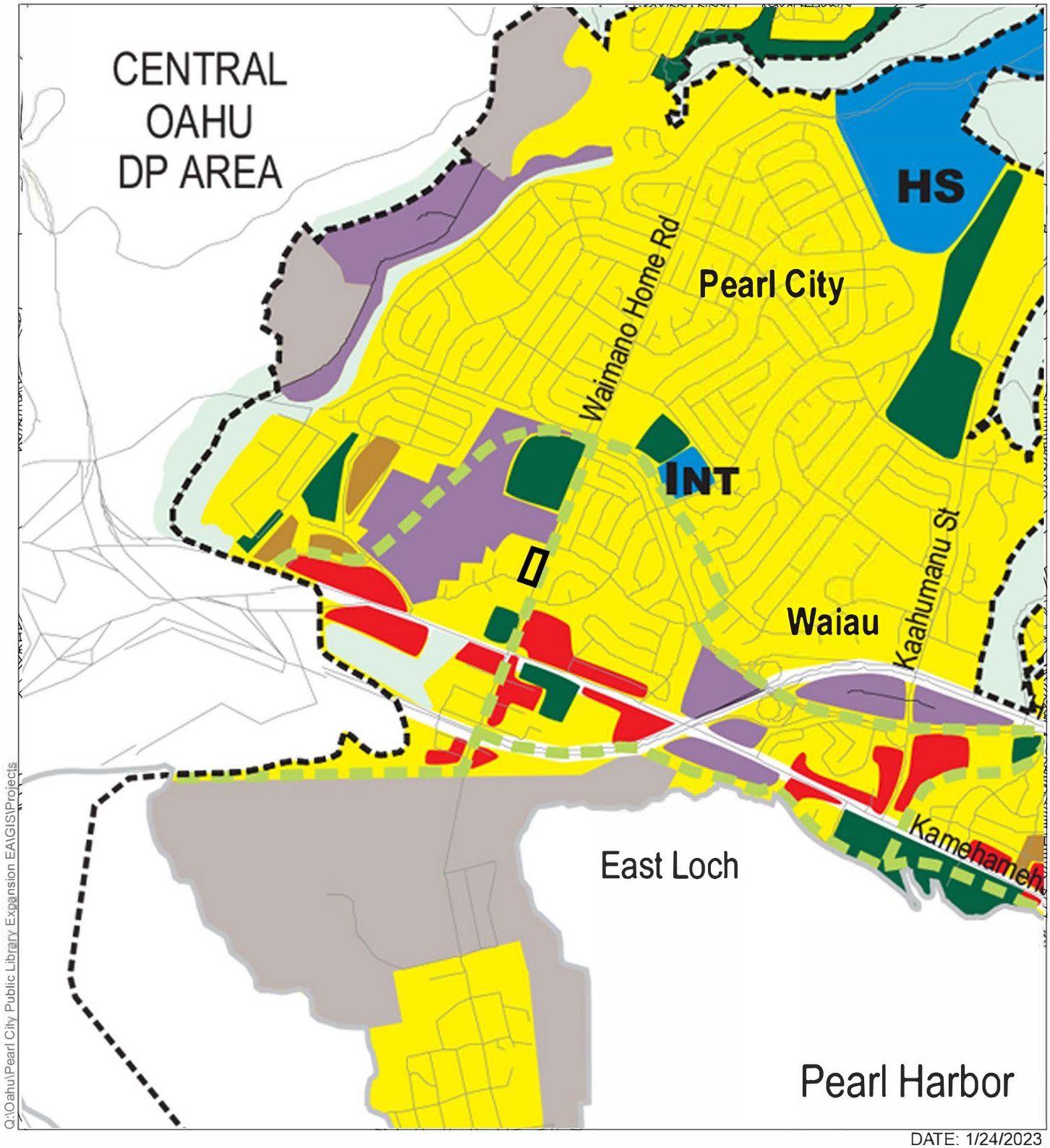
Discussion: The proposed Project is consistent with the LUO in that it is a public structure (public library) for a public use, which is a permitted use in all zoning districts regulated by the City and County of Honolulu, including the R-5 zone in which the Project is located.

During the Pre-Assessment consultation process, DPP wrote: "The DEA should include an explanation on how the proposed work will comply with the applicable development standards. Alternatively, if the Project will require a Zoning Waiver, the DEA should include that information."

Per Section 21-3.40-1 of the LUO, within the R-5 Residential District, the development standards are enumerated in Table 21-3.2 of the LUO. Under Table 21-3.2, the current height limit under R-5 zoning is 25 to 30 feet. Since the proposed Project is estimated to be 25 feet to accommodate the one-story building, the height is within the current height limit. Under Table 21-3.2, the maximum building area (percent of zoning lot) is 50 percent. Since the proposed Project is estimated to take up roughly 33% of the combined parcels, the Project is within the maximum building area. In sum, the proposed Project complies with development standards set forth in the LUO, Chapter 21, ROH, and no Zoning Waiver is required.

5.2.4 Special Management Area

The City and County of Honolulu has designated the shoreline and certain inland areas of O‘ahu as being within the Special Management Area (SMA). The SMA areas are designated sensitive environments that are protected in accordance with the State's CZM policies, as set forth in Chapter 25, ROH. As shown in Figure 18, the Project is located entirely outside the Special Management Area (SMA) and is therefore not subject to the provisions of Chapter 25, ROH.



DATE: 1/24/2023

LEGEND

- Project Area
- Lower-Density Residential
- Medium and Higher-Density Residential/Mixed Use
- District Commercial
- Industrial
- Institutional
- Major Parks and Open Space
- Preservation
- Military
- Urban Community Boundary
- Pedestrian Network
- INT — Intermediate School (State)
- HS — High School (State)

Figure 16:
Primary Urban Center Development Plan Land Use Map

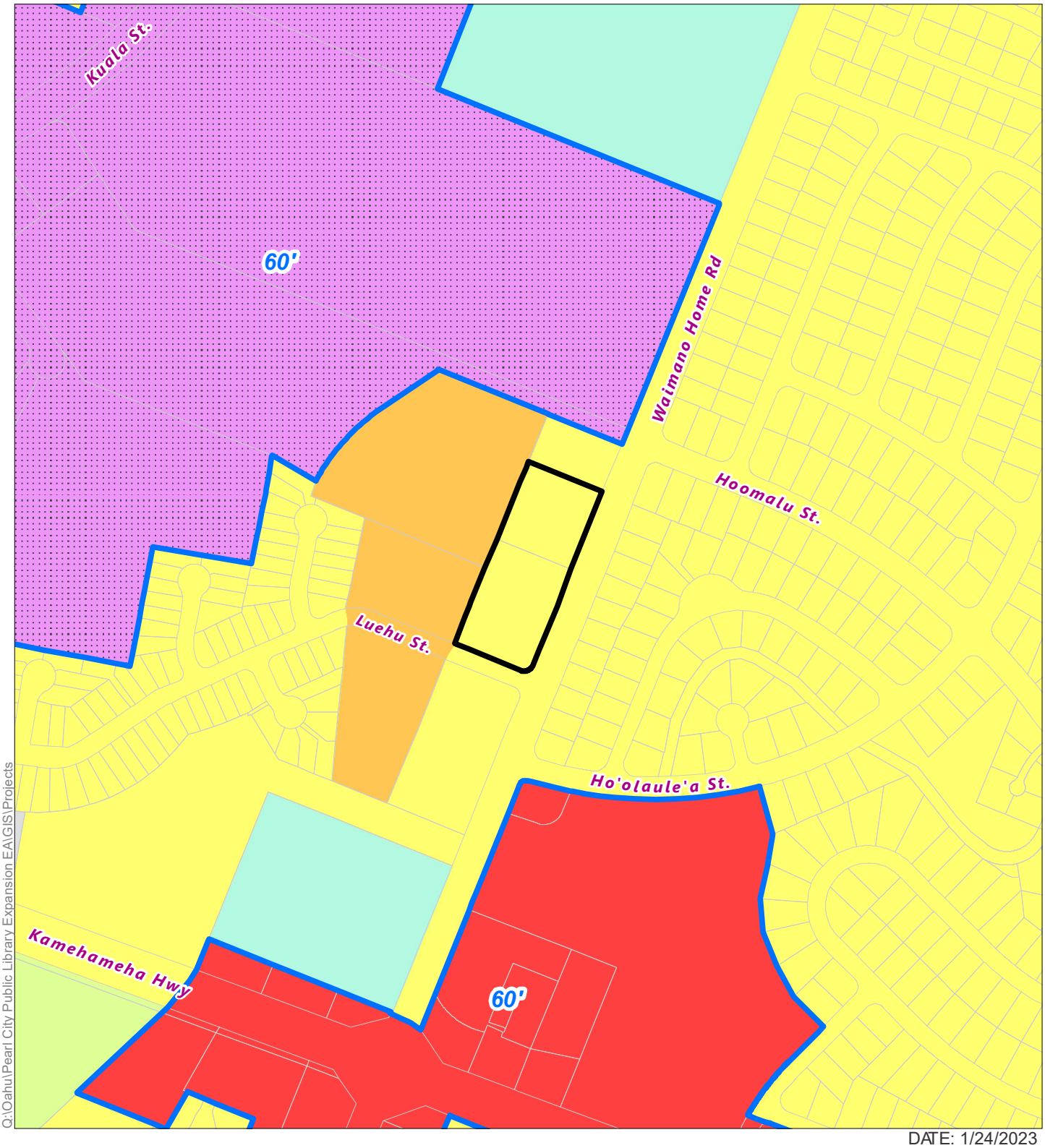
Pearl City Public Library Expansion and Community Library Learning Center

Client's Name — Island of O'ahu

North — Linear Scale (feet) 0 1000 2000

PBR HAWAII & ASSOCIATES, INC.

Source: City & County of Honolulu, 2004, 2017 & 2022.
Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



Q:\Oahu\Pearl City Public Library Expansion EA\GIS\Projects

DATE: 1/24/2023

LEGEND

- Project
- TMK Boundaries
- Building Height Limits

Zoning

- P-2
- F-1
- AG-1
- R-5
- A-1
- B-2
- IMX-1

Figure 17 :
City and County of Honolulu Zoning District Map with Height Limits

Pearl City Public Library Expansion and Community Library Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 175 350

Source: City & County of Honolulu, 2022.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

Q:\Oahu\Pearl City Public Library Expansion EA\GIS\Projects

DATE: 3/14/2023

LEGEND

- Project Area
- TMK Boundaries
- Special Management Area

Figure 18 :

Special Management Area

Pearl City Public Library Renovation and Expansion & Community Learning Center

Client's Name

Island of O'ahu

North

Linear Scale (feet)

0 350 700

PBR HAWAII & ASSOCIATES, INC.

Source:FEMA, 2022. City & County of Honolulu, 2022. ESRI Online Basemap.

5.2.5 Complete Streets

Complete streets are part of a transportation and design approach that aims to create a comprehensive, integrated network of streets that are safe and convenient for all people whether traveling by foot, bicycle, transit, or automobile, and regardless of age or ability. Complete Streets move away from streets designed with a singular focus on automobiles toward a design approach that is context-sensitive, multimodal, and integrated with the community's vision and sense of place. The end result is a road network that provides safe travel, promotes public health, and creates stronger communities.

The City and County of Honolulu is committed to complete streets solutions that improve safety, accessibility, and comfort for all users, encourage physical activity, and reflect community needs and character. In 2009, State Act 54, Session Laws of Hawai‘i (SLH) 2009 was passed, requiring all Counties and the State DOT to adopt a Complete Streets policy. The Honolulu Complete Streets Ordinance was passed by City Council and signed into law in 2012 as Ordinance 12-15 (Revised Ordinances of Honolulu (ROH) Chapter14, Article 33), establishing the complete streets policy for the City and County of Honolulu. In 2016, the City and County of Honolulu finalized its Complete Streets Design Manual and hired a Complete Streets Program Administrator to move toward implementation of improvements that make Honolulu’s streets and neighborhoods safe and inviting for all users, regardless of age or ability.

The Complete Streets policy and principles are discussed below:

ROH §14-33.2 Complete streets policy; principles

(a) There is hereby established a complete streets policy and principles for the City and County of Honolulu to guide and direct more comprehensive and balanced planning, design, and construction of city transportation systems. Under this policy, the city hereby expresses its commitment to encourage the development of transportation facilities or projects that are planned, designed, operated, and maintained to provide safe mobility for all users. Every transportation facility or project, whether new construction, reconstruction, or maintenance, provides the opportunity to implement complete streets policy and principles. This policy provides that a context sensitive solution process and multi-modal approach be considered in all planning documents and for the development of all city transportation facilities and projects.

(b) Complete streets principles consist of the following objectives:

(1) Improve safety;

(2) Apply a context sensitive solution process that integrates community context and the surrounding environment, including land use;

(3) Protect and promote accessibility and mobility for all;

(4) Balance the needs and comfort of all modes and users;

(5) Encourage consistent use of national industry best practice guidelines to select complete streets design elements;

(6) Improve energy efficiency in travel and mitigate vehicle emissions by providing non-motorized transportation options;

(7) Encourage opportunities for physical activity and recognize the health benefits of an active lifestyle;

(8) Recognize complete streets as a long-term investment that can save money over time;

(9) Build partnerships with stakeholders and organizations statewide; and

(10) Incorporate trees and landscaping as integral components of complete streets.

Discussion: The proposed Project is sited on the Ewa side of Waimano Home Road. The existing transportation system is generally consistent with the City's Complete Streets ordinance and retains features that encourage alternative modes of transportation to and from the library. As discussed in Sections 4.2.4 (Bicycle and Pedestrian Facilities) above, sidewalks and crosswalks provide pedestrian and bicycle access to the Project site. Public transit stops are located in close proximity to the Pearl City Public Library in a manner that encourages the use of pedestrian facilities in a safe, convenient manner. Conveniently, the Pearl City Bus Facility is located less than a quarter mile away from the project site, across Hoomalu Street.

5.3 PREVIOUSLY GRANTED PERMITS AND APPROVALS

During the Pre-Assessment consultation process, DPP wrote: "The DEA should detail the relevant permit history of the site." The following table is a list of land use permits, sorted by TMK within the Project site, that have been previously granted by DPP.

Table 12: Previously Granted Permits and Approvals

TAX MAP KEY	PERMIT NUMBER	STATUS	ISSUED	DESCRIPTION
9-7-094:026	176193	Completed	2/1/1983	PEARL CITY REG.LIB. - DR
9-7-094:026	224224	Completed	5/28/1986	PEARL CITY LIBRARY - RW,EL,PL,OT
9-7-094:026	225123	Completed	6/18/1986	PEARL CITY LIBRARY - RW,EL,PL,OT
9-7-094:026	245116	Completed	9/30/1987	PEARL CITY LIBRARY – AD,AL
9-7-094:026	357068	Completed	8/24/1994	PEARL CITY LIBRARY – AD,AL,EL
9-7-094:026	376697	Completed	9/13/1995	PC LIBRARY – AL,EL,PL
9-7-094:026	A2009-02-0894 A2009-02-0895	POSSE BP subjob created	mmm dd, yyyy	Pearl City Public Library-Replace AC Units - Replacement of existing air handlers and build new mechanical equipment building.
9-7-094:026	A2014-04-1215	POSSE BP subjob created	mmm dd, yyyy	[TMK: 97094026] Pearl City Regional Library Reroof and Repair Downspout Leak - Building Permit

TAX MAP KEY	PERMIT NUMBER	STATUS	ISSUED	DESCRIPTION
9-7-094:026	A2014-06-0186	POSSE BP subjob created	mmm dd, yyyy	[TMK: 97094026] Pearl City Public Library Replace Flooring and Miscellaneous Improvements - Building Permit
9-7-094:026		Job closed – no response	mmm dd, yyyy	[TMK: 97094026] Pearl City Regional Library Reroof and Repair Downspout Leak - Building Permit
9-7-094:026	569832	Permit application closed	8/19/2004	(BP #569832) [TMK: 97094026] SOH - DAGS / PEARL CITY PUBLIC LIBRARY -- Exterior & Interior Alterations. DAGS JOB NO. 12-36-6330
9-7-094:026	569833	Permit application closed	8/19/2004	(BP #569833) [TMK: 97094026] SOH - DAGS / PEARL CITY PUBLIC LIBRARY -- Site Work. DAGS JOB NO. 12-36-6330
9-7-094:026	645715	Permit application closed	8/17/2009	(BP #645715) [TMK: 97094026] 3/2 SOH -- DAGS // Pearl City Public Library -- Replace AC Units and convert existing mechanical room to storage DAGS JOB NO.12-36-6384 (2009/IBP01505)
9-7-094:026	645716	Permit application closed	8/17/2009	(BP #645716) [TMK: 97094026] SOH -- DAGS // Pearl City Public Library -- NEW MECHANICAL EQUIPTMENT BUILDING DAGS JOB NO.12-36-6384 (2009/IBP01505)
9-7-094:026	755212	Permit application closed	10/8/2014	(BP #755212) [TMK: 97094026] (4/59) SOH DAGS Pearl City Regional Library - Reroof and Repair Downspout Leak [DAGS JOB# 62-36-6527]
9-7-094:026	754211	Permit application closed	9/18/2014	(BP #754211) [TMK: 97094026] (6/27) SOH DAGS Pearl City Public Library -- Replace Flooring and Miscellaneous Improvements. [DAGS JOB No: 62-36-6541]
9-7-094:026	2008/CUP-41	Approval letter mailed	mm dd, yyyy	CUPm for joint development for State of Hawaii (DAGS); 1138 Waimano Home Road (Pearl City Library), TMK 9-7-94: 26 & 29
9-7-094:026	79/SUB-217	Approved	8/6/1979	SUBD: PEARL CITY BRANCH LIBRARY SITE INTO

TAX MAP KEY	PERMIT NUMBER	STATUS	ISSUED	DESCRIPTION
				PARCELS A OF 55,914 SF & B OF 86 S*
9-7-094:026	85/W-54	Approved subject to CONDITIONS	1/31/1986	PARKING REGULATIONS (9-7-94:26,28)
9-7-094:026	86/W-12	Approved	5/31/1986	YARD & HEIGHT REGULATIONS
9-7-094:026	86/W-19	Approved	4/25/1986	WAIVER OF YARD REGULATIONS
9-7-094:026	2009/SCA-0111	Fee not required	2/25/2009	2009/SCA-0111 Pearl City Library, Replace AC Units / Library
9-7-094:026	TP-98-8605	Permit closed	4/7/1998	
9-7-094:026	TP2000-03-0291	Job closed	5/30/2000	Service / BWS
9-7-094:026	TP2010-09-0804	Job closed	9/17/2010	BWS / EMERGENCY WORK / BWS / WAIMANO HOME RD.
9-7-094-029	645715	Permit application closed	8/17/2009	(BP #645715) [TMK: 97094026] 3/2 SOH -- DAGS // Pearl City Public Library -- Replace AC Units and convert existing mechanical room to storage DAGS JOB NO.12-36-6384 (2009/IBP01505)
9-7-094-029	645716	Permit application closed	8/17/2009	(BP #645716) [TMK: 97094026] SOH -- DAGS // Pearl City Public Library -- NEW MECHANICAL EQUIPTMENT BUILDING DAGS JOB NO.12-36-6384 (2009/IBP01505)
9-7-094-029	2008/CUP-41	Approval letter mailed	mm dd, yyyy	CUPm for joint development for State of Hawaii (DAGS); 1138 Waimano Home Road (Pearl City Library), TMK 9-7-94: 26 & 29
9-7-094-029	85/W-54	Approved subject to CONDITIONS	1/31/1986	PARKING REGULATIONS (9-7-94:26,28)

5.4 LIST OF REQUIRED PERMITS AND APPROVALS

Anticipated permits and approvals that may be required are outlined in Table 13 below. During the Pre-Assessment Consultation process, DLNR wrote "The subject parcels are encumbered under Governor's Executive Order ("GEO") Nos. 2438 and 3929 for the Pearl City Library Branch Site. The proposed project will require a disposition from the Land Board to reflect the expansion of the purpose of the GEO." DAGS and HSPLS will coordinate with DOE and DLNR to confirm

the Project's compliance with the conditions in the Governor's Executive Orders and request a disposition from the Land Board at the appropriate time.

Table 13: Required Permits and Approvals

AGENCY	PERMIT/APPROVAL
State of Hawai'i	
Environmental Review Program	• Chapter 343, HRS Compliance
Department of Health	• Dust Control Plan • Noise Permit (if necessary)
Department of Health – Disability and Communication Access Board	• Americans with Disabilities Act Compliance
Department of Land and Natural Resources, Land Division	• Board of Land and Natural Resources Disposition
City and County of Honolulu	
Department of Environmental Services	• Industrial Wastewater Discharge Permit (application submitted)
Department of Planning and Permitting	• Waiver Permit (to exceed maximum lot coverage) • Grading, Grubbing, and Stockpiling Permits • Occupancy Permit • Building Permit (electrical, plumbing, civil) • Site Development Master Application for Sewer Connection • Storm Drain Connection License (if necessary) • Storm Water Quality Strategic Plan • Rules Relating to Water Quality and Storm Drainage Standards Compliance

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6.0 ALTERNATIVES

During the Pre-Assessment consultation process, DPP wrote: "The DEA must include potential development alternatives and provide reasons why the proposed action is the most practical approach." In compliance with the provisions of Section 11-200.1-18(d)(7), HAR relating to Environmental Assessments, an environmental assessment must discuss potential alternatives to the proposed action which could attain the objectives of the action in sufficient detail to explain why they were rejected. The alternatives considered include: no action and alternative sites.

6.1 NO ACTION

The no-action alternative is no change to the existing site. While this alternative could alter adverse impacts, it would not meet the objective of the Project:

> *"...support an increasing range of community needs including early learning programs, childcare, library programs, kupuna classes, and flexible meeting space."*

Under this alternative, the proposed the Pearl City Public Library Renovation and CLLC will not be constructed. Without the proposed Project, Pearl City residents will have a scarcity of educational resources and community gathering spaces.

6.2 ALTERNATIVE SITES

As the proposed Project incllcudes renovation of existing Pearl City Public Library, any alternative site would require site acquisition costs, a greater scope of construction, a longer construction timeline, and greater construction costs. Therefore, consturction-relted impacts, including impacts to climate, topography, soils, hydrology, natural hazards, flora and fauna, archaeological and cultural resources, transportation, noise, air quality, visual resources, social characteristics, and public services and facilities would be greater and additional mitigation measures may be required. For these reasons, an alternative Project site was not prused.

7.0 FINDINGS, SUPPORTING REASONS, AND DETERMINATION

To determine whether the Pearl City Public Library Renovation and CLLC may have a significant impact on the physical and human environment, all phases and expected consequences of the proposed Project have been evaluated, including potential primary, secondary, short-range, long-range, and cumulative impacts. Based on this evaluation, the Approving Agency (State of Hawai‘i, Department of Accounting and General Services) anticipates issuing a Finding of No Significant Impact (FONSI) for the Project. The supporting rationale for this finding is presented in this chapter.

7.1 PROBABLE IMPACT, INCLUDING CUMULATIVE IMPACTS

Cumulative impacts are impacts on the environment that result from the action when added to other past, present, and foreseeable future actions by other agencies or persons. Examples of possible cumulative impacts of a proposed action could be those related to increased traffic and greater demand on water, sanitary sewer and storm drainage capacity. The proposed Project involves the renovation of the Pearl City Public Library and CLLC. The construction of the Pearl City Public Library Renovation and CLLC will not increase resident population. Therefore, the Project is not expected to significantly impact demand on infrastructure, increase traffic, increase demand on public services or facilities, or increase demand on natural resources in the vicinity of the Project Site.

Socio-economic impacts resulting from the proposed Project are anticipated to be beneficial. Construction will generate excise taxes, employment, income taxes, and indirect economic opportunities. In the long term, the proposed Project will provide Pearl City residents with increased access to education materials and community gathering spaces. Overall, the net cumulative impact is expected to have a positive effect on the Pearl City community.

7.2 SIGNIFICANCE CRITERIA

Based upon the previous information presented in this document the proposed permitting and construction of the Project will likely have no significant environmental impacts. This determination is based upon the thirteen Significance Criteria outlined in Chapter 343, HRS, as amended and Title 11 Chapter 200.1-13 HAR 1996, discussed below.

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

The Project site’s status as the location of the existing Pearl City Public Library, plus prior land disturbance suggests that the Site is absent any natural, cultural, or historic resources potentially subject to irrevocable loss as a result of construction.

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

The Project will not curtail the range of beneficial uses of the environment as the Site is currently developed.

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

The Environmental Policies enumerated in Chapter 344, HRS promote conservation of natural resources, and an enhanced quality of life for all citizens. As detailed in Section 5.1.4 above, the proposed Project does not conflict with the State's long-term environmental policies, goals, or guidelines as expressed in Chapter 344, HRS, and will not significantly impact natural resources due to the fact that the Site is already developed and has been subject to intense human utilization since the opening of the Pearl City Public Library in 1969.

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

The Project will positively influence social welfare by providing Pearl City residents with increased access to education materials and community gathering spaces.

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

The potential temporary impacts related to noise, air or water quality during construction will be addressed through construction management practices in compliance with Federal, State and County requirements. In the long term, the proposed Project is not expected to have an adverse effect on public health.

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

The proposed Project is not expected to cause an increase in population. However, the Project is expected to provide Pearl City residents with increased access to education materials and community gathering spaces.

(7) Involve a substantial degradation of environmental quality;

No substantial environmental degradation is anticipated. The Department of Accounting and General Services and H?SPLS is committed to a development practice of environmental sustainability. The Project will need to meet minimum applicable statutes and regulations as well as more stringent self-imposed sustainability requirements.

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

The proposed Project will not have any substantial negative secondary impacts on the environment. Implementation of the proposed Project will not commit the Department of Accounting and General Services or HSPLS to any other larger actions, and will not generate any additional actions having a cumulative effect on the environment.

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

The Project site’s status as the site for the existing Pearl City Public Library. Furthermore, prior land disturbance suggests that the Project is not anticipated to have any impact on endangered flora or faunal species. The site contains no habitat for rare, threatened or endangered plant or animal species or their respective habitats.

The Project site's status as the location of the existing Pearl City Public Library, plus prior land disturbance suggests that the Project is not anticipated to have any impact on endangered flora or faunal species. The site contains no habitat for rare, threatened or endangered plant or animal species or their respective habitats.

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

Air Quality: No State or Federal air quality standards will be violated during or after the construction of the Project.

Water Quality: No State or Federal water quality standards will be violated during or after the construction of the Project.

Ambient Noise Levels: Construction activities for the proposed Project will inevitably create temporary noise impacts. The developer may employ mitigation measures to minimize those temporary noise impacts including the use of mufflers and implementing construction curfew periods. Pursuant to Chapter 11-46, HAR, the Project activities will comply with all community noise controls.

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

The Project site does not lie in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, estuary, freshwater or coastal waters. Likewise, the Project is not anticipated to have any impact on any natural hazard conditions.

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

The Pearl City Public Library Renovation and CLLC building will not have a substantial adverse effect on scenic vistas and viewplanes, during day or night.

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

The proposed Project will not require substantial energy consumption nor produce substantial greenhouse gases. The Project will implement energy efficient fixtures as feasible to reduce overall energy consumption.

7.3 ANTICIPATED DETERMINATION

On the basis of impacts and mitigation measures examined in this document and analyzed under the above criteria, it is anticipated that the Project will not have a significant effect on the physical or human environments. Pursuant to Chapter 343, HRS, the approving agency, the State of Hawai‘i, Department of Accounting and General Services, is anticipated to issue a Finding of No Significant Impact (FONSI).

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8.0 REFERENCES

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Appendices

Appendix A

Pre-Assessment Consultation Comments and Responses

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843
www.boardofwatersupply.com

February 28, 2023

Mr. Bradley Furuya
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Furuya:

Subject: Your Letter Dated February 10, 2023 Requesting Comments on the Pre-Assessment Consultation for the Environmental Assessment for the Proposed Pearl City Public Library Renovation and Expansion and Community Learning Center – Tax Map Keys: 9-7-094: 026, 029

Thank you for your letter regarding the proposed library renovation and community learning center.

The existing water system is adequate to accommodate the proposed development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply (BWS) reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

Water conservation measures are required for all proposed developments. These measures include low flow plumbing fixtures, utilization of nonpotable water for irrigation using rain catchment and chiller/air handler condensate, cooling tower conductivity meters and water softening recycling systems, drought tolerant plants, xeriscape landscaping, efficient irrigation systems and the use of Water Sense labeled ultra-low-flow water fixtures and toilets. Prior to BWS approval of water availability, the developer is required to submit a Water Conservation and Reuse Plan for BWS review and approval.

The proposed project is subject to BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

The construction drawings should be submitted for our approval, and the construction schedule should be coordinated to minimize impact to the water system.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at (808) 748-5443.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
Senior Vice-President / Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
Vice-President / Principal

CATIE CULLISON, AICP
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Director of Land Economics & Real Estate

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Cultural Sustainability Planner

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THOMAS S. WITTEN, FASLA
Chairman Emeritus

W. FRANK BRANDT, FASLA
Founding Partner

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printed on recycled paper

September 19, 2023

Mr. Ernest Lau
Manager & Chief Engineer
City and County of Honolulu
Board of Water Supply
630 S. Beretania St.
Honolulu, HI 96843

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Mr. Lau,

Thank you for your letter dated February 28, 2023. As the planning sub-consultant for the State of Hawai'i Department of Accounting and General Services (DAGS) and the Hawai'i State Public Library System (HSPLS), we have reviewed the Board of Water Supply's (BWS) comments and offer the following responses.

We thank you for BWS's preliminary assessment that the existing water system is adequate to accommodate the proposed Project, however, we acknowledge that the BWS reserves the right to change its position up until the final approval of the building permit application. It is further acknowledged that the final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

We also acknowledge that when water is made available, DAGS will be required to pay BWS's Water System Facilities Charges for resource development, transmission and daily storage.

As noted in BWS's letter, water conservation measures will be incorporated into the design of the Project and will likely include low-flow plumbing fixtures, drought tolerant landscaping, native plants, green infrastructure systems, and pervious pavement. Prior to BWS approval of water availability, DAGS will submit a Water Conservation and Reuse Plan for BWS review and approval.

DAGS will also submit to BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

As recommended, DAGS will submit construction drawings will be submitted to BWS for its approval, and the construction schedule should be coordinated with BWS to minimize impact to the water system.

Finally, on-site fire protection requirements will continue to be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai‘i, Department of Accounting and General Services (DAGS)
Hawai‘i State Public Library System

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU
925 DILLINGHAM BOULEVARD, SUITE 200•HONOLULU, HAWAII 96817
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RICK BLANGIARDI
MAYOR

ANTON C. KRUCKY
DIRECTOR

AEDWARD LOS BANOS
DEPUTY DIRECTOR

February 16, 2023

PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813
Attn: Bradley Furuya

Dear Mr. Furuya:

SUBJECT: Pre-Assessment: DRAFT Environmental Assessment
Pearl City Public Library Renovation and Expansion and
Community Learning Center
TMK: (1) 9-7-094:026 and 029

Thank you for notifying us that PBR HAWAII is preparing a Draft Environmental Assessment (Draft EA) for the Pearl City Public Library Renovation and Expansion and Community Learning Center project.

The Department of Community Services (DCS) would like to thank the State Department of Accounting and General Services and the Hawai'i State Public Library System for planning a project that seems to align well with our mission to create opportunities that improve the quality of life for the people of O'ahu. Robust public libraries are invaluable community resources and gathering places that many of our own partners and programs utilize.

Regarding this specific project, our review indicates that the project area is located directly adjacent to a property on Waimano Home Road, Tax Map Key (1) 9-7-094:028, leased by The Arc in Hawai'i (Arc) for the provision of services and special needs housing to people with intellectual and developmental disabilities.

DCS supported the construction of said housing using public funds and continues to monitor the property for compliance with a use restriction agreement it has with Arc. As such, we ask that this project take into consideration the health, safety, accessibility, and long-term wellbeing of Arc residents and others living nearby and/or involved with activities in the surrounding neighborhood.

We further ask PBR HAWAII to ensure that this Draft EA pre-assessment requests comments directly from Arc, as well as from the State Department of Land and Natural Resources which leases the property to Arc.

Thank you for providing us the opportunity to comment on this matter and for sharing the Draft EA when it becomes available.

Sincerely,

for Anton C. Krucky
Director

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
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Project Director

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Cultural Sustainability Planner

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ETSUYO KILA
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GREG NAKAI
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E-mail: sys.admin@pbrhawaii.com

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February 10, 2023

Ms. Sarah Allen
Director
City and County of Honolulu
Department of Community Services
925 Dillingham Blvd Suite 200
Honolulu, HI 96817

RECEIVED
23 FEB 13 P1 :26
DEPT OF COMMUNITY SERVICES

DCS/Admin
431

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND EXPANSION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Ms. Allen,

PBR HAWAII & Associates, Inc., is assisting the Hawai'i Department of Accounting and General Services (DAGS) and the Hawai'i State Public Library System (HSPLS) to prepare a Hawai'i Revised Statutes (HRS) Chapter 343 Environmental Assessment (EA) for the proposed Pearl City Public Library Renovation and Expansion, which includes a Community Learning Center (CLC).

The existing Pearl City Public Library is located at 1138 Waimano Home Road in Pearl City, O'ahu, Hawai'i on Tax Map Key (TMK) 9-7-094: 026, which is approximately 56,000 square feet in area. The existing library is approximately 24,064 square feet and features a children's room, young adult area, large reading room, computers, Wi-Fi, a meeting room for the public, and a surface parking lot. TMK 9-7-094: 029 is located immediately mauka of TMK 9-7-094: 026 and is roughly 42,470 square feet in area.

The proposed Project involves the renovation and expansion of the existing library, including creating flexible meeting rooms, upgrading digital technology and equipment, and creating an inviting outdoor area with Wi-Fi access. In total, the expanded library will be approximately 24,200 square feet. The proposed Project also includes the construction of a new, approximately 3,200 square-foot CLC and approximately 2,000 square-foot Pre-Kindergarten facility on TMK 9-7-094: 029. The new CLC is intended to support various community uses including early learning programs, childcare, library programs, kupuna classes, and a flexible meeting space. A small outdoor area will offer a comfortable play and learning space of keiki. The existing parking lot will be reconfigured to accommodate the needs of the community and the safe use of the library and CLC.

With this letter, we seek your input on the proposed Project and comments as to whether the proposed Project may have an impact on any of your existing or proposed projects, plans, policies, or programs that we should consider when preparing the HRS Chapter 343 Draft EA. Please send us any comments you may have by **March 12, 2023.** You may mail your comments to:

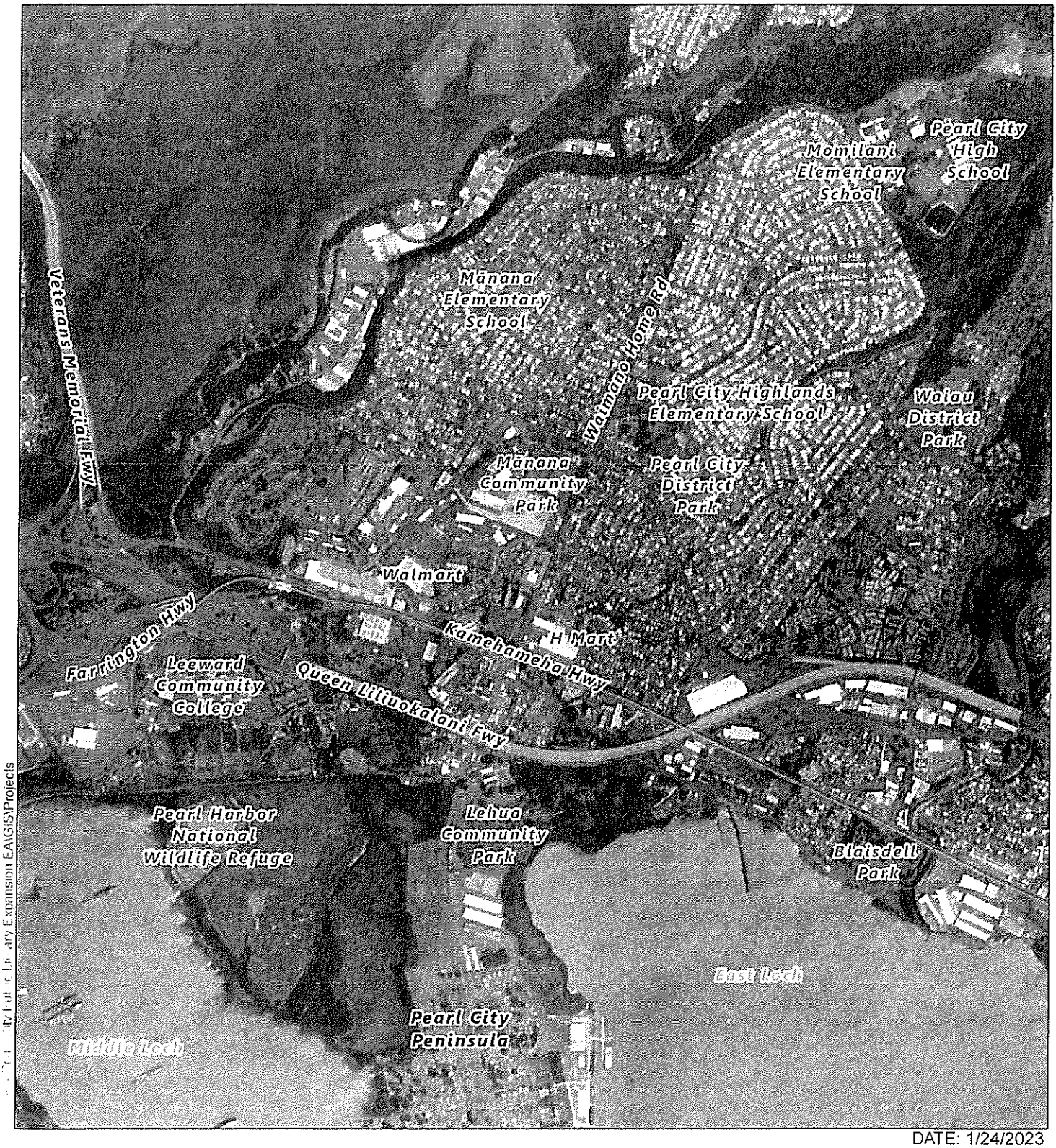
PBR HAWAII & Associates, Inc.
Attn: Bradley Furuya
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484
bfuruya@pbrhawaii.com

Sincerely,

PBR HAWAII & Associates, Inc.

Bradley Furuya

Enclosure: Regional Location Map



DATE: 1/24/2023

LEGEND

Project Area

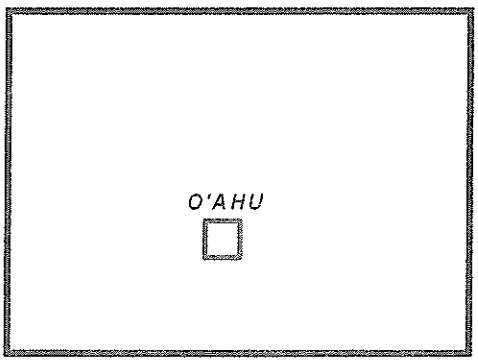


Figure 1 :
Regional Location

Pearl City Public Library Renovation and Expansion and Community Learning Center

Client's Name — Island of O'ahu

North — Linear Scale (feet) 0 1000 2000

Source: City & County of Honolulu, 2022. ESRI Online Basemap.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis

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September 19, 2023

Mr. Anton Krucky
Director
City and County of Honolulu
Department of Community Services
925 Dillingham Blvd Suite 200
Honolulu, HI 96817

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Mr. Krucky,

Thank you for your letter dated February 16, 2023. As the planning sub-consultant for the State of Hawai'i Department of Accounting and General Services (DAGS) and the Hawai'i State Public Library System (HSPLS), we have reviewed the Department of Community Service's (DCS) comments, and provide the following responses.

We agree that libraries are invaluable community resources and that the proposed Project aligns well with DCS' mission to create opportunities that improve the quality of life for the people of O'ahu.

We acknowledge the proposed Project's proximity to TMK (1) 9-7-094:028, which is owned by the State of Hawai'i Department of Land and Natural Resources (DLNR) and leased to The Arc in Hawaii (Arc) for the provision of services and special needs housing to people with intellectual and development disabilities.

During construction and operation, the proposed Project will be mindful of the health, safety, accessibility, and long-term wellbeing of Arc residents and other neighbors. Any demolition or construction waste generated by the Project will be disposed of at a solid waste disposal facility that complies with the applicable provisions (Chapter 11-58.1, HAR "Solid Waste Management Control"). Solid waste that cannot be recycled will be disposed of at landfills, the incinerator, or transfer stations. In the long term, additional solid waste generated by the Pearl City Public Library Renovation and Community Learning Center can be accommodated by existing waste infrastructure and will not disrupt the well-being of Arc residents.

While construction activities for the Project will inevitably create some temporary noise impacts, the contractor may employ mitigation measures to minimize those temporary noise impacts, including the use of mufflers and implementing construction curfew periods. Pursuant to Chapter 11-46, HAR, all project activities must comply with all community noise controls. An effective dust control plan will also be implemented as necessary. All construction activities will comply with the provisions of Title 11, Chapter 59, HAR related to Ambient Air Quality Standards and Section 11-60.1-33, HAR related to Fugitive Dust.

While the Pre-Assessment Consultation period ended on March 12, 2023, we will be sure to send Arc and DLNR a letter of notice when the Draft EA is published so that they may provide input on the Draft EA and the proposed Project. We appreciate this suggestion. DCS will also receive a notice regarding the publication of the Draft EA. We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai‘i, Department of Accounting and General Services (DAGS)
Hawai‘i State Public Library System

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site: www.honolulu.gov

RICK BLANGIARDI
MAYOR

HAKU MILLES, P.E.
DIRECTOR

BRYAN GALLAGHER, P.E.
DEPUTY DIRECTOR

February 24, 2023

SENT VIA EMAIL

Mr. Bradley Furuya
bfuruya@pbrhawaii.com

Dear Mr. Furuya:

Subject: Pre-Assessment Consultation for HRS Chapter 343 Environmental Assessment for the Proposed Pearl City Public Library Renovation and Expansion and Community Learning Center, Oahu, Hawaii, TMKs 9-7-094:026 and 9-7-094:029

Thank you for the opportunity to review and comment. The Department of Design and Construction has no comments to offer at this time.

Should you have any questions, please contact me at (808) 768-8480.

Sincerely,

Bryan Gallagher
For Haku Milles, P.E., LEED AP
Director

HM:krn (897014)

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

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September 19, 2023

Haku Miles, P.E., LEED AP
Director
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, HI 96813

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Mr. Miles,

Thank you for your letter dated February 24, 2023. As the planning sub-consultant for the State of Hawai'i Department of Accounting and General Services (DAGS) and the Hawai'i State Public Library System (HSPLS), we note that the Department of Design and Construction has no comments at this time.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai'i, Department of Accounting and General Services (DAGS)
Hawai'i State Public Library System

DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

1000 Ulu`ohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

RICK BLANGIARDI
MAYOR

DAWN B. SZEWCZYK, P.E.
DIRECTOR AND CHIEF ENGINEER

WARREN K. MAMIZUKA
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 23-111

February 24, 2023

Mr. Bradley Furuya
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Furuya:

Subject: Pre-Assessment Consultation for an Environmental Assessment
Pearl City Public Library Renovation, Expansion and Community Learning Center
TMKs: 9-7-094:026 and 9-7-094:029

Thank you for the opportunity to review and give input on the subject project.

We have no comments at this time, as the Department of Facility Maintenance does not have any facilities or easements on the subject properties.

If you have any questions, please call Mr. Kyle Oyasato of the Division of Road Maintenance at (808) 768-3697.

Sincerely,

Dawn B. Szewczyk, P.E.
Director and Chief Engineer

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

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Associate Principal

MARC SHIMATSU, ASLA
Associate Principal

DACHENG DONG, LEED® AP
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NATHALIE RAZO
Associate Principal

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Director of Land Economics & Real Estate

RAMSAY R. M. TAUM
Cultural Sustainability Planner

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ETSUYO KILA
Senior Associate

GREG NAKAI
Senior Associate

NICOLE SWANSON, ASLA
Associate

BRADLEY FURUYA, AICP
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Fax: (808) 523-1402
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printed on recycled paper

September 19, 2023

Dawn B. Szewczyk, P.E.
Director and Chief Engineer
Department of Facility Maintenance
1000 Uluohia St. Suite 215
Kapolei, HI 96707

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Ms. Szewczyk,

Thank you for your letter dated February 24, 2023. As the planning sub-consultant for the State of Hawai'i Department of Accounting and General Services (DAGS) and the Hawai'i State Public Library System (HSPLS), we note that the Department of Facility Maintenance has no comments at this time.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai'i, Department of Accounting and General Services (DAGS)
Hawai'i State Public Library System

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honolulu.gov/dpp

RICK BLANGIARDI
MAYOR

DAWN TAKEUCHI APUNA
DIRECTOR

JIRO A. SUMADA
DEPUTY DIRECTOR

March 13, 2023 2023/ELOG-310 (LP)

Mr. Bradley Furuya
PBR Hawaii
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Furuya:

SUBJECT: Pre-Consultation Comments
Pearl City Public Library Renovations and Expansion
1138 Waimano Home Road – Pearl City
Tax Map Keys: 9-7-094: 026 and 029

This is in response to your letter, received on February 13, 2023, requesting pre-consultation comments to be addressed in a Draft Environmental Assessment (DEA). We understand that the Project will consist of the expansion and renovation of the Pearl City Public Library. Specifically, the proposed work includes a new 3,200 square-foot (sq. ft.) community learning center, a new 2,000 sq. ft. pre-kindergarten facility, and interior renovations. The subject site is a 98,470 sq. ft. joint developed lot in the R-5 Residential District. For land use and development purposes, the parcels are considered one zoning lot and the use is a public use and structure. Our comments regarding the items to address within the DEA are provided below.

1. Land Use Ordinance (LUO), Chapter 21, Revised Ordinance of Honolulu: The DEA should include an explanation on how the proposed work will comply with the applicable development standards. Alternatively, if the Project will require a Zoning Waiver, the DEA should include that information.

2. Permit History: The DEA should detail the relevant permit history of the site.

3. Alternatives: The DEA must include potential development alternatives and provide reasons for why the proposed action is the most practical approach.

Thank you for the opportunity to comment on this proposal. Should you have any questions, please contact Lena Phomsouvanh, of our Zoning Regulations and Permits Branch, at (808) 768-8052 or via email at lena.phomsouvanh@honolulu.gov.

Very truly yours,

Jordan Oildy

FOR Dawn Takeuchi Apuna
Director

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

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printed on recycled paper

September 19, 2023

Ms. Dawn Takeuchi Apuna
Director
City and County of Honolulu
Department of Planning and Permitting
Frank F. Fasi Municipal Building
650 S. King St. 7th Floor
Honolulu, HI 96813

Attn: Lena Phomsouvanh, Department of Planning and Permitting

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Ms. Takeuchi Apuna,

Thank you for your letter dated March 13,2023 (reference no. 2023/ELOG-310 (LP)) regarding the subject Project. As the planning sub-consultant for the State of Hawai'i Department of Accounting and General Services (DAGS) and the Hawai'i State Public Library System (HSPLS), we have reviewed the Department of Planning and Permitting's (DPP) comments, and acknowledge that the Draft Environmental Assessment (EA) will include:

- An explanation on how the proposed Project will comply with the applicable development standards, the Land Use Ordinance (LUO), Chapter 21, Revised Ordinances of Honolulu. Alternatively, if the Project requires a Zoning Waiver, a justification will be provided.
- Relevant permit history of the Project site.
- Potential development alternatives and why the proposed action is the most practical approach.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai'i, Department of Accounting and General Services (DAGS)
Hawai'i State Public Library System

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
711 KAPIOLANI BOULEVARD, SUITE 1600
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

RICK BLANGIARDI
MAYOR

J. ROGER MORTON
DIRECTOR

JON Y. NOUCHI
DEPUTY DIRECTOR

TP3/23-897147

April 26, 2023

Bradley Furuya, Project Manager
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Furuya:

SUBJECT: Pre-Assessment Consultation for a HRS Chapter 343 Environmental Assessment for the Proposed Pearl City Public Library Renovation and Expansion and Community Learning Center, Oahu, Hawaii, Tax Map Keys 9-7-094: 026 and 9-7-094: 029

Thank you for the opportunity to provide written comments regarding the Pre-Assessment Consultation for a HRS Chapter 343 Environmental Assessment for the Proposed Pearl City Public Library Renovation and Expansion and Community Learning Center, Oahu, Hawaii, Tax Map Keys 9-7-094: 026 and 9-7-094: 029. We have the following comments:

1. Transportation Impact Assessment (TIA). The applicant should perform a TIA to examine the vehicle, pedestrian, bicycle, and public transit safety, stress, and comfort levels at the nearby intersections and driveways with corresponding improvements to mitigate these impacts by applying Complete Streets principles. The applicant shall discuss the future year growth rate, trip distribution, mode split, and route assignment assumptions used in the TIA.

   The applicant shall submit all native files (e.g., Synchro, Excel, etc.) for the raw multi-modal counts (in the format specified at https://geocounts.com/api/format/_and the example file at_https://bit.ly/DTS-count-sample) and accompanying analyses to the Department of Transportation Services Regional Planning Branch (RPB) at dtsplanningdiv@honolulu.gov. Please refer to the Department of Transportation Services (DTS) TIA Guide for multimodal assessment tools and recommended analyses. The TIA Guide can be found at http://www4.honolulu.gov/docushare/dsweb/View/Collection-7723.

2. Complete Streets. Waimano Home Road fronting the Project site is classified as a "Boulevard" planned to have sidewalks, buffered bike lanes, two travel lanes, a center two-way left turn lane, and un-metered on-street parking. The future street cross section will resemble the existing Complete Streets (CS) plan for Waimano

Home Road fronting the Project site; the CS plan can be found at https://www.honolulu.gov/completestreets/aiea-pearlcity-waipahu. The project should base any changes to Waimano Home Road on the CS plans and shall coordinate any changes with DTS. Any changes or improvements shall be designed to minimize the number and size of potential conflict areas between pedestrians, bicyclists, and turning vehicles.

3. Parking. A discussion regarding off-street parking and site generated parking demand should be added to this report. The project shall provide bike parking at a minimum as required by the Land Use Ordinance.

4. Street Usage Permit. A street usage permit from the DTS should be obtained for any construction-related work that may require the temporary closure of any traffic lane or pedestrian mall on a City street.

5. Neighborhood Impacts. The area representatives, neighborhood board, as well as the area guests, businesses, emergency personnel (fire, ambulance, and police), Oahu Transit Services, Inc. (TheBus and TheHandi-Van), etc., should be kept apprised of the details and status throughout the project and the impacts that the project may have on the adjoining local street area network.

6. Disability and Communication Access Board (DCAB). Project plans (vehicular and pedestrian circulation, sidewalks, parking and pedestrian pathways, vehicular ingress/egress, etc.) should be reviewed and approved by DCAB to ensure full compliance with Americans with Disabilities Act requirements.

Should you have any questions, please contact Greg Tsugawa, of my staff, at (808) 768-6683.

Very truly yours,

J. Roger Morton
Director

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

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September 19, 2023

J. Roger Morton
Director
City and County of Honolulu
Department of Transportation Services
Frank F. Fasi Municipal Building
711 Kapiolani Boulevard, Suite 1600
Honolulu, HI 96813

Attn: Greg Tsugawa, DTS

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Mr. Morton,

Thank you for your letter dated April 26, 2023 (reference no. 3/23-897147) regarding the subject Project. As the planning sub-consultant for the State of Hawai'i Department of Accounting and General Services (DAGS) and the Hawai'i State Public Library System (HSPLS), we have reviewed the Department of Transportation Services (DTS) comments, and offer the following responses:

1. The Draft EA will include a Transportation Impact Assessment (TIA) to examine the vehicle, pedestrian, bicycle, and public transit operations at the nearby intersections and driveways with corresponding improvements to mitigate these impacts. Complete Streets principles will be applied when applicable. The TIA will include future year growth rate, trip distribution, mode split, and route assignment assumptions used in the TIA.

2. We acknowledge that Waimano Home Road fronting the Project site is classified as a "Boulevard" planned to have sidewalks, buffered bike lanes, two travel lanes, a center two-way left turn lane, and un-metered on-street parking. The future street cross section will resemble the existing Complete Streets plan for Waimano Home Road fronting the Project site. The Project will base any changes to Waimano Home Road on the Complete Streets plans. The Project's transportation consultant, WSP, will coordinate any changes with DTS. Any changes or improvements will be designed to minimize the number and size of potential conflict areas between pedestrians, bicyclists, and turning vehicles.

3. The TIA will include a discussion regarding off-street parking and site generated parking demand. The Project will provide bike parking at a minimum as required by the Land Use Ordinance.

4. A street usage permit from the DTS will be obtained for any construction-related work that may require the temporary closure of any traffic lane or pedestrian mall on a City street.

5. Area representatives, the neighborhood board, businesses, emergency personnel (fire, ambulance, and police), and Oahu Transit Services, Inc. (TheBus and TheHandi-Van) will be kept apprised of the details and status throughout the Project and the impacts that the Project may have on the adjoining local street area network.

6. Project plans (vehicular and pedestrian circulation, sidewalks, parking and pedestrian pathways, vehicular ingress/egress, etc.) will be submitted to the Disability and Communication Access Board (DCAB) to ensure full compliance with Americans with Disabilities Act requirements.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai‘i, Department of Accounting and General Services (DAGS)
Hawai‘i State Public Library System

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

RICK BLANGIARDI
MAYOR

SHELDON K. HAO
FIRE CHIEF

JASON SAMALA
DEPUTY FIRE CHIEF

February 23, 2023

Mr. Bradley Furuya
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Furuya:

Subject: Preassesment for Environmental Assessment
Proposed Pearl City Public Library Renovation and Expansion and Community Learning Center
Pearl City, Hawaii
Tax Map Keys: 9-7-094: 026 and 029

In response to your letter received on February 14, 2023, regarding the abovementioned subject, the Honolulu Fire Department (HFD) reviewed the submitted information and requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 meters) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; 2018 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1, as amended.)

   A fire department access road shall extend to within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; 2018 Edition, Section 18.2.3.2.1.)

2. The fire department access roads shall be in accordance with NFPA 1; 2018 Edition, Section 18.2.3.

3. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities, buildings, or portions of buildings are hereafter constructed or moved into the jurisdiction. The approved water supply shall be in accordance with NFPA 1; 2018 Edition, Sections 18.3 and 18.4.

4. Submit civil drawings to the City and County of Honolulu's Department of Planning and Permitting and route them to the HFD for review and approval.

5. The abovementioned provisions are required by the HFD. This project may necessitate that additional requirements be met as determined by other agencies.

Should you have questions, please contact Acting Battalion Chief Kendall Ching of our Fire Prevention Bureau at 808-723-7154 or kching3@honolulu.gov.

Sincerely,

CRAIG UCHIMURA
Acting Assistant Chief

CU/MD:bh

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
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Tel: (808) 521-5631
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printed on recycled paper

September 19, 2023

Sheldon Kalani Hao
Fire Chief
City and County of Honolulu
Fire Department
636 South Street
Honolulu, HI 96813

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Chief Hao ,

Thank you for your letter dated February 23, 2023. As the planning sub-consultant for the State of Hawai'i Department of Accounting and General Services (DAGS) and the Hawai'i State Public Library System (HSPLS), we have reviewed the Honolulu Fire Department's comments, and acknowledge that:

- Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 meters) from fire department access roads as measured by an approved route around the exterior of the building or facility.

- A fire department access road shall extend to within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building.

- The fire department access roads shall be in accordance with NFPA 1; 2018 Edition, Section 18.2.3.

- An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities, buildings, or portions of buildings are hereafter constructed or moved into the jurisdiction.

- Civil drawings will be submitted to the City and County of Honolulu's Department of Planning and Permitting (DPP) and be routed to the Honolulu Fire Department for review and approval.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai'i, Department of Accounting and General Services (DAGS)
Hawai'i State Public Library System

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

RICK BLANGIARDI
MAYOR

ARTHUR J. LOGAN
CHIEF

KEITH K. HORIKAWA
RADE K. VANIC
DEPUTY CHIEFS

OUR REFERENCE EO-GK

March 10, 2023

SENT VIA EMAIL

Mr. Bradley Furuya
bfuruya@pbrhawaii.com

Dear Mr. Furuya:

This is in response to your letter of February 10, 2023, requesting comments on the Pre-Assessment Consultation for the Environmental Assessment for the proposed Pearl City Public Library Renovation and Expansion and Community Learning Center project in Pearl City.

The Honolulu Police Department (HPD) has reviewed the plans and anticipates short-term impacts to pedestrian and vehicular traffic in the area as the project is located directly off of Waimano Home Road, the main thoroughfare in the area. The HPD recommends public notification be made to affected businesses and/or residents due to the possible ingress and egress of construction vehicles, equipment, and deliveries during the construction phase of the project.

If there are any questions, please call Major Joseph Trinidad of District 3 (Pearl City) at (808) 723-8803.

Thank you for the opportunity to review this project.

Sincerely,

GLENN HAYASHI
Assistant Chief of Police
Support Services Bureau

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
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Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
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September 19, 2023

Chief Joe Logan
Chief of Police
City and County of Honolulu
Police Department
801 S. Beretania St.
Honolulu, HI 96813

Attn: Glenn Hayashi, Assistant Chief of Police, Support Services Bureau

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Chief Logan,

Thank you for your letter dated March 10, 2023. As the planning sub-consultant for the State of Hawai'i Department of Accounting and General Services (DAGS) and the Hawai'i State Public Library System (HSPLS), we have reviewed the Honolulu Police Department's comments, and acknowledge that there may be short term impacts to pedestrian and vehicular traffic in the area as the Project is located directly off of Waimano Home Road. As recommended, during construction, contractors will notify affected business and residents whenever ingress and egress of construction vehicles, equipment, and deliveries may affect nearby properties.

The Project's transportation consultant, WSP USA Inc. (WSP) is preparing a Transportation Impact Assessment Report (TIAR) to analyze the Project's impacts on traffic and circulation during construction and normal operation. The TIAR may recommend additional measures to mitigate construction-related transportation impacts. The TIAR's findings and recommended mitigation measures will be summarized in the forthcoming Draft EA and the full report will be included as an Appendix to the Draft EA.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai'i, Department of Accounting and General Services (DAGS)
Hawai'i State Public Library System

United States Department of the Interior

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

In Reply Refer To:
2023-0052416-S7-001

March 13, 2023

Mr. Bradley Furuya
PBR Hawai‘i & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484

Subject: 2023-0052416-S7-001 Technical Assistance for the Pearl City Public Library Renovation Project, O‘ahu

Dear Mr. Furuya:

Thank you for your letter of February 10, 2023, requesting our comments for the proposed renovation and expansion of the Pearl City Public Library, located at 1138 Waimano Home Road in Pearl City, O‘ahu [Tax Map Keys (TMKs): (1) 9-7-094:026 and (1) 9-7-094:029]. The project area is approximately 56,000 square feet (ft; 5,203 square meters [m]) in area. In total, the expanded library will be approximately 24,200 square ft (2,248 square m). The proposed project also includes the construction of a new Community Learning Center (CLC) and Pre-Kindergarten facility. We understand that PBR Hawai‘i & Associates, Inc., is assisting the Hawai‘i Department of Accounting and General Services and the Hawai‘i State Public Library System to prepare a Hawai‘i Revised Statutes (HRS) Chapter 343 Environmental Assessment (EA) for the proposed project. We offer the following comments to assist you in preparation of your draft EA.

This letter has been prepared under the authority of and in accordance with provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq*.), as amended (ESA). We have reviewed the information you provided and pertinent information in our files, as it pertains to federally listed species in accordance with section 7 of the ESA. Our data indicate the following species may occur or transit through the vicinity of the proposed project area: the endangered ‘ōpe‘ape‘a (Hawaiian hoary bat, *Lasiurus cinereus semotus*); and the endangered ‘ua‘u (Hawaiian petrel, *Pterodroma sandwichensis*), threatened ‘a‘o (Newell’s shearwater, *Puffinus auricularis newelli*), and endangered Hawai‘i DPS of the ‘akē‘akē (band-rumped storm-petrel, *Oceanodroma castro*) (hereafter collectively referred to as Hawaiian seabirds).

Hawaiian hoary bat
The Hawaiian hoary bat roosts in woody vegetation across all islands and will leave their young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, June 1 through September 15, there is a risk that young bats could inadvertently be harmed or killed, since they are too young to fly or move away from disturbance. Hawaiian hoary bats forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

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

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

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

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

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

If it is determined that the proposed project may affect federally listed species, we recommend you contact our office early in the planning process so that we may assist you with the ESA compliance. If the proposed project is funded, authorized, or permitted by a Federal agency, then that agency should consult with us pursuant to section 7(a)(2) of the ESA. If no Federal agency is involved with the proposed project, the applicant should apply for an incidental take permit under section 10(a)(1)(a) of the ESA. A section 10 permit application must include a habitat conservation plan that identifies the effects of the action on listed species and their habitats, and defines measures to minimize and mitigate those adverse effects.

We appreciate your efforts to conserve protected species. If you have questions regarding this

response, please contact Elyse Sachs, Fish and Wildlife Biologist (phone: 808-792-9420, email: Elyse_Sachs@fws.gov). When referring to this project, please include this reference number: 2023-0052416-S7-001.

Sincerely,

Acting Island Team Manager
O‘ahu, Kaua‘i, Northwest Hawaiian Islands and
American Samoa

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
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ANN MIKIKO BOUSLOG, PhD
Director of Land Economics & Real Estate

RAMSAY R. M. TAUM
Cultural Sustainability Planner

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ETSUYO KILA
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GREG NAKAI
Senior Associate

NICOLE SWANSON, ASLA
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THOMAS S. WITTEN, FASLA
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W. FRANK BRANDT, FASLA
Founding Partner

1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

printed on recycled paper

September 19, 2023

Ms. Jiny Kim
Acting Island Team Manager
O'ahu, Kaua'i, Northwest Hawaiian Islands and American Samoa
U.S. Fish and Wildlife Service
300 Ala Moana Blvd Room Box 50088
Honolulu, HI 96850

Attn: Elyse Sachs, USFWS, Fish and Wildlife Biologist

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Ms. Kim,

Thank you for your letter dated March 13, 2023 (reference code: 2023-0052416-S7-001), regarding the subject project. As the planning sub-consultant for the State of Hawai'i Department of Accounting and General Services (DAGS) and the Hawai'i State Public Library System (HSPLS), we have reviewed the U.S. Fish and Wildlife Service's (USFWS) comments, and offer the following responses.

We acknowledge the list provided indicating the protected species most likely to be encountered in the vicinity of the Project area, as well as the resources provided for recommended conservation measures. The species noted on this list most likely to occur in or near the project area and the recommended conservation efforts will be discussed in the Draft Environmental Assessment (EA). We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai'i, Department of Accounting and General Services (DAGS)
Hawai'i State Public Library System

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

CATHY BETTS
DIRECTOR
KA LUNA HO'OKELE

JOSEPH CAMPOS II
DEPUTY DIRECTOR
KA HOPE LUNA HO'OKELE

STATE OF HAWAII
KA MOKU'ĀINA O HAWAI'I
DEPARTMENT OF HUMAN SERVICES
KA 'OIHANA MĀLAMA LAWELAWE KANAKA
BENEFIT, EMPLOYMENT AND SUPPORT SERVICES DIVISION
1010 Richards Street, Suite 512
Honolulu, Hawaii 96813

Re: 22-00048

March 1, 2023

Mr. Bradley Furuya
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Furuya:

Subject: Pre-Assessment Consultation for A HRS Chapter 343 Environmental Assessment for The Proposed Pearl City Public Library Renovation, and Expansion and Community Learning Center, Oahu, Hawaii, TMKs 9-7-094: 026 and 9-7-094: 029

This is in response to letter dated February 10, 2023, requesting the Department of Human Services (DHS) to comment on the above-named project.

DHS has reviewed the proposed Pearl City Public Library Renovation, and Expansion and Community Learning Center project and the map of the area. A check on DHS' internal data system and Google Maps found two (2) licensed Group Child Care Centers, two (2) licensed Before and After School Facilities and one (1) licensed Infant and Toddler Child Care Center located within a one (1) mile radius of the area that may be affected.

If you should have any questions regarding this matter, please contact Ms. Lisa Galino, Child Care Program Specialist at (808) 586-5712.

Sincerely,

Scott Nakasone

Scott Nakasone
Assistant Division Administrator

c: Cathy Betts, Director

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

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Senior Associate

NICOLE SWANSON, ASLA
Associate

BRADLEY FURUYA, AICP
Associate

THOMAS S. WITTEN, FASLA
Chairman Emeritus

W. FRANK BRANDT, FASLA
Founding Partner

September 19, 2023

Ms. Cathy Betts
Director
State of Hawai‘i
Department of Human Services
P O BOX 339
Honolulu, HI 96809

Attn: Scott Nakasone, Department of Human Services, Assistant Division Administrator

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Ms. Bates,

Thank you for your letter dated March 1, 2023. As the planning sub-consultant for the State of Hawai‘i Department of Accounting and General Services (DAGS) and the Hawai‘i State Public Library System (HSPLS), we have reviewed the State of Hawai‘i Department of Human Service’s comments and offer the below response.

We acknowledge the Department of Human Service’s review of internal data and Google Maps, which found two licensed Group Child Care Centers, two licensed Before and After School Facilities, and one licensed Infant and Toddler Child Care Center located within a one-mile radius of the proposed Project site.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai‘i, Department of Accounting and General Services (DAGS)
Hawai‘i State Public Library System

1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

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

March 23, 2023

LD 0131

PBR HAWAII & Associates, Inc
Attn: Bradley Furuya.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Via email: bfuruya@pbrhawaii.com

Dear Sirs:

SUBJECT: Pre-Assessment Consultation for Environmental Assessment
Pearl City Public Library Renovation, Expansion & Community Learning Center
1138 Waimano Home Road, Pearl City, Island of Oahu, Hawaii
TMK: (1) 9-7-094:026 and -029

Thank you for the opportunity to review and comment on the subject project. The Land Division of the Department of Land and Natural Resources (DLNR) distributed copies of your request to DLNR's various divisions for their review and comment.

Enclosed are comments received from our Land Division - Oahu District. Should you have any questions, please feel free to contact Barbara Lee via email at *barbara.j.lee@hawaii.gov*. Thank you.

Sincerely,

Russell Tsuji

Russell Y. Tsuji
Land Administrator

Attachments
cc: Central Files

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

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

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

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

P.O. BOX 621
HONOLULU, HAWAII 96809

March 06, 2023

LD 0131

MEMORANDUM

TO: **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
_X_ Engineering Division *(via email: DLNR.Engr@hawaii.gov)*
_X_ Div. of Forestry & Wildlife *(via email: Rubyrosa.T.Terrago@hawaii.gov)*
___Div. of State Parks
_X_ Commission on Water Resource Management *(via email: DLNR.CWRM@hawaii.gov)*
___Office of Conservation & Coastal Lands
_X_ Land Division – Oahu District *(via email: barry.w.cheung@hawaii.gov)*
_X_ Aha Moku *(via email: leimana.k.damate@hawaii.gov)*

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: **Pre-Assessment Consultation for Environmental Assessment**
Pearl City Public Library Renovation, Expansion & Community Learning Center
LOCATION: 1138 Waimano Home Road, Pearl City, Island of Oahu, Hawaii
TMK: (1) 9-7-094:026 and -029
APPLICANT: **PBR Hawaii** on behalf of the Hawaii Department of Accounting and General Services and the Hawaii State Public Library System

Transmitted for your review and comment is information on the above-referenced project. Please review the attached information and submit any comments by the internal deadline of **March 22, 2023** to *barbara.j.lee@hawaii.gov* at the Land Division.

If no response is received by the above due date, we will assume your agency has no comments at this time. Should you have any questions about this request, please contact Barbara Lee at the above email address. Thank you.

BRIEF COMMENTS:

The subject parcels are encumbered under Governor's Executive Order ("GEO") Nos. 2438 and 3929 for the Pearl City Branch Library Site. The proposed project will require a disposition from the Land Board to reflect the expansion of the purpose of the GEO.

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

Signed: BC
Print Name: Patti E. Miyashiro
Division: Land Division - ODLO
Date: Mar 10, 2023

Attachments
Cc: Central Files

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
Pruide,,t / Chnm11an

RUSSELL Y. J. CHUNG, FASLA. LEED' AP BD+C
Exemtfre \ lcc Preside/II / Pri11c.pal

VINCENT SHIGEKUNI
Semor l'lce-Pres1de11t / Princ,pal

GRANT T. MURAKAMI, AICP, LEED· AP BD+C
Scmor Vice-Prestdent / Prmc,pal

KIMI MIKAMI YUEN, LEED' AP BD+C
Viu-Proideut / Pri11<.1pal

TOM SCHNELL, AICP
Pri11cipal

CATIE CULLISON, AICP
Prmcipal

THOMAS S. WITTEN, FASLA
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Founding Partner

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Associate PrmcJpal

MARC SHIMATSU, ASLA
Associate Pr11mpal

DACHENG DONG, LEED' AP
Associate Prlnc,pal

ANN MIKIKO BOUSLOG, PhD
Project Director

RAMSAY R. M. TAUM
C11/tura/ S11stmnab1il1_l Plam,er

MICAH McMILLEN, ASLA, LEED' AP
St.mwr A ocmte

NATHALIE RAZO
St'.11ior Assocwt,·

GRACE ZHENG. ASLA. LEED' GA, SITES' AP
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GREG NAKAI
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!.ELENA PANG
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NICOLE SWANSON
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IOOI Bishop \lrt·l'I IIIh (,)0
Honolulu, Ha\\a1191IXJ i Hhl
Tel: (SIIS) :",21)631
Fax: (808) 5.!'.\ I lO.!
E-mail. ,;,y.,..admm phrh.1„J11nun

February 10, 2023

Ms. Dawn Chang
Chairperson
State of Hawai 'i
Department of Land and Natural Resources
Kalanimoku Building
1151 Punchbowl Street
Honolulu, HI 96809

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND EXPANSION AND COMMUNITY LEARNING CENTER, OAHU, HAWAll, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Ms. Chang,

PBR HAWAll & Associates, Inc., is assisting the Hawai 'i Department of Accounting and General Services (DAGS) and the Hawai 'i State Public Library System (HSPLS) to prepare a Hawai 'i Revised Statutes (HRS) Chapter 343 Environmental Assessment (EA) for the proposed Pearl City Public Library Renovation and Expansion, which includes a Community Learning Center (CLC).

The existing Pearl City Public Library is located at 1138 Waimano Home Road in Pearl City, O'ahu, Hawai'i on Tax Map Key **(TMK)** 9-7-094: 026, which is approximately 56,000 square feet in area. The existing library is approximately 24,064 square feet and features a children's room, young adult area, large reading room, computers, Wi-Fi, a meeting room for the public, and a surface parking lot. TMK 9-7-094: 029 is located immediately mauka of **TMK** 9-7-094: 026 and is roughly 42,470 square feet in area.

The proposed Project involves the renovation and expansion of the existing library, including creating flexible meeting rooms, upgrading digital technology and equipment, and creating an inviting outdoor area with Wi-Fi access. In total, the expanded library will be approximately 24,200 square feet. The proposed Project also includes the construction of a new, approximately 3,200 square-foot CLC and approximately 2,000 square-foot Pre-Kindergarten facility on TMK 9-7-094: 029. The new CLC is intended to support various community uses including early learning programs, childcare, library programs, kupuna classes, and a flexible meeting space. A small outdoor area will offer a comfortable play and learning space of keiki. The existing parking lot will be reconfigured to accommodate the needs of the community and the safe use of the library and CLC.

With this letter, we seek your input on the proposed Project and comments as to whether the proposed Project may have an impact on any of your existing or proposed projects, plans, policies, or programs that we should consider when preparing the HRS Chapter 343 Draft EA. Please send us any comments you may have by **March 12, 2023.*** You may mail your comments to:

PBR HAWAII & Associates, Inc.
Attn: Bradley Furuya
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484
hfuruya@phrhawaii.com

**NB: Time extension for DLNR review granted to March 24.*

Sincerely,

PBR HAWAll & Associates, Inc.

Bradley Furuya

Enclosure: Regional Location Map

DATE: 1/24/2023

LEGEND

D Project Area

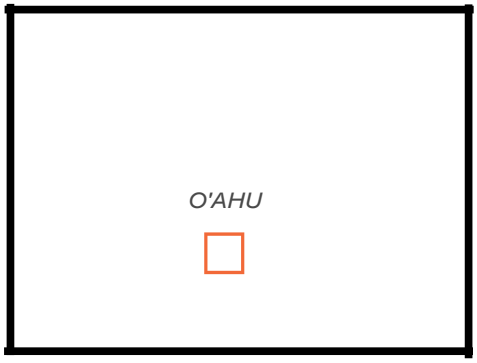

Figure 1:
Regional Location

Pearl City Public **Library Renovation and Expansion and** Community **Learning Center**

Client's Name — Island of O'ahu

North — Linear Scale (feet)

Source: Cny & County of Honolulu, 2022 ESRI Online Basemap.
O,sela,mer Th,s graphic has been prepared fo, general planning purposes only and should not be used for boundary interpretations or other spatial analysis

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

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Tel: (808) 521-5631
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E-mail: sysadmin@pbrhawaii.com

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September 19, 2023

Ms. Dawn Chang
Chairperson
State of Hawai'i
Department of Land and Natural Resources
Kalanimoku Building
1151 Punchbowl Street
Honolulu, HI 96809

Attn: Russell Tsuji, Land Administrator

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Ms. Chang,

Thank you for your letter dated March 23, 2023. As the planning sub-consultant for the State of Hawai'i Department of Accounting and General Services (DAGS) and the Hawai'i State Public Library System (HSPLS), we have reviewed the State of Hawaii Department of Land and Natural Resources (DLNR) comments and offer the following response.

We acknowledge that the Project site is encumbered under Governor's Executive Order Nos. 2438 and 3929 for the Pearl City Branch Library Site and therefore will require a disposition from the Land Board to reflect the expansion of the purpose of the Governor's Executive Orders. DAGS and HSPLS will continue to coordinate with your Land Division to confirm the Project's compliance with the conditions in the Governor's Executive Orders and request a disposition from the Land Board at the appropriate time.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai'i, Department of Accounting and General Services (DAGS)
Hawai'i State Public Library System

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

KENNETH S. HARA
MAJOR GENERAL
ADJUTANT GENERAL
KA 'AKUKANA KENELALA

STEPHEN F. LOGAN
BRIGADIER GENERAL
DEPUTY ADJUTANT GENERAL
KA HOPE 'AKUKANA KENELALA

STATE OF HAWAI'I
KA MOKU'ĀINA O HAWAI'I
DEPARTMENT OF DEFENSE
KA 'OIHANA PILI KAUA
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAI'I 96816-4495

February 23, 2023

Mr. Bradley Furuya
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

SUBJECT: Pre-Assessment Consultation for Pearl City Public Library Renovation and Expansion and Community Learning Center, Oahu, Hawaii, TMKs 1-9-7-094:026 and 1-9-7-094:029

Dear Mr. Furuya:

Thank you for the opportunity to comment on the above project. The State of Hawaii Department of Defense has no comments to offer relative to the project at this time.

Should there be any questions, please contact Mr. Tad T. Nakayama at 808-369-3490 or tad.t.nakayama@hawaii.gov.

Sincerely,

Shao Yu L. Lee, R.A.
Captain, Hawaii National Guard
Chief Engineering Officer

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

RUSSELL Y. J. CHUNG, FASLA
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Senior Vice-President / Principal

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Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

printed on recycled paper

September 19, 2023

Captain Shao Yu L. Lee, R.A.
Hawaii National Guard
Chief Engineering Officer
3949 Diamond Head Road
Honolulu, HI 96816

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Captain Lee,

Thank you for your letter dated February 23, 2023. As the planning sub-consultant for the State of Hawai‘i Department of Accounting and General Services (DAGS) and the Hawai‘i State Public Library System (HSPLS), we note that the State of Hawaii Department of Defense has no comments to offer at this time.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai‘i, Department of Accounting and General Services (DAGS)
Hawai‘i State Public Library System

JOSH GREEN, M.D.
GOVERNOR

KEITH T. HAYASHI
SUPERINTENDENT

STATE OF HAWAI`I
DEPARTMENT OF EDUCATION
KA 'OIHANA HO'ONA'AUAO
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

OFFICE OF FACILITIES AND OPERATIONS

March 10, 2023

Bradley Furuya
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Re: Pre-Assessment Consultation for HRS Chapter 343 Environmental Assessment for the Proposed Pearl City Public Library Renovation and Expansion and Community Learning Center, Oahu, Hawaii

Dear Mr. Furuya:

Thank you for your letter dated February 10, 2023. Based on the information provided, the Hawaii State Department of Education (Department) has the following comment on the proposed Pearl City Public Library Renovation and Expansion and Community Learning Center (Project).

Although we understand the importance of providing this facility to support the surrounding Pearl City community, we have concerns regarding traffic that may affect nearby Pearl City Elementary school. The Department strongly requests to consult with Pearl City Elementary administration prior to and during construction to identify and minimize impacts in general and especially before and after school hours.

Thank you for the opportunity to comment. Should you have any questions, please contact Cori China, of the Facilities Development Branch, Planning Section, at (808) 784-5080 or via email at cori.china@k12.hi.us.

Sincerely,

Roy Ikeda
Interim Public Works Manager
Planning Section

RI:ctc

c: Richard Fajardo, Complex Area Superintendent, Pearl City-Waipahu Complex Areas
Facilities Development Branch

PBR HAWAII
& ASSOCIATES, INC.

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President / Chairman

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Fax: (808) 523-1402
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printed on recycled paper

September 19, 2023

Mr. Keith Hayashi
Superintendent
State of Hawai'i
Department of Education
1390 Miller Street
Honolulu, HI 96813

Attn: Roy Ikeda, Interim Public Works Manager, Planning Section
Richard Fajardo, Complex Area Superintendent, Pearl City-Waipahu Complex Areas, Facilities Development Branch

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Mr. Hayashi,

Thank you for your letter dated February 10, 2023. As the planning sub-consultant for the State of Hawai'i Department of Accounting and General Services (DAGS) and the Hawai'i State Public Library System (HSPLS), we have reviewed the Department of Education's (DOE) comments, and provide the following responses.

We acknowledge DOE's concerns regarding traffic that may affect nearby Pearl City Elementary School. As part of the Environmental Assessment (EA) process, Pearl City Elementary School received a Pre-Assessment Consultation letter. Pearl City Elementary School will also receive a letter of notice when the Draft EA is published so that they may provide input on the Draft EA and the proposed Project. We appreciate any feedback they may have in either the Pre-Assessment comment period or the Draft EA comment period. DAGS will continue to consult with Pearl City Elementary School administration throughout the EA and construction process to minimize construction related impacts, especially before and after school hours. DOE will also receive a notice regarding the publication of the Draft EA.

As recommended, during construction, contractors will notify surrounding properties, including Pearl City Elementary School, whenever ingress and egress of construction vehicles, equipment, and deliveries may affect nearby properties.

Furthermore, the Project's transportation consultant, WSP USA Inc. (WSP) is preparing a Transportation Impact Assessment Report (TIAR) to analyze the Project's impacts on traffic and circulation during construction and normal operation. The TIAR may recommend additional measures to mitigate construction-related transportation impacts. The TIAR's findings and recommended mitigation measures will be summarized in the forthcoming Draft EA and the full report will be included as an Appendix to the Draft EA.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai‘i, Department of Accounting and General Services (DAGS)
Hawai‘i State Public Library System

JOSH GREEN, M.D.
GOVERNOR

EDWIN H. SNIFFEN
DIRECTOR

Deputy Directors
DREANALEE K. KALILI
TAMMY L. LEE
ROBIN K. SHISHIDO
JAMES KUNANE TOKIOKA

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

IN REPLY REFER TO:

DIR 0119
HWY-PL 2.0905

March 14, 2023

Mr. Bradley Furuya
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Furuya:

Subject: Pre-Assessment Consultation for Draft Environmental Assessment (DEA)
Pearl City Public Library Renovation and Community Learning Center
Pearl City, Oahu
Tax Map Key No: (1) 9-7-094: 026 and (1) 9-7-094: 029

Thank you for your letter received on February 10, 2023, requesting our comments for the preparation of an upcoming DEA. Your letter mentioned that this is to evaluate potential requirements by Chapter 343, Hawaii Revised Statutes related to the renovation and expansion of the Pearl City Public Library and the construction of a Community Learning Center.

The proposed work includes the renovation and expansion of the existing Pearl City Public Library totaling 24,200 square feet, including the construction of flexible meeting rooms and creating an outdoor area. The project also proposes the construction of an approximately 3,200 square foot Community Learning Center as well as an approximately 2,000 square foot pre-kindergarten facility. The project site is directly accessible on Waimano Home Road, which is under County jurisdiction.

The proposed project does not appear to have any potential impact on the nearby state highways.

If you have any questions, please contact Jeyan Thirugnanam, Systems Planning Engineer, Highways Planning Branch at (808) 587-6336 or by email at jeyan.thirugnanam@hawaii.gov. Please reference file review number PL 2023-007.

Sincerely,

EDWIN H. SNIFFEN
Director of Transportation

PBR HAWAII
& ASSOCIATES, INC.

R. STAN DUNCAN, ASLA
President / Chairman

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Chairman Emeritus

W. FRANK BRANDT, FASLA
Founding Partner

September 19, 2023

Mr. Edwin Sniffen
Director
State of Hawai‘i
Department of Transportation
Ali‘iaimoku Building
869 Punchbowl Street Room 509
Honolulu, HI 96813

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PEARL CITY PUBLIC LIBRARY RENOVATION AND COMMUNITY LEARNING CENTER, OAHU, HAWAII, TMKs 9-7-094: 026 and 9-7-094: 029

Dear Mr. Sniffen,

Thank you for your letter dated March 14, 2023. As the planning sub-consultant for the State of Hawai‘i Department of Accounting and General Services (DAGS) and the Hawai‘i State Public Library System (HSPLS), we have reviewed the State of Hawaii Department of Transportation’s comments and acknowledge that the Project is not expected to have any potential impacts on nearby State Highways.

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming Draft EA.

Sincerely,

PBR HAWAII

Bradley Furuya
Planner

cc: Dean Sakamoto Architects, LLC
State of Hawai‘i, Department of Accounting and General Services (DAGS)
Hawai‘i State Public Library System

1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

Appendix B
Existing Conditions

T.M.K. 9-7-094:023

T.M.K. 9-7-094:025

T.M.K. 9-7-094:029
42,470 sq. ft.

202° 00'
280.00
200.00
112.00
22° 00'
280.00
292° 00'
200.00

WAIMANO HOME ROAD

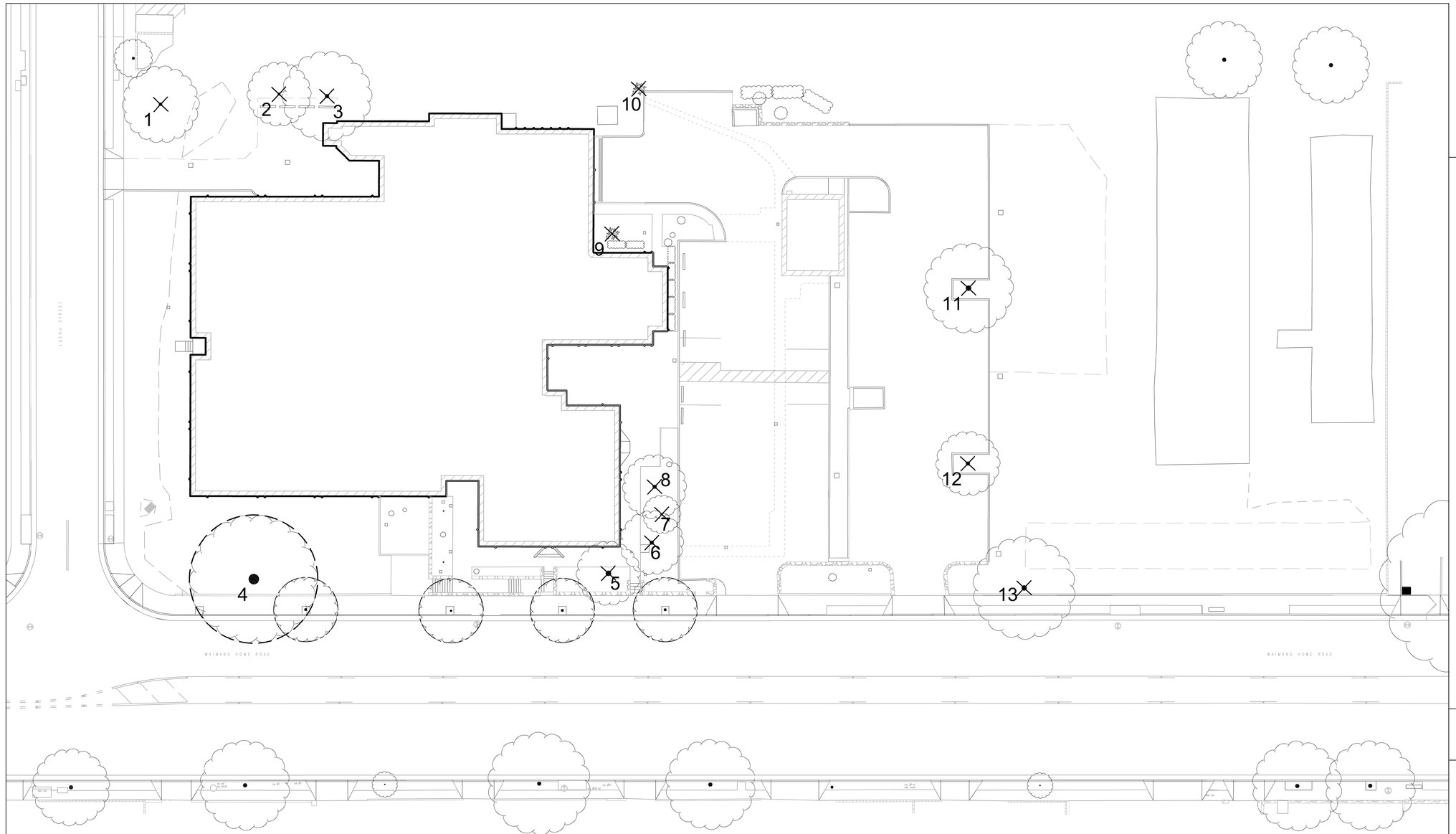
NORTH

PEARL CITY PUBLIC LIBRARY
DAGS#62-36-6618

EXTNG SITE PLAN

Scale 1/32'=1'-0"

0' 8' 16' 32'



LEGEND

- REMOVE TREE/PALM TRUNK A MINIMUM OF 12" BELOW GRADE, DISPOSE OF OFF-SITE.
- TREE TO BE PRESERVED IF OUTSIDE WORK AREA.
- TREE PROTECTION FENCING. EXACT LOCATION TO BE DETERMINED.

NOTES:

1. SEE SHEET L000 FOR TREE PROTECTION NOTES.
2. SEE SHEET L002 FOR TREE DISPOSITION SPREADSHEET
3. WHEN REMOVING AND DEMOLISHING TREES, THE CONTRACTOR SHALL EXERCISE CAUTION TO AVOID DAMAGE TO EXISTING UTILITIES TO REMAIN.

01 / L001 **TREE DISPOSITION PLAN**

SCALE: 1"=20' @ 24"X36"

20' 0 20'

15% DESIGN
NOT FOR CONSTRUCTION

DEAN SAKAMOTO ARCHITECTS, LLC
99 N KING STREET, 2ND FLR
HONOLULU, HI 96817
Phone: 808.591.5558

www.dsarch.net

DEANsakamoto ARCHITECTS LLC

OWNER: **DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES / DAGS JOB NO. 12-36-6629**
TENANT: **HAWAII STATE PUBLIC LIBRARY SYSTEM**
PROJECT: **PEARL CITY PUBLIC LIBRARY**
ADDRESS: **1138 WAIMANO HOME RD, PEARL CITY, HI 96782**
T.M.K.: 1-9-7-94-26

SHEET TITLE: **TREE DISPOSITION PLAN**

NO	DESCRIPTION	DATE

DATE : **AUGUST 25, 2023**
PROJECT NO : **2023-162**
DRAWN BY : **KI CONCEPTS LLC**
SHT.: **L-001**

Tree #	Species	Scientific Name	Diameter (ft)	Height (ft)	Spread (ft)	Mitigation
1	Rainbow Shower Tree	Cassia x nealiae	1.2	35	30	Remove
2	Rainbow Shower Tree	Cassia x nealiae	1	30	25	Remove
3	Rainbow Shower Tree	Cassia x nealiae	1.5	40	35	Remove
4	Monkeypod	Samanea saman	4	50	50	Preserve
5	Paperbark	Melaleuca quinquenervia	2	40	25	Remove
6	Paperbark	Melaleuca quinquenervia	1.5	35	25	Remove
7	Paperbark	Melaleuca quinquenervia	0.8	25	15	Remove
8	Paperbark	Melaleuca quinquenervia	1.5	35	25	Remove
9	Papaya	Carica papaya	0.75	16	4	Remove
10	Papaya	Carica papaya	0.75	12	5	Remove
11	Monkeypod	Samanea saman	2	25	35	Remove
12	Monkeypod	Samanea saman	1.5	25	25	Remove

01
L002

TREE DISPOSITION SHEET

15% DESIGN
NOT FOR CONSTRUCTION

DEAN SAKAMOTO ARCHITECTS, LLC
99 N KING STREET, 2ND FLR
HONOLULU, HI 96817
Phone: 808.591.5558

www.dearch.net

OWNER: **DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES / DAGS JOB NO. 12-36-6629**
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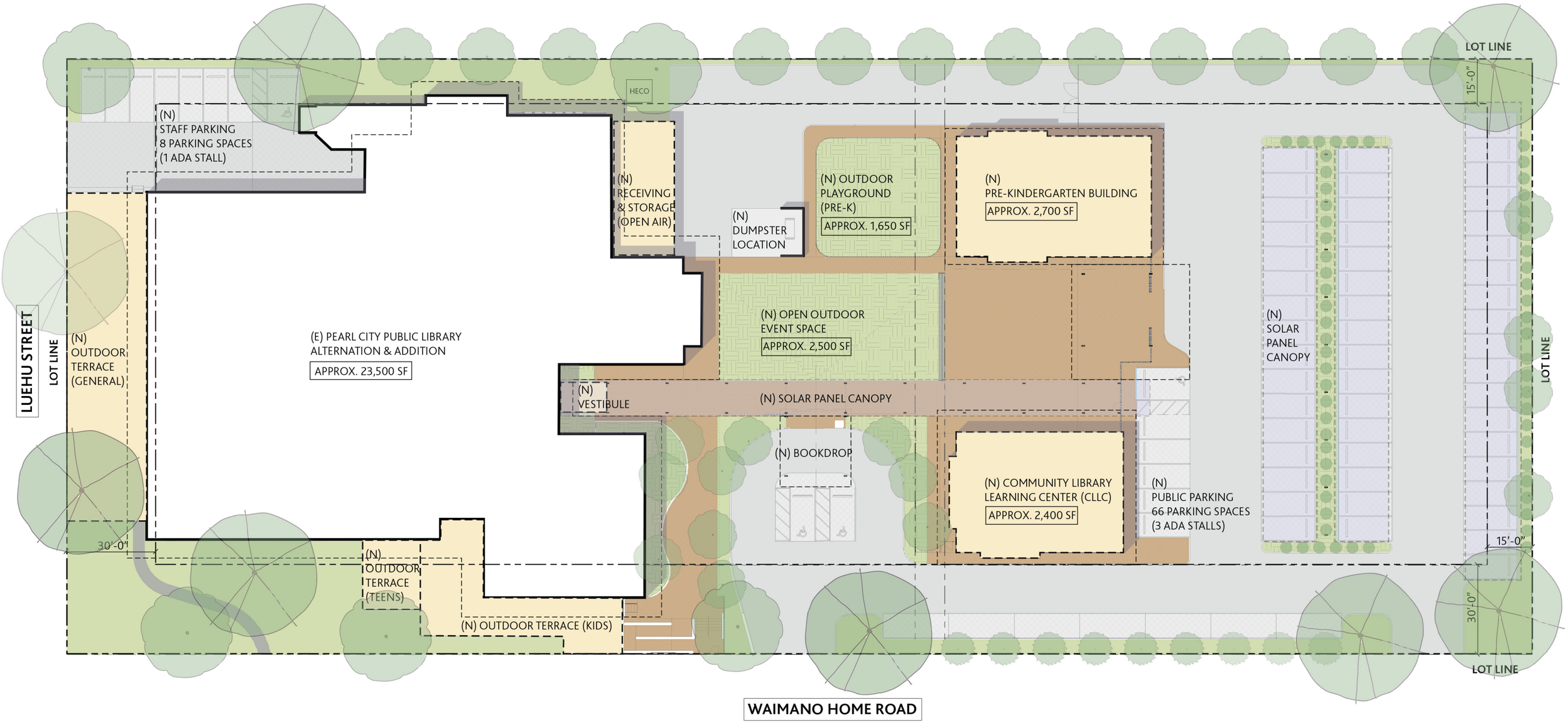
PROJECT: **PEARL CITY PUBLIC LIBRARY**
ADDRESS: **1138 WAIMANO HOME RD, PEARL CITY, HI 96782**
T.M.K.: 1-9-7-94-26

SHEET TITLE: **TREE DISPOSITION SHEET**

NO	DESCRIPTION	DATE

DATE : **AUGUST 25, 2023**
PROJECT NO : **2023-162**
DRAWN BY : **KI CONCEPTS LLC**
SHT.: **L-002**

Appendix C
Conceptual Site Plan



APPROXIMATE EXPANSION AREAS

Site Plan

PEARL CITY PUBLIC LIBRARY

Concept Design

Date: August, 2023

Sheet: A001

0 16' 32' 64' 128'

Scale: 1/32"= 1'-0"

DEANsakamoto ARCHITECTS LLC

99 N King Street, Second Floor, Honolulu, HI 96817, USA TEL 808.591.5558 196 Chapel Street, New Heaven, CT 06513, USA TEL 203.562.5515 WWW. DSARCH. NET

Appendix D
Cultural Impact Assessment

Cultural Impact Assessment for the Pearl City Public Library Expansion

TMK: (1) 9-7-094:026 & 029

Mānana Ahupua‘a
‘Ewa District
Island of O‘ahu

DRAFT VERSION

Prepared By:
Carol Oordt, M.A.,
Brianna Mendez, B.A.,
and
Nick Belluzzo, M.A.

Prepared For:

PBR Hawaii & Associates

July 2023

ASM affiliates
Archaeology • History • Anthropology • Architectural History
Hilo Office: (808) 969-6066 Fax: (808) 443-0065
507-A E. Lanikaula Street, Hilo, HI 96720
Honolulu Office: (808) 439-8089 Fax: (808) 439-8087
820 Mililani Street, Suite 700, Honolulu, HI 96813

ASM Project Number 42440.01

Cultural Impact Assessment for the Pearl City Public Library Expansion

TMK: (1) 9-7-094:026 & 029

Mānana Ahupuaʻa
ʻEwa District
Island of Oʻahu

ASM affiliates

CHAPTERS

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1. INTRODUCTION

At the request of PBR Hawaii & Associates, Inc. (PBR), ASM Affiliates (ASM) prepared this Cultural Impact Assessment (CIA) to inform an Environmental Assessment (EA) being prepared for the proposed expansion of the existing Hawai‘i State Public Library System (HSPLS)’s Pearl City Public Library building. The project area is located at 1138 Waimano Home Road (TMK: [1] 9-7-094:026 & 029), Mānana Ahupua‘a, ‘Ewa District, Island of O‘ahu (Figure 1 through 3) and consists of a 2.2606 acres. The State of Hawai‘i–Department of Accounting and General Services (DAGS) proposes to renovate the existing Pearl City Public Library to include new reading spaces and new learning and community buildings. The footprint of existing library building, situated on TMK: (1) 9-7-094:026), will be reduced from its current extent of 24,064 square feet to approximately 23,500 square feet and several new outdoor reading areas will be constructed on the southern and eastern sides of the building while a fenced enclosure will be constructed on the northern side. Additionally, a new approximately 3,200 square foot Community Library Center (CLC) and an approximately 2,700 square-foot prekindergarten facility are proposed to be constructed north of the library on TMK: (1) 9-7-094:029. The proposed CLC will support various community activities such as early learning programs, childcare, library programs, *kūpuna* classes, and serve as a flexible meeting space. Lastly, a small outdoor recreation area and community lawn, located between the existing library building and the proposed pre-kindergarten and CLC buildings, will provide a space for children to play and learn. The existing parking lot will be reconfigured to accommodate the new library, CLC, and prekindergarten facility. Currently, the main parking area is envisioned to be located north of the prekindergarten and CLC facilities.

This CIA, which is intended to inform an EA conducted in compliance with Hawai‘i Revised Statutes (HRS) Chapter 343, is being prepared pursuant to Act 50 and in accordance with the Office of Environmental Quality Control (OEQC) *Guidelines for Assessing Cultural Impacts*, adopted by the Environmental Council, State of Hawai‘i, on November 19, 1997 (Office of Environmental Quality Control (OEQC) 1997) Act 50, which was proposed and passed as Hawai‘i State House of Representatives Bill No. 2895 and signed into law by the Governor on April 26, 2000, specifically acknowledges the State’s responsibility to protect native Hawaiian cultural practices. Act 50 further states that environmental studies “should identify and address effects on Hawaii’s culture, and traditional and customary rights” and that “native Hawaiian culture plays a vital role in preserving and advancing the unique quality of life and the ‘aloha spirit’ in Hawai‘i. Articles IX and XII of the state constitution, other state laws, and the courts of the State impose on governmental agencies a duty to promote and protect cultural beliefs, practices, and resources of native Hawaiians as well as other ethnic groups.”

The current report is divided into four main chapters. Chapter 1, the introduction, includes an overview of the proposed project as well as a physical description of the project area. To provide a cultural context of the project area, Chapter 2 includes cultural-historical background information specific to the project area and the broader geographical region of Mānana Ahupua‘a, and at times the greater ‘Ewa District. This chapter also includes a summary of prior archaeological and cultural studies that have been conducted within or near the project area. The methods and results of the consultation process are then presented in Chapter 3. Lastly, Chapter 4 concludes with a discussion of potential cultural impacts as well as actions and strategies that may help to mitigate any identified impacts.

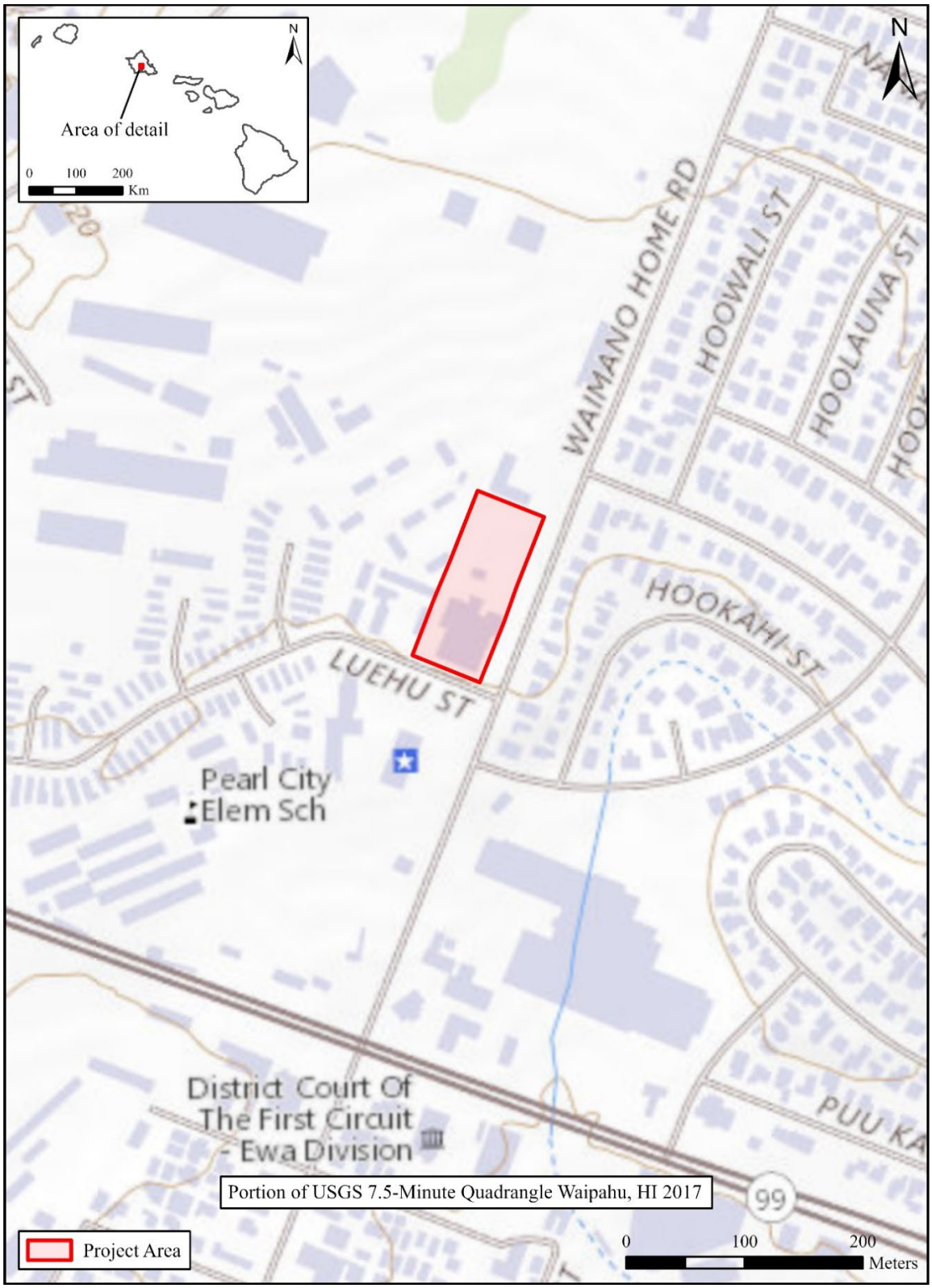


Figure 1. Project area location.

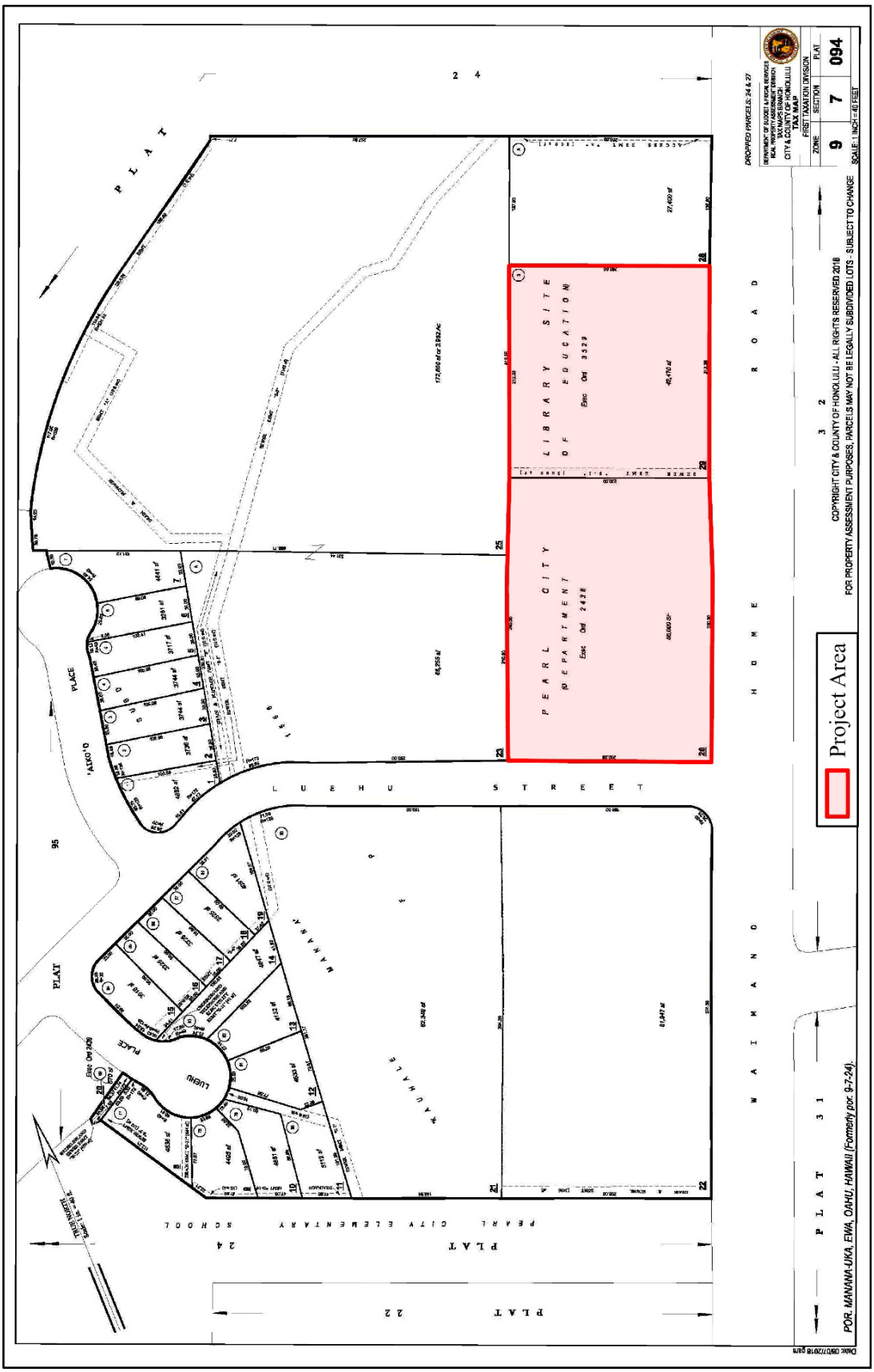


Figure 2. Tax Map Key plat map (1) 9-7-094 showing project area located within parcels :026 and :029.

Figure 3. Satellite image showing project area location.

PROJECT AREA DESCRIPTION

The current project area is located at 1138 Waimano Home Road (TMK: [1] 9-7-094:026 & 029), Mānana Ahupuaʻa, ʻEwa District, Island of Oʻahu. The parcels are situated within central Pearl City, a census-designated place (CDP) located on the northern shores of Pearl Harbor's Middle and East Lochs approximately nine miles northwest of downtown Honolulu (Figures 1 through 3). The topography of the project area is comprised of two large, leveled areas, with visual boundaries largely consistent with the TMK boundary separating parcels :026 (*makai* or seaward) and :029 (*mauka* or inland).

The *mauka* portion of the project area (Parcel :029) sits above street level on a raised platform with retention walls along its northern and eastern perimeters at approximately 30 meters (98 feet) above sea level. It is vegetated with overgrown Bermuda grass (*Cynodon dactylon*) and monkey-pod trees (*Pithecellobium saman*) (Figure 4). The parcel is largely devoid of structures. However, several areas of degrading concrete and asphalt are located within the parcel (Figures 5). A chain link fence surrounds the north, east, and west perimeters of the *mauka* portion of the project area. The chain link fence sits atop a concrete retaining wall on the eastern border along Waimano Home Road and atop a cinderblock wall along the northern border of the parcel.

The *makai* portion of the project area sits at street level, approximately 29 meters (95 feet) above sea level and has similar vegetation as the *mauka* parcel. The southern portion of the project area is currently owned by the State of Hawaiʻi–Department of Land and Natural Resources (DLNR) and utilized by HSPLS for the Pearl City Public Library (Figure 6). The Pearl City Public Library (formerly known as the Pearl City Regional Library) opened on November 15, 1969, and since then has remained one of the largest libraries on Oʻahu. A parking lot is located north of the library building and is paved with asphalt with multiple concrete walkways and dividers (Figure 6). A lava rock wall runs parallel to the east side of the library building separating the building from the sidewalk and Waimano Home Road (Figure 7). The southern boundary of the project area has a steep slope running approximately from the edge of library building to the sidewalk along Luehu Street (Figure 8). The western side of the library is separated from residential apartments by a chain link fence and small grassy area.

Geologically, the project area sits atop Koolau Basalt (Figure 9; QTKl) deposited between 1.8 and 3 million years ago (Ma) and overlayed by Molokai Silty Clay Loam (Figure 10; MuC), a well-drained soil found on seven to fifteen percent slopes, and historically used for sugarcane, pineapple, pasture, wildlife habitat, and homesites (Foote et al. 1972; Sherrod et al. 2007). The direct vicinity of the project area receives an average of approximately 729.5mm (28.7 inches) of rainfall annually (Giambelluca et al. 2013).

Figure 4. Northern portion of the project area, view to the northeast.

Figure 5. Northern portion of the project area, view to the northwest.

Figure 6. Northern side of Pearl City Public Library and parking lot, view to the south.

Figure 7. Eastern side of Pearl City Public Library along Waimano Home Road, view to the south.

Figure 8. Southern side of Pearl City Public Library along Luehu St., view to the west.

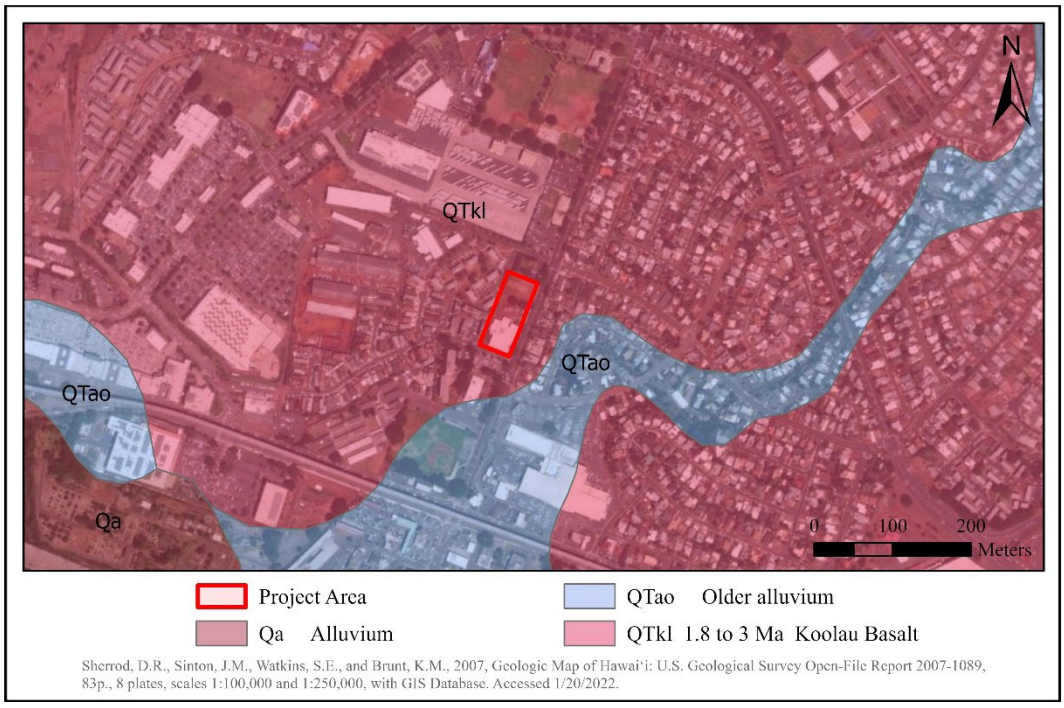


Figure 9. Geology in the vicinity of the project area.

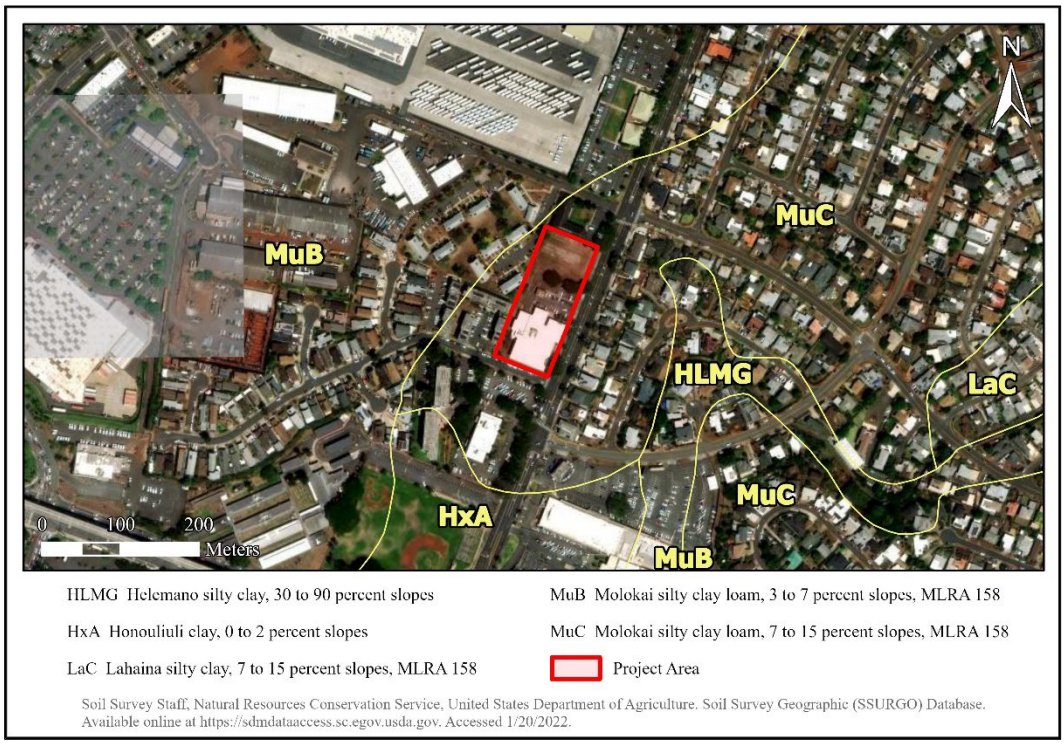


Figure 10. Soils in the vicinity of the project area.

2. BACKGROUND

As specified in the OEQC *Guidelines for Assessing Cultural Impacts* (1997:1), "…the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment." For this CIA, the *ahupua'a* of Mānana is considered the 'study area,' while the location of the proposed development activities is referred to as the 'project area.'

To generate a set of expectations regarding the nature of cultural resources and customary practices that might be encountered within the current project area and to establish a context within which to assess the significance of such resources, the background section begins with a general culture-historical context. This is followed by culture-historical background information concerning the history of Mānana and the project area. Limited background information for 'Ewa, the broader regional designation in which Mānana is situated, also falls within the parameters of the OEQC guidelines and ensures that a broader set of cultural practices and histories are considered. Following this background section is a discussion of relevant prior archaeological and cultural studies that have been conducted within and in the vicinity of the project area.

RESEARCH METHODS

The culture-historical context and summary of previously conducted archaeological and cultural research presented below are based on research conducted by ASM Affiliates at various physical and digital repositories. Primary English language and Hawaiian language resources were found at multiple state agencies, including the State Historic Preservation Division, Hawai'i State Archives, and the Department of Accounting and General Services Land Survey Division. Digital collections provided through the Office of Hawaiian Affairs Papakilo and Kīpuka databases, Waihona 'Āina, the Ulukau Hawaiian Electronic Library, and Newspapers.com. Lastly, secondary resources curated at ASM Affiliates' Honolulu office offer general information regarding the history of land use, politics, and culture change in Hawai'i, enhancing the broad sampling of source materials cited throughout this CIA.

CULTURE-HISTORICAL CONTEXT

While the question of when Hawai'i was first settled by Polynesians remains contested, scholars working in the fields of archaeology, folklore, Hawaiian studies, and linguistics have offered several theories. With advances in palynology and radiocarbon dating techniques, Kirch (2011), Athens et al. (2014), and Wilmshurst et al. (2011) have argued that Polynesians arrived in the Hawaiian Islands sometime between A.D. 1000 and A.D. 1200. This initial migration on intricately crafted *wa'a kaulua* (double-hulled canoes) to Hawai'i from Kahiki, the ancestral homelands of Hawaiian deities and peoples from southern Pacific islands, occurred at least from initial settlement to the 13th century. According to Fornander (1969), Hawaiians brought from their homeland certain Polynesian customs and beliefs: the major gods Kāne, Kū, Lono, and Kanaloa (who have cognates in other Pacific cultures); the *kapu* system of political and religious governance; and the concepts of *pu'uhonua* (places of refuge), *'aumakua* (ancestral deity), and *mana* (divine power). Archaeologist Kenneth Emory who worked in the early to mid-20th century reported that the sources of early Hawaiian populations originated from the southern Marquesas Islands. However, Emory's theory is not universally accepted, as Hawaiian scholars in the past and present have argued for a pluralistic outlook on ancestral Hawaiian origins from Kahiki (Case 2015; Fornander 1916; Fornander 1917; Kamakau 1866; Kikiloi 2010; Nakaa 1893; Poepoe 1906).

Although stories of episodic migrations were widely published in the Hawaiian language by knowledgeable and skilled *kū'auhau* (individuals trained in the discipline of remembering genealogies and associated ancestral stories), the cultural belief that living organisms were *hānau 'ia* (born) out of a time of eternal darkness (*pō*) and chaos (*kahuli*) were brought and adapted by ancestral Hawaiian populations to reflect their deep connection to their environment. As an example, the *Kumulipo*, Hawai'i's most famed *ko'ihonua* (a cosmogonic genealogical chant), establishes a birth-rank genealogical order for all living beings (Beckwith 1951; Liliuokalani 1978). One such genealogical relationship that remains widely accepted in Hawai'i is the belief that *kalo* (taro) plants (in addition to all other plants, land animals, and sea creatures), are elder siblings to humans (Beckwith 1951). This concept of hierarchical creation enforces the belief that all life forms are intimately connected, evidencing the cultural transformations that occurred in the islands through intensive interaction with their local environment to form a uniquely Hawaiian culture.

In Hawai'i's ancient past, inhabitants were primarily engaged in subsistence-level agriculture and fishing (Handy and Handy 1991). Following the initial settlement period, communities clustered in the *ko'olau* (windward) shores of the Hawaiian Islands where freshwater was abundant. Sheltered bays allowed for nearshore fisheries (enriched by

numerous estuaries) and deep-sea fisheries to be easily accessed (McEldowney 1979). Widespread environmental modification of the land also occurred as early Hawaiian *kanaka mahi'ai* (farmers) developed new subsistence strategies, adapting their familiar patterns and traditional tools to work efficiently in their new home (Kirch 1985; Pogue 1978). Areas with the richest natural resources became heavily populated over time, resulting in the population's expansion to the *kona* (leeward) side of the islands and to more remote areas (Cordy 2000).

Overview of Traditional Hawaiian Land Management Strategies

Adding to an already complex society was the development of traditional land stewardship systems, including the *ahupua'a.* The *ahupua'a* was the principal land division that functioned for both taxation purposes and furnished its residents with nearly all subsistence and household necessities. *Ahupua'a* are land divisions that typically include multiple ecozones from *mauka* (upland mountainous regions) to *makai* (shore and near-shore regions), assuring a diverse subsistence resource base (Hommon 1986). Although the *ahupua'a* land division typically incorporated all of the eco-zones, their size and shape varied greatly (Cannelora 1974). Noted Hawaiian historian and scholar Samuel Kamakau summarized the ecozones that could be found in a given *ahupua'a*:

> Here are some names for [the zones of] the mountains—the *mauna* or *kuahiwi*. A mountain is called a *kuahiwi*, but *mauna* is the overall term for the whole mountain, and there are many names applied to one, according to its delineations (*'ano*). The part directly in back and in front of the summit proper is called the *kuamauna*, mountaintop; below the *kuamauna* is the *kuahea*, and makai of the *kuahea* is the *kuahiwi* proper. This is where small trees begin to grow; it is the *wao nahele*. Makai of this region the trees are tall, and this is the *wao lipo*. Makai of the *wao lipo* is the *wao 'eiwa*, and makai of that the *wao ma'ukele*. Makai of the *wao ma'ukele* is the *wao akua*, and makai of there is the *wao kanaka*, the area that people cultivate. Makai of the *wao kanaka* is the *'ama'u*, fern belt, and makai of the *'ama'u* the *'apa'a*, grasslands.
>
> A solitary group of trees is a *moku la'au* (a "stand" of trees) or an *ulu la'au*, grove. Thickets that extend to the *kuahiwi* are *ulunahele*, wild growth. An area where *koa* trees suitable for canoes (*koa wa'a*) grow is a *wao koa* and mauka of there is a *wao la'au*, timber land. These are dry forest growths from the *'apa'a* up to the *kuahiwi*. The places that are "spongy" (*naele*) are found in the *wao ma'ukele*, the wet forest.
>
> Makai of the *'apa'a* are the *pahe'e* [*pili* grass] and *'ilima* growths and makai of them the *kula*, open country, and the *'apoho* hollows near to the habitations of men. Then comes the *kahakai*, coast, the *kahaone*, sandy beach, and the *kalawa*, the curve of the seashore—right down to the *'ae kai*, the water's edge.
>
> That is the way *ka po'e kahiko* [the ancient people] named the land from mountain peak to sea. (Kamakau 1976:8–9)

The *maka'āinana* (commoners, literally the "people that attend the land") who lived on the land had rights to gather resources for subsistence and tribute within their *ahupua'a* (Jokiel et al. 2011). As part of these rights, residents were required to supply resources and labor to *ali'i* (chiefs) of local, regional, and island chiefdoms. The *ahupua'a* became the equivalent of a local community with its own social, economic, and political significance and served as the taxable land division during the annual *Makahiki* procession (Kelly 1956). During the time of *Makahiki*, the paramount *ali'i* sent select members of his/her retinue to collect *ho'okupu* (tribute and offerings) in the form of goods from each *ahupua'a*. The *maka'āinana* brought their share of *ho'okupu* to an *ahu* (altar) that was marked with the image of a *pua'a* (pig), serving as a physical visual marker of *ahupua'a* boundaries. In most instances, these boundaries followed mountain ridges, hills, rivers, or ravines (Alexander 1890). However, Chinen (1958:1) reports that "oftentimes only a line of growth of a certain type of tree or grass marked a boundary; and sometimes only a stone determined the corner of a division." These ephemeral markers, as well as their more permanent counterparts, were oftentimes named as evidenced in the thousands of boundary markers names that are listed in Soehren (2005).

Ahupua'a were ruled by *ali'i 'ai ahupua'a* or chiefs who controlled the *ahupua'a* resources. Generally speaking, *ali'i 'ai ahupua'a* had complete autonomy over the *ahupua'a* they oversaw (Malo 1951) . *Ahupua'a* residents were not bound to the land nor were they considered property of the *ali'i*. If the living conditions under a particular *ahupua'a* chief were deemed unsuitable, the residents could move freely in pursuit of more favorable conditions (Lam 1985). This structure safeguarded the well-being of the people and the overall productivity of the land, lest the chief loses the principal support and loyalty of his or her supporters. In turn, *ahupua'a* lands were managed by an appointed *konohiki*, oftentimes a chief of lower rank, who oversaw and coordinated stewardship of an area's natural resources (Lam 1985). In some places, the *po'o lawai'a* (head fisherman) held the same responsibilities as the *konohiki* (Jokiel et al. 2011).

When necessary, the *konohiki* took the liberty of implementing *kapu* (restrictions and prohibitions) to protect the *mana* of an area's resources from environmental and spiritual depletion.

Many *ahupua'a* were divided into smaller land units termed *'ili* and *'ili kūpono* (often shortened to *'ili kū*). *'Ili* were created for the convenience of the *ahupua'a* chief and served as the basic land unit which *hoa'āina* (caretakers of particular lands) often retained for multiple generations (Jokiel et al. 2011; MacKenzie 2015). As *'ili* were typically passed down in families, so too were the *kuleana* (responsibilities, privileges) that were associated with it. The right to use and cultivate *'ili* was maintained within the *'ohana*, regardless of the succession of *ali'i 'ai ahupua'a* (Handy et al. 1991). Malo (1951) recorded several types of *'ili*, including the *'ili pa'a* (a single intact parcel) and *'ili lele* (a discontinuous parcel dispersed across an area). Whether dispersed or wholly intact, *'ili* required a cross-section of available resources, and for the *hoa'āina*, this generally included access to agriculturally fertile lands and coastal fisheries. *'Ili kūpono* differed from other *'ili* lands because they did not fall under the jurisdiction of the *ahupua'a* chief. Rather, they were specific areas containing resources that were highly valued by the ruling paramount chiefs, such as fishponds (Handy and Handy 1991)(Handy et al. 1991).

Ali'i 'ai ahupua'a, in turn, answered to an *ali'i 'ai moku* (chief who claimed the abundance of the entire *moku or* district) (Malo 1951). The island of O'ahu appears to have been divided into six traditional districts or *moku,* including Wai'anae, 'Ewa, Kona, Ko'olaupoko, Ko'olauloa, and Waialua. Although a *moku* comprises multiple *ahupua'a*, *moku* were considered geographical subdivisions with no explicit reference to rights in the land (Cannelora 1974). While the *ahupua'a* was the most common and fundamental land division unit within the traditional Hawaiian land management structure, variances occurred, such as the existence of the *kalana*. By definition, a *kalana* is a division of land that is smaller than a *moku. Kalana* was sometimes used interchangeably with the term *'okana* (Lucas 1995; Pukui and Elbert 1986), but Kamakau (Kamakau 1976) equates a *kalana* to a *moku* and states that *'okana* is merely a subdistrict (Kamakau 1976). Despite these contending and sometimes conflicting definitions, what is clear is that *kalana* consisted of several *ahupua'a* and *'ili 'āina*.

This form of district subdividing was integral to Hawaiian life and the product of advanced natural resource management systems. As populations resided in an area over centuries, direct teaching and extensive observations of an area's natural cycles and resources were retained, well-understood, and passed down orally over the generations. This knowledge informed management decisions that aimed to sustainably adapt subsistence practices to meet the needs of growing populations. The *ahupua'a* system and the highly complex land management system that developed in the islands are but one example of the unique Hawaiian culture that developed in these islands.

Intensification and Development of Hawaiian Land Stewardship Practices

Hawaiian philosophies of life in relation to the environment helped to maintain both natural, spiritual, and social order. In describing the intimate relationship that exists between Hawaiians and *'āina* (land), Kepā Maly writes:

> In the Hawaiian context, these values—the "sense of place"—have developed over hundreds of generations of evolving "cultural attachment" to the natural, physical, and spiritual environments. In any culturally sensitive discussion on land use in Hawai'i, one must understand that Hawaiian culture evolved in close partnership with its' natural environment. Thus, Hawaiian culture does not have a clear dividing line of where culture and nature begin.
>
> In a traditional Hawaiian context, nature and culture are one in the same, there is no division between the two. The wealth and limitations of the land and ocean resources gave birth to, and shaped the Hawaiian world view. The *'āina* (land), *wai* (water), *kai* (ocean), and *lewa* (sky) were the foundation of life and the source of the spiritual relationship between people and their environs (Maly 2001).

The *'ōlelo no'eau* (proverbial saying) "*hānau ka 'āina, hānau ke ali'i, hānau ke kanaka*" (born was the land, born were the chiefs, born were the commoners), conveys the belief that all things of the land, including *kanaka* (humans), are connected through kinship links that extend beyond the immediate family (Pukui 1983:57). *'Āina* or land, was perhaps most revered, as noted in the *'ōlelo no'eau* "*he ali'i ka 'āina; he kauwā ke kanaka,*" which Pukui (1983:62) translated as "[t]he land is a chief; man is its servant." The lifeways of early Hawaiians, which were dependent entirely from the finite natural resources of these islands, necessitated the development of sustainable resource management practices. Over time, what developed was an ecologically responsive management system that integrated the care of watersheds, natural freshwater systems, and nearshore fisheries (Jokiel et al. 2011).

Disciplined and astute observation of the natural world became one of the most fundamental stewardship tools used by the ancient Hawaiians. The vast knowledge acquired through direct observation enabled them to detect and record the subtlest of changes, distinctions, and correlations in the natural world. Examples of their keen observations are evident in the development of Hawaiian nomenclature to describe various rains, clouds, winds, stones,

environments, flora, and fauna. Many of these names are geographically unique or island-specific, and have been recorded in *oli* (chants), *mele* (songs), *pule* (prayers), *inoa ʻāina* (place names), and *ʻōlelo noʻeau* (proverbial sayings). Other Hawaiian arts and practices such as *hula* (traditional dance), *lapaʻau* (traditional healing), *lawaiʻa* (fishing), *mahiʻai* (farming) further aided in the practice of knowing the rhythms and cycles of the natural world.

Comprehensive systems of observing and stewarding the land were coupled by the strict adherence to practices that maintained and enhanced the *kapu* and *mana* of all things in the Hawaiian world. In Hawaiian belief, all things natural, places, and even people, especially those of high rank, possessed *mana* or "divine power" (Pukui et al. 1972; Pukui and Elbert 1986:235). *Mana* was believed to be derived from the plethora of Hawaiian gods (*kini akua*) who were embodied in elemental forces, land, natural resources, and certain material objects and persons (Crabbe et al. 2017). Buck (1993) expanded on this concept noting that *mana* was associated with "the well-being of a community, in human knowledge and skills (canoe building, harvesting) and in nature (crop fertility, weather etc.)" (cf. Else 2004:244).

To ensure the *mana* of certain resources, places, and people, *kapu* of various kinds were implemented and strictly enforced to limit over-exploitation and defilement. Elbert and Pukui (1986:132) defined *kapu* as "taboo, prohibitions; special privilege or exemption." Kepelino noted that *kapu* associated with *akua* (deities) applied to all social classes, while *kapu* associated with *aliʻi* were applied to the people (in Beckwith 1932). As *kapu* dictated social relationships, they also provided "environmental rules and controls that were essential for a subsistence economy" (Else 2004:246). The companion to *kapu* was *noa*, translated as "freed of taboo, released from restrictions, profane, freedom" (Pukui and Elbert 1986:268). Some *kapu*, particularly those associated with maintaining social hierarchy and gender differentiation were unremitting, while those *kapu* placed on natural resources were applied and enforced according to seasonal changes. The application of *kapu* to natural resources ensured that such resources remained available for future use. When the *aliʻi* or the lesser chiefs (including *konohiki* and *poʻo lawaiʻa*) determined that a particular resource was to be made available to the people, a decree was proclaimed indicating that *kapu* had been lifted, thereby making it *noa*. Although transitioning a resource from a state of *kapu* to *noa* allowed for its use, people were expected to practice sustainable harvesting methods and pay tribute to the paramount chief and the *akua* associated with that resource. *Kapu* were strictly enforced and violators faced serious consequences including death (Jokiel et al. 2011). Violators who escaped execution sought refuge at a *puʻuhonua*, a designated place of refuge or an individual who could pardon the accused (Kamakau 1992). After completing the proper rituals, the violator was absolved of his or her crime and allowed to reintegrate back into society.

In summary, the layering and interweaving of beliefs, land stewardship practices, and the socio-political system forms the basis of the relationship shared between the Hawaiian people and the land. It is through the analysis of these dynamic elements that we develop an understanding of the complexity of place.

MĀNANA AHUPUAʻA AND THE ʻEWA DISTRICT

The project area is located in the lowland area in Mānana Ahupua'a, one of the thirteen *ahupua'a* within the *moku* (district) of ʻEwa, which translates literally as "crooked" (Pukui et al. 1974:28) (Figure 11). Sterling and Summers (1978) add that the naming of this district was attributed to the *akua* (deities) Kāne and Kanaloa:

> When Kane and Kanaloa were surveying the island they came to Oahu and when they reached Red Hill saw below them the broad plains of what is now Ewa. To mark the boundaries of the land they would throw a stone and where the stone fell would be the boundary line. When they saw the beautiful land lying below them, it was their thought to include as much of the flat level land as possible. They hurled the stone as far as the Waianae range and it landed somewhere in the Waimanalo section. When they went to find it, they could not locate the spot where it fell. So Ewa (strayed) became known by that name. The stone that strayed (Sterling and Summers 1978:1).

Although the *moʻolelo* suggests that Kane and Kanaloa could not find the stone, Simeon Nawaʻa provides a description of its location along the Waiʻanae Range:

> Eventually the stone was found at Pili o Kahe. This is a spot where two small hills of the Waianae range come down parallel on the boundary between Honouliuli and Nanakuli (Ewa and Waianae). The ancient Hawaiian said the hill on the Ewa side was the male and the hill on the Waianae side was female. The stone was found on the Waianae side hill and the place is known as Pili o Kahe (Pili = cling to, Kahe = to flow*). The name refers, therefore, to the female or Waianae side hill. And that is where the boundary between the two districts runs. (Nawaʻa in Sterling and Summers 1978:1)

‘Ewa extends eastward from Honouliuli Ahupua‘a to Hālawa Ahupua‘a and encompasses the estuary of Pearl Harbor, known traditionally as “Ke-awa-lua- o-Pu‘uloa, The- many (*lau*)-harbors (*awa*)-of Pu‘uloa” (Handy and Handy 1991:469). Well-watered lands are found along the central and eastern limits of the district and correspondingly, many of the *ahupua‘a* in ‘Ewa are associated with *wai* (water) originating from the Ko‘olau Mountains. In contrast to the eastern and central areas, the western plains of ‘Ewa are arid. Early inhabitants of Precontact O‘ahu settled along the shores of Pu‘uloa where they engaged in traditional farming techniques and collected marine resources—summed up by Handy and Handy (1991:469) as follows:

> The salient feature of ‘Ewa, and perhaps its most notable point of difference, is its spacious coastal plain, surrounding the deep bays (“lochs”) of Pearl harbor, which are actually the drowned seaward valleys of ‘Ewa’s main streams, Waikele and Waipi‘o. . . These bays offered the most favorable locality in all the Hawaiian Islands for the building of fishponds and fish traps into which deep-sea fish came on the inflow of tidal waters. The lowlands, bisected by ample streams, were ideal terrain for the cultivation of irrigated taro. The hinterland consisted of deep valleys running far back into the Ko‘olau range. Between the valleys were ridges, with steep sides, but a very gradual increase of altitude. The lower parts of the valley sides were excellent for the culture of yams and bananas. Further inland grew the ‘awa for which the area was famous.

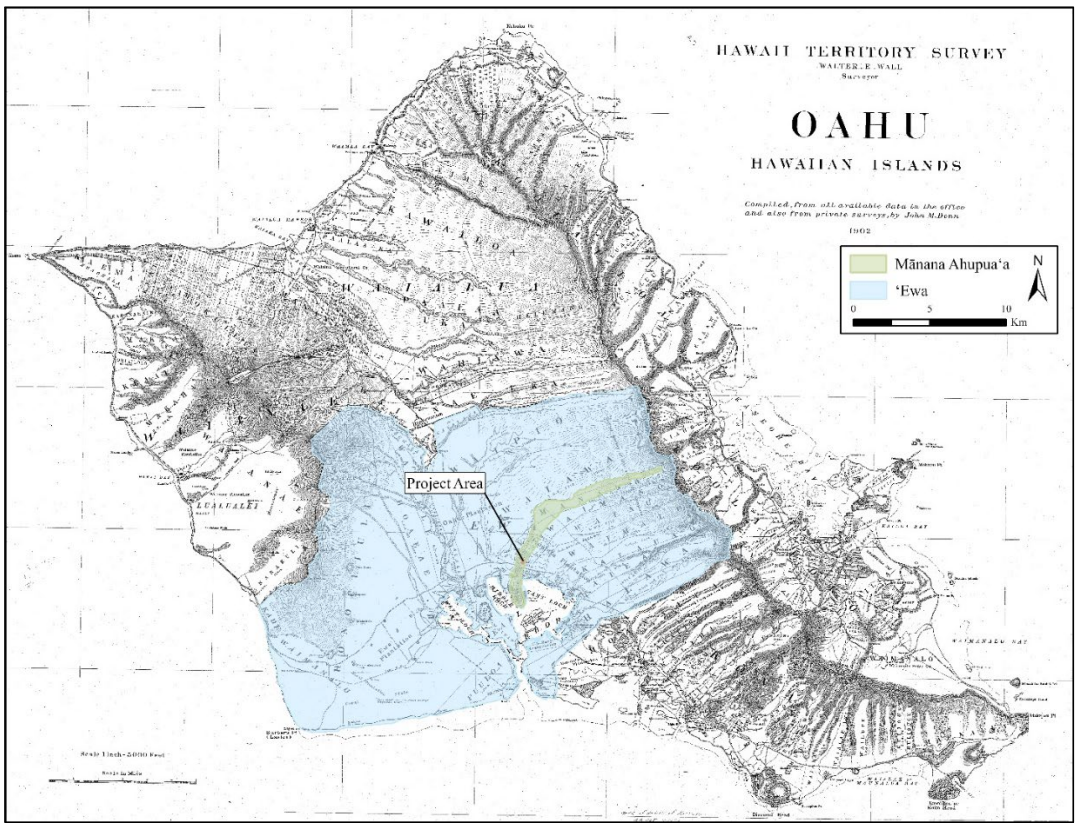


Figure 11. Study area located within Mānana Ahupua‘a in ‘Ewa District shown on Hawai‘i Registered Map No. 2374 by Walter E. Wall in 1902.

Concerning the subject *ahupua‘a* of Mānana, neither Pukui et al. (1974) nor Soehren (2010) provide a translation for the name. However, Pukui and Elbert (1986:236) define the word *mānana* as buoyant, a possible reference to the abundance of water in the area. Additionally, Pukui and Elbert (1986:236) define *mānana* as to stretch out or to protrude; Farley et al. (2018:8) attribute this definition as a reference to the Mānana Peninsula, also called Pearl City Peninsula, which protrudes into Pearl Harbor. Sterling and Summer (1978:16) report that the *ahupua‘a* was called Mānana-iki (Little Mānana) to describe the lower peninsula of the area and Mānana-nui (large Mānana) to describe the upper region in the mountains and where it broadens. Mānana-nui includes Mānana stream which runs into Waiawa. Mānana is bounded by Waiawa Ahupua‘a to the west and Waimano Ahupua‘a to the east.

Select Moʻolelo Associated with Mānana

The history of Hawaiʻi was transmitted orally from one generation to the next, but after the arrival of the first missionaries in 1820, one of the major transformations to Hawaiian culture that occurred was the creation of a written Hawaiian language. Although oral traditions were maintained, many natives and foreigners began inscribing generations' worth of orally transmitted knowledge onto paper. These writings provide invaluable insight into Hawaiʻi's past as they describe elements of Hawaiian culture related to specific places, historical figures, beliefs, traditions, *wahi pana* (legendary places), *inoa ʻāina* (place names), *moʻolelo* (legendary accounts, stories, and myths), *mele* (songs), *ʻōlelo noʻeau* (wise sayings), and *ʻōlelo kaulana* (famous sayings). This section recounts some of the *moʻolelo* associated with Mānana and ʻEwa areas.

The Pipi of ʻEwa and Their Guardian, Kanekuaʻana

Pipi (pearl oysters) and other related species such as *pāpaua* (clam), *ʻowāʻowaka* (a type bivalve, perhaps one of the family *Isognomonidae*), *nahawele* (a type bivalve of the family *Isognomonidae*), *kupekala* (a type of edible bivalve, possibly *Chama spp.*), and the *mahamoe* (an edible type of bivalve) were treasured sources of food and sustenance that were readily available in the waters of Ke-awa-lau-o-Puʻuloa (Pukui in Sterling and Summers 1978; Pukui and Elbert 1986). According to Kamakau (1964:83), the *pipi* were so abundant that it was "...enough for all ʻEwa." It is from the *pipi* that several *ʻōlelo noʻeau* specific to ʻEwa are derived:

> *Anu o ʻEwa i ka iʻa hāmau leo e. E hāmau!*
>
> ʻEwa is made cold by the fish that silences the voice. Hush!
>
> A warning to keep still. First uttered by Hiʻiaka to her friend Wahineʻomaʻo to warn her not to speak to Lohiʻau while they were in a canoe near ʻEwa. (Pukui 1983:16)
>
> *E hāmau o makani mai auaneʻi.*
>
> Hush, lest the wind arise.
>
> Hold your silence or trouble will come to us. When the people went to gather pearl oysters at Puʻuloa, they did so in silence, for they believed that if they spoke, a gust of wind would ripple the water and the oysters would vanish. (Pukui 1983:34)
>
> *Ka iʻa hāmau leo o ʻEwa.*
>
> The fish of ʻEwa that silences the voice.
>
> The pearl oyster, which has to be gathered in silence. (Pukui 1983:145)
>
> *Ka iʻa kuhi lima o ʻEwa.*
>
> The gesturing fish of ʻEwa.
>
> The *pipi*, or pearl oyster. Fishermen did not speak when fishing for them but gestured to each other like deaf-mutes. (Pukui 1983:145)
>
> *Haunāele ʻEwa i ka Moaʻe.*
>
> ʻEwa is disturbed by the Moaʻe wind.
>
> Used about something disturbing, like a violent argument. When the people of ʻEwa went to gather the *pipi* (pearl oyster), they did so in silence, for if they spoke, a Moaʻe breeze would suddenly blow across the water, rippling it, and the oysters would disappear. (Pukui 1983:59)

In the *moʻolelo* of Hiʻiakaikapoliopele, the *pipi* are mentioned in a chant that Hiʻiakaikapoliopele performed while she, Wahineʻōmaʻo, and Lohiʻau, passed the ʻEwa shoreline by canoe. Prior to this, they traveled through Pōhākea, a famed mountain pass in the Waiʻanae mountains, where Hiʻiakaikapoliopele gazed towards Puna on Hawaiʻi Island and witnessed her sister, Pele killing Hōpoe, her *aikāne* (friend, partner), as well as Hōpoe's beloved *lehua* grove (Hoʻoulumāhiehie 2006a:261). Angered with Pele for treating her *āikane* with such cruelty, Hiʻiaka vowed that when she returned to Hawaiʻi Island, she would challenge Pele with her supernatural powers. When they descended to the shore and began to travel by canoe, Hiʻiaka instructed Wahineʻōmaʻo and Lohiʻau to sit in silence and to not talk to each other. The strong currents of the sea worked against them and made travel difficult (Hoʻoulumāhiehie 2006a:265). In the distance, Hiʻiaka saw the ʻEwa shoreline and women fishing for crabs, gathering *limu* (seaweed),

mahamoe (a type of bivalve), and *ʻōkupe* (another type of bivalve, *Spondylus tenebrosus*). Upon noticing the women, Hiʻiaka chanted:

A makani Kēhau lalo o WaiOpua	The Kēhau wind blows there below WaiOpua
Kō ke kula, naʻenaʻe lā i ke kupukupu	The plain is breezy, fragrant with kupukupu fern
Moe nō i ke anu o ka mauʻu	Reposing in the chill of the grass
Moe aku i ke kai o ʻEwa ke anu	The cold lies in the sea of ʻEwa
Anu ʻEwa i ka iʻa hāmau leo	Cold is ʻEwa with its fish sought in silence
E hāmau ē. (Hoʻoulumāhiehie 2006b)	Be silent indeed. (Hoʻoulumāhiehie 2006a:266).

The term "cold" used by Hiʻiaka in these lines refer to "the need to silence the voice" between Wahineʻōmaʻo and Lohiʻau, just as she instructed them to do (Hoʻoulumāhiehie 2006a:266). The "fish sought in silence" refers to the *pipi,* the Hawaiian pearl oyster (*Pinctada radiata*) that ʻEwa is famously known for (Pukui and Elbert 1986:332). *Pipi* were gathered in silence or if someone spoke, "the wind would suddenly pick up and the *pipi* would disappear, for the water would become choppy" (Hoʻoulumāhiehie 2006a:267)..

The *pipi* of ʻEwa are also celebrated in *mele*, including "*He Mele no ka Pipi Palupalu*," a composition by Chad Takatsugi that describes the deliciousness of *pipi* and the effort it takes to harvest them. Like Hiʻiakaikapoliopele's chant, this *mele* refers to the *pipi* as "the silent fish," which speaks of the *kapu* of silence placed on *kānaka* who gathered them :

He wahi mele ahahana la	A song, oh!
No ka pipi palupalu ahahana la	For the tender oysters, oh!
ʻO ka ʻono aʻo loko ahahana la	The deliciousness within, oh!
O ka iʻa hāmau leo ahahana la	The silent fish, oh!
I ke kai kūʻono ahahana la	In the abundant sea, oh!
Noho mālie ahahana la	Quiet, oh!
I kahi huna iho ahahana la	In a hiding place, oh!
O ka limu ʻeleʻele ahahana la	The limu ʻeleʻele, oh!
Naʻu wale nō ahahana la	It is only for me, oh!
E moni i ka ʻono ahahana la	It's delicious and mouthwatering, oh!
E nihi ka hele ahahana la	Tread carefully, oh!
O paʻa pono auaneʻi ahahana la	Lest I be stuck here, oh!
Hanohano nui ia ahahana la	Revered far and wide, oh!
I ka ʻono aʻo loko ahahana la	For the deliciousness within, oh!
Haʻina ka puana ahahana la	Tell the refrain, oh!
O ka pipi palupalu ahahana la	Of the tender oysters, oh (Takatsugi 2004)

In *moʻolelo,* the *pipi* is said to have been brought to Hawaiʻi by Kānekuaʻana, a *moʻo* (a shape-shifting water lizard) from Kahiki who lived in the waters of Puʻuloa. Kamakau (1964) described Kānekuaʻana and her relationship to the *kamaʻāina* of Puʻuloa, including a brief description of a *heiau* specifically erected for the worship of *moʻo* called *waihau*:

> Kanekuaʻana was the kiaʻi [guard or watchman] of ʻEwa, and the kamaʻaina [native-born] from Hālawa to Honouliuli relied upon her. Not all of the people of ʻEwa were her descendants, but the blessing that came to her descendants were shared by all. When pilikia [trouble] came to the iʻa [marine animals] at ʻEwa, and their children were in distress because of the scarcity of iʻa, the descendants of Kanekuaʻana erected waihau heiaus [a heiau where hogs, bananas, and coconuts were sacrificed; a heiau for *moʻo* spirits] for Kanekuaʻana, and lighted the fires [for the cooking of offerings] to bring blessings upon the whole people. What blessing did they obtain? Iʻa. What kinds of iʻa? The pipi (pearl oysters)—strung along from Namakao Hālawa to the cliffs of Honouliuli from the kuapa [fishpond wall] fishponds of inland ʻEwa clear out to Kapakule. (Kamakau 1964:83)

Prolific Hawaiian author Moses Manu (2002) in the legend of *Keaomelemele* offered another description of Kānekuaʻana, with focus on the gradual disappearance of Puʻuloa's *pipi* that began in the 19th century:

> Kanekuaana was a royal lizard whose home was the lochs of Ewa. This lizard who was said to have brought the pearl oysters to the sea of Ewa and this was the oyster that was referred to as "the silent 'fish' of Ewa; do not speak lest a wind arise." Many chants have been made with reference to the pearl oyster. In residng there, this lizard was cared for and worshipped by the people for bringing

> the pearl oyster...From that time it was much found in Ewa up to recent years, about 1850-1853, the time when this race [Hawaiians] of people were being destroyed by smallpox. The oysters began to vanish from that time to the present. The people of the place believed that the lizard was angry because the konohikis [landlords] imposed kapus [prohibitions], were cross with the women and seized their catch of oysters. So this "fish" was removed to Tahiti and other lands. (Manu 2002:161)

In a notice from 1885, an author using the penname Kaiahamauleao (The fish which quiets voices) reported that people in Mānana where one again worshipping Kānekuaʻana, perhaps in response to the decline in pipi, along with other fishery resources during the 19th century (Maly and Maly 2012:91–92)

> *"He Leta No Ewa"*
>
> *Ua ikeia ma ka Nupepa o ka la 18 o kela mahina i hala, no na olelo hoolaha e pili ana no na hana hoomanamana i hanaia ma Awa, Ewa. Pehea la ka hoi I hoolaha ole ia ai ko Manana maa hoomanamana me he mea ala aia maia wahi na anoano o keia ano kahi i hooulu ia ai a nui. Aia ka malaila ka mea nana e hooulu hou i ka "Pipi," oia hoi o Kanekuaana, oia hoi kela moo kaulana o Ewa. Eia nae ua laweia mai ka ino o kela moo i mea hoomana na lakou. E! Auwe ka make ou e Hawaii e...!*
>
> Letter from Ewa
>
> .It was seen in the Newspaper of the 18th of last month, a notice pertaining to the practice of worship at Awa [Mānana?], ʻEwa. How would it not be made known that the people of Mānana were in the practice of that type of worship, to cause the increase of the fish. It is there that is found the one that caused the regrowth of the "Pipi," that is Kānekuaʻana, the famous moʻo of ʻEwa. But they have taken the bad things of that moʻo to worship. Say! Alas this is your death o Hawaii…

Sadly due to environmental degradation, there are few *pipi* today. However, they continue to be celebrated and remembered by many as one of the famed and favored *iʻa* of Puʻuloa.

Kaʻahupāhau and Other Famed Manō (Sharks) of ʻEwa

Some of ʻEwa's most famed *moʻolelo* are those associated with *manō* (sharks) that resided in or frequented the waters of Puʻuloa. These *manō* protected the people of Puʻuloa, and in return, the *manō* were cared for and honored by the people. One of the most well known *manō* of Puʻuloa was Kaʻahupāhau (Sterling and Summers 1978). She resided "in a great cavern on the Honouliuli side of the harbor" (The Honolulu Advertiser 1956a:11). Several *ʻōlelo noʻeau* commemorate Kaʻahupāhau's role in the history of ʻEwa:

> *Alahula Puʻuloa, he alahele na Kaʻahupāhau.*
>
> Everywhere in Puʻuloa is the trail of Kaʻahupāhau.
>
> Said of a person who goes everywhere, looking, peering, seeing all, or of a person familiar with every nook and corner of a place. Kaʻahupāhau is the shark goddess of Puʻuloa (Pearl Harbor) who guarded the people from being molested by sharks. She moved about, constantly watching. (Pukui 1983:14)
>
> *Hoʻahewa na niuhi ia Kaʻahupāhau.*
>
> The mandating sharks blamed Kaʻahupāhau.
>
> Evil-doers blame the person who safeguards the rights of others. Kaʻahupāhau was the guardian shark goddess of Puʻuloa (Pearl Harbor) who drove out or destroyed all the man-eating sharks. (Pukui 1983:108)
>
> *Mehemeha wale no o Puʻuloa, i ka hele a Kaʻahupāhau.*
>
> Puʻuloa became lonely when Kaʻahupāhau went away.
>
> The home is lonely when a loved one has gone. Kaʻahupāhau, guardian shark of Puʻuloa (Pearl Harbor), was dearly loved by the people. (Pukui 1983:234)

Pukui and Curtis (1994:149–150) offered the following *moʻolelo* describing Kaʻahupāhau's origins:

> Kaʻahu was once a lovely girl. She and her family lived beside a little stream which flowed into Puʻuloa. Often Kaʻahu and her brother went down to the harbor to swim. For hours they swam and played about, happy as fish. A shark god like to watch those children jump and swim. They should

> be sharks, he thought, and live in Puʻuloa. So he changed their form....Years went by. Kaʻahu became the chiefess and her brother, Striking Tail, was also honored by the older sharks. The parents of those children did but brothers, and sisters and other relatives still loved and fed the sharks.

Beckwith (1970:139) added the following regarding Kaʻahupāhau and the story concerning the death of a chiefess named Papio:

> Kaahupahau is called by Kamakau the sister of the sharks Kane-huna-moku and Ka-moho-aliʻi and wife of Ku-hai-moana, father of Ku-piʻopiʻo. The story that she is herself killed in the shark war against man-eaters is repudiated by Oahu Hawaiians, as also the accusation made by Kamakau that it was she herself who devoured the chiefess Papio because she was saucy to the keeper who reproached her for going swimming at the lagoon wearing the ilima wreaths which were sacred to the shark goddess. Kaahupahau was no man-eater.

An important *mano* with concern to Mānana is Kahiʻukā, the brother of the Kaʻahupāhau, who is described as the guardian of Mānana. The story "He Moolelo Kaao Hawaii no Laukaieie" as recounted by Moses (Mose) Manu in the newspaper Nupepa Ka Oiaio, and translated by Maly, describes the time Makanikeoe met Kahiuka:

> Makanikeoe then departed and was lost from sight. Looking seaward, Makanikeoe saw the fin of a shark passing by, in front of a stone in the estuary of Waiawa, on the west side of Kanukuokamanu, next to Piliaumoa. Seeing the shark, Makanikeoe drew nearer and he saw that it was Kahiuka, a native of this estuary. His cave was comfortably situated on the side of the stone. Kahiuka was a good shark, and in his story, he is the guardian of Manana and Waiawa.
>
> The author has met a man at Manana who was known by the name, Kahiuka. He learned the traditions of this shark in his youth, and was taken by this shark for a period of time, and returned again to the land in good health. The man has since died, but his daughter is still alive, and his story is an amazing one. (Maly and Maly 2012:102–103)

Moʻolelo manō (shark stories) associated with Puʻuloa also describe various conflicts between Puʻuloa's *manō* and *manō* from other parts of the islands, such as the *moʻolelo* of Mikololou, and other *manō* from Hawaiʻi Island who warred with the *manō* and people of ʻEwa. The version by Pukui and Green (1995:40–41) detailing the battle is provided below:

> Mikololou was a shark from the Kaʻū district on the island of Hawaiʻi. One day, he and his shark friends Kua, Kelikauaokaʻū, Pākaiea, and Kalani set out on a visit to Oʻahu. On the way, they fell in with other sharks all going in the same direction.
>
> Arriving at Puʻuloa, which is the place now called Long Hill off Pearl Harbor, they encountered Kaʻahupāhau, the female shark who guarded the entrance of Pearl Harbor. She had another body in the form of a net extremely difficult to tear, with which she captured all alien sharks who entered the harbor. Her brother Kahiʻukā, the Smiting Tail, struck at intruders with his tail, one side of which was larger than the other and very sharp. These two and their followers were not man-eating sharks, and the people on land guarded them well, taking them food and scraping their back free of barnacles that attached themselves there.
>
> When the visitors arrived, one of them remarked, "Ah! What delicious-looking crabs you have here! Now, man-eating sharks speak of men as "crabs," and Kaʻahupahau knew at once that some of the strangers were man-eaters. But she could not distinguish between the good and the bad sharks, hence she changed into the form of a great net and hemmed in her visitors while the fishermen who answered her signal came to destroy them.
>
> Keliʻikauaokaʻū changed himself into a *paoʻo* fish, which lives among the rocks, and leapt out of the net. Kua changed into a *lupe*, as the spotted stingray is called, and weighed down the net on one side, helping his son Kalani and nephew Pākaiea, who were half human, to escape. But before anything more could be done, the fishermen hauled in the nets they had brought to land, and poor Mikololou was cast upon the shore with the evildoers, where they were left to die of the intense heat.
>
> All were soon dead but Mikololou. Though his body died, his head lived on, and as the fishermen passed to and from their work, his eyes followed them and tears rolled down his face. At last his tongue fell out. Some children who were playing nearby picked it up and cast it into the sea.

> Now Mikololou's spirit had passed out of his head into his tongue, and as soon as he felt the water again, he became a whole shark. With a triumphant flop of his tail, he headed for home to rejoin his friends. When Kaʻahupāhau saw him, it was too late to prevent his departure.
>
> *I ola ʻo Mikololou i ke alelo*, "Mikololou lived through his tongue," is today a saying among the Hawaiians, implying that, however much trouble one may have, there is always a way to escape.

Although Mikololou is the main character of the previous excerpt*,* another *moʻolelo* features his traveling companion, Keliʻikauaokaʻū. Keliʻikauaokaʻū, like Mikololou, was a *manō* from Hawaiʻi Island who fought with the *manō* of Puʻuloa. Keliʻikauaokaʻū was the *manō* that killed Kaʻahupāhau. A Hawaiian language account of the *moʻolelo* was published in serialized form under the title "*He Moolelo Kaao Hawaii no Keliikauokau"* (A Legendary Hawaiian Account for Keliʻikauokaʻū) in the newspaper *Home Rula Repubalika.* In this *moʻolelo*, Keliʻikauaokaʻū's name is spelled Keliʻikau-o-Kaʻū. Kepā Maly offers the following translated excerpt from the *moʻolelo*:

> Keliʻikau-o-Kaʻū fought with and killed Kaʻahupāhau, and it is because of this event, that the famous saying, "Mehemeha Puʻuloa, ua make o Kaʻahupāhau" (Puʻuloa is alone, for Kaʻahupāhau is dead), came about. Keliʻikau-o-Kaʻū assumed various body forms he possessed and attached Kaʻahupāhau from within, and outside her body. Kaʻahupāhau went in spirit form to her attendant, Koihala, calling her, saying that she was dying. Upon her death, Keliʻikau-o-Kaʻū called out to Kamoana and Kahiʻukā, taunting them. He then proceeded to swim through Puʻuloa, biting and tearing at the native sharks of the region, throwing their bodies up onto the dry land from Kalaekao, Kapuaʻikāula, Keanapuaʻa, Kamokuʻumeʻume, ʻAiea, Kalauao, Waimalu, Waiau, Waimano, the two lands of Mānana, Waiawa, Hanapōuli, Waipiʻo, Waikele, Hōʻaeae, Honouliuli, Kalaeokahuka, Kanahunaopapio, Kepoʻokala and Puʻuloa.
>
> Keliʻikau-o-Kaʻū destroyed all the sharks of ʻEwa, and the stench rose upon the land...Upon her death, Kaʻahupāhau's body became a coral formation near the place called Papio, and that place is still seen on the side of Honouliuli to this day.
>
> Following the death of Kaʻahupāhau in this war between the sharks, the shark chief of both sides met in council and agreed to no further wars should be fought between them. (Maly 2013:65)

It is important to note that while some believe Kaʻahupāhau died in this battle, there are accounts from native elders who continue to honor the legacy of Kaʻahupāhau and the other *manō* of Puʻuloa. An article published in the April 22, 1919 edition of the *Honolulu Star-Bulletin* related the following account that tells of the discovery of the body of the "Great Shark God." It is unclear from this account which of Puʻuloa's "Great Shark God" is being referenced, however, the article reads thusly:

> The great Shark God of Pearl Harbor is dead!
>
> He who for years has opposed the building of the drydock because it sat upon the site of his royal and ancient caves has passed away. His body was found in the bottom of the drydock when the last foot of water was drained and the mud scraped last Saturday afternoon.
>
> Evidently the Shark God has been dead for a week or more. His body was in a state of decomposition when the steam shovel scraping the debris out of the bottom of the drydock lifted him up. He had tried his magic once too often against these haoles and had failed.
>
> The legend concerning the Shark God of Pearl Harbor is very ancient. The natives claim the Shark God made his home in the caves where the drydock now stands and that it was the Shark God who caused the failure of the attempt to pump out the drydock in 1913. Hence the offerings and prayers made a few weeks ago by a number of Hawaiian and a female kahuna to the Shark God asking him to spare the present project. Supposedly the Shark God refused to heed and entered the dock before the caisson gate was moved up. Thus it was that he found himself without his kingdom when the pumps concluded their work. (Honolulu Star-Bulletin 1919:1)

Although the 1919 article does not name Kaʻahupāhau as the *manō* that was found at the drydock, Pukui and Green (1995:41) add that when the United States Navy constructed a drydock over the home of Kaʻahupāhau, "...the natives regarded the proceedings with superstitious fear." After its construction, the structure fell and "...Hawaiians believe that the Smiting Tail [Kahiʻukā, brother of Kaʻahupāhau] still guards the blue lagoon at Pearl Harbor." Native traditions associated with the *manō* of ʻEwa continue to resonate today, as expressed by *kupuna* (elder) Arlene Eaton:

> According to the legend, she and her brother entered a cave while playing, and a shark took them and transformed them into sharks. Their parents called out to them from the shore, and one day saw two small sharks—their children. Kupuna Eaton shares a gripping story of riding the sharks of

> Puʻuloa. While paddling, her grandfather talked and chanted to the sharks in Hawaiian. As they became more docile and approached the canoe, he ventured to ride them. One time he brought his granddaughter, the young Kupuna Eaton, with him. She recalled the roughness of the shark's skin enabled her to ride the shark. (Cruz et al. 2011:123)

The *moʻolelo* of *manō* from the outer islands invading ʻEwa may perhaps be an allegory for the attempts made by outer island chiefdoms who sought to gain control of ʻEwa. The Precontact history of the ʻEwa District makes multiple references to attempts of seizure by outer island polities and identifies the *moku* of ʻEwa as significant to the Oʻahu line of rulers.

Pilimoʻo Pool in Pearl City

Very few traditional accounts and stories that specifically reference Mānana Ahupuaʻa are known. However, one story told by Sterling and Summers (1978:16-17) recounts the story of Pilimoʻo Pool, a pool located in Pearl City:

> For a long time there was no danger to the children that came to swim in the pool until a man-eating shark discovered the tunnel and slipped in and out at will.
>
> One day, a boy went to the pool and disappeared. No trace of him was found. His father was so worried that he went to consult a Makaula or prophet. The makaula asked his gods, who told him that it was the will of the gods to change him into a small eel, so that he could live in the depth of the pool and warn the children of danger.
>
> The father of the boy went to the pool to see if it were so. He sat there a long time and neither saw nor heard anything. Then the children gathered at the opposite side of the pool from him and began to dive and play.
>
> Suddenly he heard a whistle which sounded so like the whistling of his son when he went home every day after playing. "That sounds very much like my son's whistling, he said to himself. He looked around and saw nothing. The whistling was repeated. Then looking toward a ledge under some hau trees, he noticed the head of an eel. Every now and then it whistled. He drew closer to it and spoke to it, "Can it be that you are my son? How did your human body change to an eel?" The boy replied, "Yes, I was once a boy, now I am an eel because the gods have willed it, so that I may save human lives from the wicked sharks of the deep that come here. Go and tell those children to go home. Tell them to listen and if they hear whistling that is a warning that they are in danger. "
>
> The man went as he was told to do. He told them to listen for a shrill whistle every now and then. That was a signal to go away at once. The eel whistled again so loudly that the children heard him and went away. The father remained to see if a shark would appear. A little while later he saw the dark form of a big shark swim about in the pool. So it was that ever after, a whistle was a signal that danger was near.

Pearl City Stone

Another story in reference to Mānana is the that of the Pearl City Stone, which tells the account of a rock which once stood where the Pearl City Church of Jesus Christ of Latter-day Saints now stands. The story describes how the rock was revered by Native Hawaiians. However, the leaders of the church insisted it must be moved. The story follows that:

> Waiwaiole, a man who lived in the neighbor-hood and knew the legend of this rock was assigned the work of removing it to the roadside. He put it off from week to week as he hoped that his friends would forget about it, but they did not. They became more insistant [sic.] until he found some one to help him to carry it out. At first he tried to lift it but it would not move until he talked to it. He told it that it was unwelcome in the church yard and it would be better for it to be by the roadside. After that, the two men had no trouble in moving it.
>
> Some years later the road was widened where the stone stood and it was blasted. Part of it is gone and a part remains to this day.
>
> Waiwaiole, the man who removed it fell sick and gradually grew worse until he was brought to the Queen's Hospital where he died.

> The man who helped him also became sick with a disease that made him look bloated and dark. He became an inmate of the Minoʻaka Home until death took him. Waiwaiole's beautiful home was burned down with fire. No one knew what caused it. His widow is still at Pearl City and expects to build a new home ere long. (Naumau in Sterling and Summers 1978:17)

Early Accounts of ʻEwa and Mānana Ahupuaʻa

Historical accounts penned by visitors, missionaries, and residents are another means to reconstruct life in ʻEwa during the Precontact and Early Historic periods. In 1793, five years after Captain James Cook arrived in Hawaiian waters, Captain George Vancouver, while anchored off the entrance of West Loch, described the ʻEwa landscape:

> The part of the island opposite to us was low, or rather only moderately elevated, forming a level country between the mountains that compose the east [Koʻolau] and west [Waiʻanae] ends of the island. This tract of land was of some extent, but did not seem to be populous, nor to possess any great degree to natural fertility; although we were told that, at a little distance from the sea, the soil is rich, and all the necessaries of life are abundantly produced. (Vancouver 1801:361)

> Mr. Widbey observed, that the soil in the neighbourhood [*sic*] of the harbour [*sic*] appeared of a loose sandy nature; the country low for some distance, and, from the number of houses within the harbour, it should seem to be very populous: but the very few inhabitants who made their appearance was an indication of the contrary (Vancouver 1801:363)

In addition to the observations penned by Vancouver, cartographer, Lieutenant C. R. Malden, on this same trip, drafted a map of Oʻahu's south coast (Figure 12). Malden's map which was later published in 1825 depicts a cluster of houses along the coast expanding inland just south of the current project area. Several fishponds located with Puʻulo are also visible. Malden's map is one of the earliest known cartographic records for this region and thus provides a glimpse into the early Historic settlement of this area.

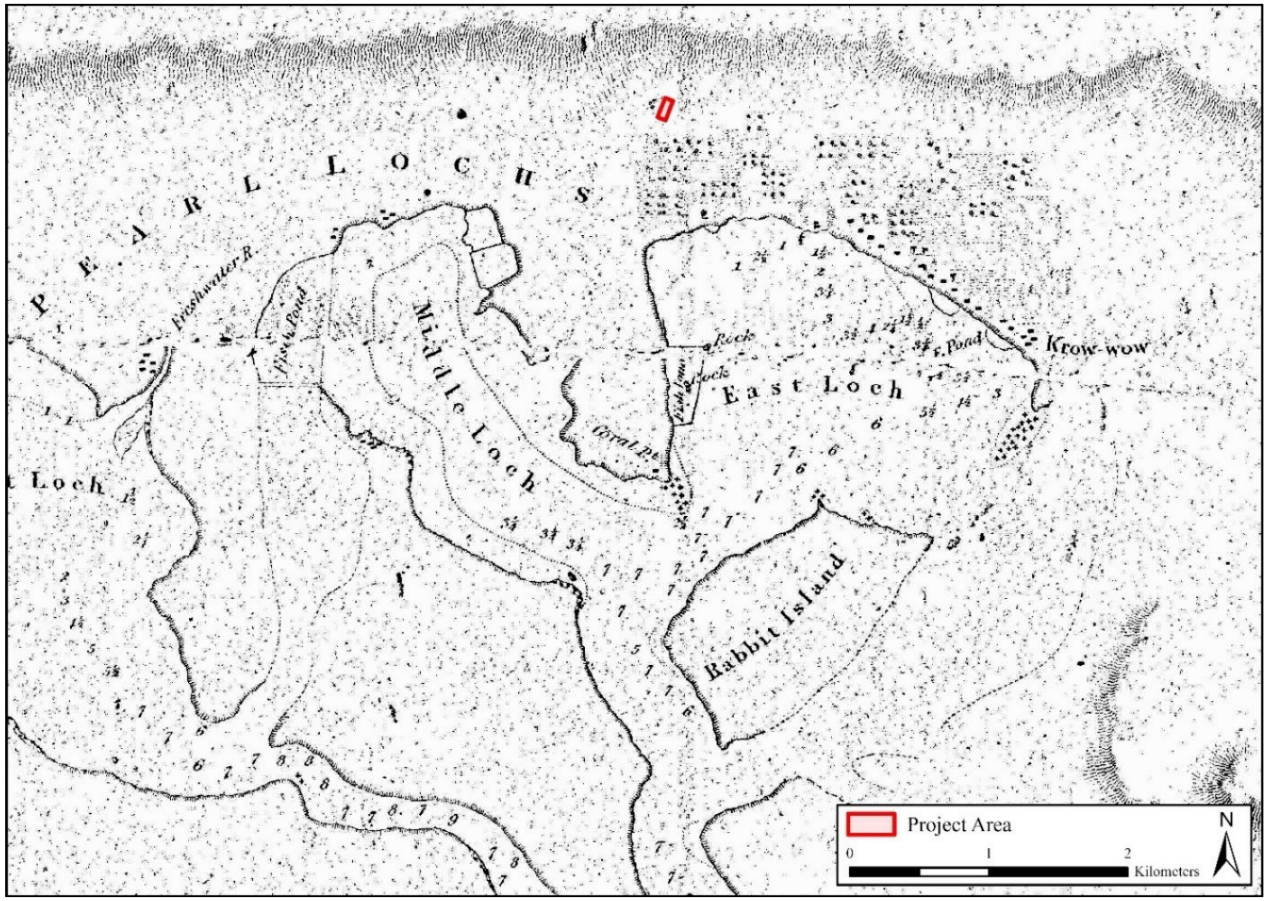


Figure 12. Portion of Hawaiʻi Registered Map No. 640 prepared by C.R. Malden, circa 1793, showing project area.

In 1809, Scotsman Archibald Campbell wrote the following description of the Pearl Harbor area. Before Campbell arrived on O'ahu, he was shipwrecked off the northwest coast of North America. Both of his feet were badly frostbitten and were subsequently amputated. With the aid of his guides, Campbell traveled through the 'Ewa District on the back of his guides before settling on some land in Waimano Ahupua'a that was provided to him by King Kamehameha.

> In the month of November, the king was pleased to grant me about sixty acres of land, situated upon the Wymummee [Waimomi], or Pearl-water, an inlet at the sea about twelve miles to the west of Hanaroora [Honolulu]. I immediately removed thither; and it being Macaheite [*makahiki*] time, during which canoes are tabooed, I was carried on the men's shoulders. We passed by foot-paths, winding through an extensive and fertile plain, the whole of which is in the highest state of cultivation. Every stream was carefully embanked, to supply water for the taro beds. Where there was no water, the land was under crops of yams and sweet potatoes. The roads and numerous houses are shaded by cocoa-nut trees, and the sides of the mountains covered with wood to a great height. We halted two or three times, and were treated by the natives with the utmost hospitality. (Campbell 1817:160)

Concerning his observations of the "Pearl River" area, Campbell noted:

> Wymumme, or Pearl River, lies about seven miles farther to the westward. This inlet extends ten or twelve miles up the country. The entrance is not more than a quarter of a mile wide, and is only navigable for small craft; the depth of water on the bar, at the highest tides, not exceeding seven feet; farther up it is nearly two miles across. There is an isle in it, belonging to Manina, the king's interpreter, in which he keeps a numerous flock of sheep and goats. The flat land along shore is highly cultivated; taro root, yams, and sweet potatoes, are the most common crops; but taro forms the chief object of their husbandry, being the principal article of food amongst every class of inhabitants. (Campbell 1817:196)

The first missionaries arrived at the so-called Sandwich Islands on March 20, 1820, to establish missions at Honolulu, Lahaina, and Kona. The first group sent by the American Board of Commissioners for Foreign Missions (ABCFM) arrived from Boston on the *Thaddeus*. Hiram Bingham established the Honolulu mission and the Kainaahiole Church on King Street. In 1820, American Missionary Hiram Bingham described the view from atop Punchbowl looking towards Barber's Point in 'Ewa as follows:

> . . . Below us, on the south and west, spread the plain of Honolulu, having its fish-ponds and salt making pools along the sea-shore. . . From Diamond Hill [Diamondhead], on the east, to Barber's Point and the mountains of Waianae, on the west, lay the sea-board plain, some twenty-five miles in length, which embraces the volcanic hills of Moanalua, two or three hundred feet high, and among them. . . . the lagoon of Ewa [Pearl Harbor/ Pu'uloa], and numerous little plantations and hamlets, scattered trees, and cocoanut [*sic*] groves. . . (Bingham 1847:93)

William Ellis of the London Missionary Society described the 'Ewa area during his visit in 1823-1824. His comments read thusly:

> The plain of Eva ['Ewa] is nearly twenty miles in length, from the Pearl River to Waiarua [Waialua], and in some parts nine or ten miles across. The soil is fertile, and watered by a number of rivulets, which wind their way along the deep watercourses that intersect its surface, and empty themselves into the sea. Though capable of a high state of improvement, a very small portion of it is enclosed or under any kind of culture, and in travelling across it, scarce a habitation is to be seen. (Ellis 1917:11)

James Macrae, a Scottish botanist aboard the *HMS Blonde* which called into Honolulu in 1825 provided the following remarks about the Pu'uloa vicinity, including a mention of the variety of oysters found there:

> Pearl River is about seven miles west of Hanarura [Honolulu], and is improperly called a river, being rather inlets from the sea, branching off in different directions. There are three chief branches, named by the surveyors, the East, Middle and West Lochs. The entrance to Pearl River is very narrow and shallow, and in its present state it is fit for very small vessels to enter, but over the bar there is deep water, and in the channel leading to the lochs there are from 7 to 20 fathoms. The lochs themselves are rather shallow.
>
> The coast from Hanarura to the west of Pearl River possesses no variety of plants beyond two or three species, such as Argemones, Portulacas, and a few other little annuals, intermixed

> The oysters that are found in Pearl River are small and insipid and of no value or consequence. (Macrae 1922:29-30)
>
> The neighborhood of the Pearl River is very extensive, rising backwards with a gentle slope towards the woods, but is without cultivation, except round the outskirts to about half a mile from the water. The county is divided into separate farms or allotments belonging to the chiefs, and enclosed with walls from four to six feet high, made of a mixture of mud and stone. The poorer natives live on these farms, also a few ragged foreigners who have a hut with a small spot of ground given to them, for which they must work for the chiefs a certain number of days besides paying an annual rent in dogs, hogs, goats, poultry and tapa cloths, which they have to carry to whatever spot their master is then living on the island. (Macrae 1922:31)

In his 1831 visit, botanist F. Meyen commented on the high state of cultivation along the waters of Puʻuloa:

> At the mouth of the Pearl River the ground has such a slight elevation, that at high tide the ocean encroaches far into the river, helping to form small lakes which are so deep, that the long boats from the ocean can penetrate far upstream. All around these water basins the land is extraordinarily low but also exceedingly fertile and nowhere else on the whole island of Oahu are such large and continuous stretches of land cultivated. The taro fields, the banana plantations, the plantations of sugar cane are immeasurable. (Meyen 1981:63)

Trails in ʻEwa as Told by John Papa ʻĪʻī

John Papa ʻĪʻī, a renowned Hawaiian historian, judge, and member of the royal court was born in Waipiʻo Ahupuaʻa in the ʻEwa District on August 3, 1800 (Iʻi 1963:vii). At the age of ten, he went to live with his uncle who taught him how to serve as a *kahu* (caretaker) for Kamehameha I's high-ranking son, Liholiho. ʻĪʻī published recollections of life amidst the royal court of the Kamehameha dynasty in the serialized form under the title *Na Hunahuna o ka Moolelo Hawaii*, which was later translated by staff members at the Bishop Museum and published under the title *Fragments of Hawaiian History* (Ii 1963). In *Fragments of Hawaiian History*, ʻĪʻī dedicated an entire chapter discussing the people and places along the foot trails of Oʻahu. In Figure 13, a map by Paul Rockwood depicts the alignment of the trail, which runs immediately *makai* of the project area. It is important to note that Rockwood's map is an artistic rendering based on ʻĪʻī's recollection which did not utilize formal land surveying techniques to ensure accuracy. ʻĪʻī described the trail leaving Kou (modern-day Honolulu) and heading towards the ʻEwa plain:

> From there the trail went to Kaleinakauhane, then to Kapukaki, from where one could see the irregular sea of Ewa; then down the ridge to Napeha, a resting place for the multitude that went diving there at a deep pool. This pool was named Napeha (Lean Over), so it is said, because Kualii, a chief of ancient Oahu, went there and leaned over the pool to drink water.
>
> The trail began again on the opposite side of the pool and went to the lowland of Halawa, on to Kauwamoa, a diving place and a much-liked gathering place. It is said to be the diving place of Peapea, son of Kamehamehanui of Maui who was swift in running and leaping. The place from which he dove into the water was 5 to 10 fathoms above the pool.
>
> The trail led to the taro patches in Aiea and up the plain of Kukiiahu. Just below the trail was the spot where Kaeo, chief of Kauai, was killed by Kalanikapule. From there the trail went along the taro patches to the upper part of Kohokoho and on to Kahuewai, a small waterfall. On the high ground above, a little way on, was a spring, also a favorite gathering place for travelers. (Ii 1963:95)

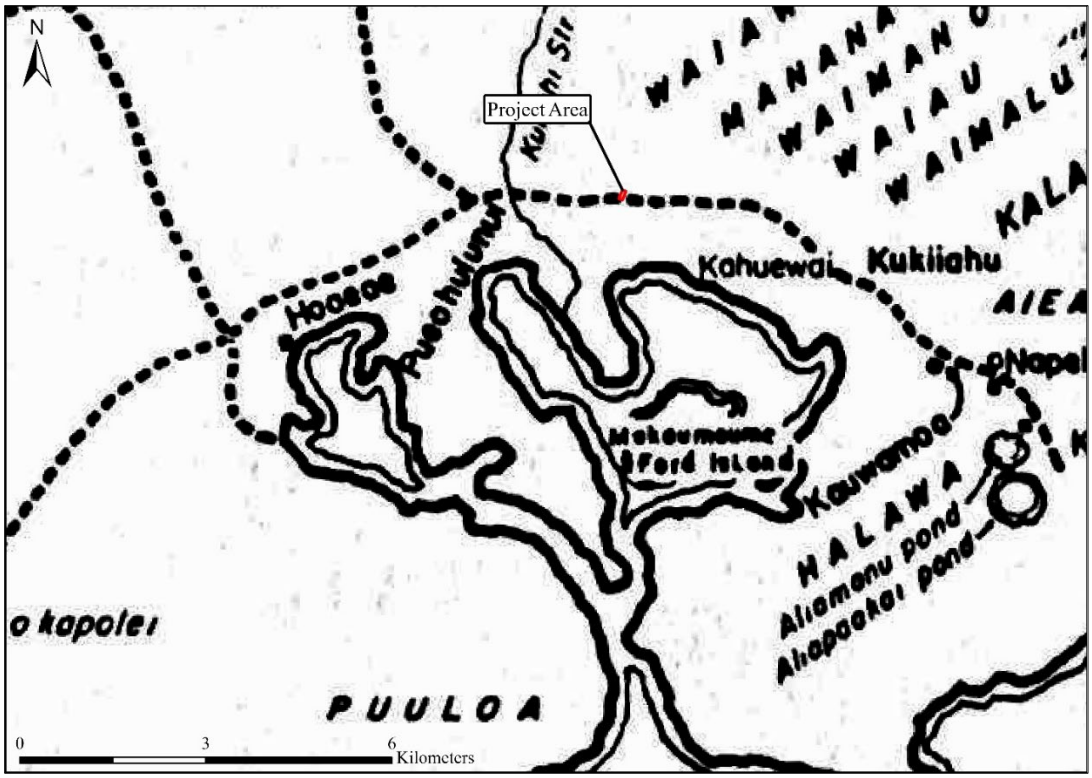


Figure 13. Portion of trail map of Oʻahu by Paul Rockwood in ʻĪʻī (1959).

Sandalwood Trade

During the early 19th century, the interior landscape of the central ʻEwa plains was altered by the over-harvesting of *ʻiliahi* (sandalwood; *Santalum ellipticum*). The sandalwood trade, established by Euro-Americans in 1790, became a viable commercial enterprise by 1805 and was flourishing by 1810 (Oliver 1961) . Prized in China for its unique fragrance and used to manufacture items such as incense, perfume, and medicine, Kamehameha I, before he died in 1819, seized control of the industry and ordered his lesser chiefs and the people to the mountains to harvest the prized wood (St. John 1947). Kamakau (1992:294) noted that sometime around 1829, "Manuia was cutting sandalwood at Puʻukuo [Puʻu Kuʻua; northwest of the project area] in Honouliuli when Boki asked him to join them" in preparing for their trip to New Hebrides.

Although the industry proved to be lucrative for the chiefs in control, it created a burden on the people and had a lasting impact on the environment. Farmers and fishermen were ordered to spend most of their time logging, resulting in food shortages and famine that led to a population decline. Kamakau (1992:204) indicates that "this rush of labor to the mountains brought about a scarcity of cultivated food … The people were forced to eat herbs and tree ferns, thus the famine [was] called Hi-laulele, Haha-pilau, Laulele, Pualele, ʻAmaʻu, or Hapuʻu, from the wild plants resorted to." Once Kamehameha realized that his people were suffering, he "declared all the sandalwood the property of the government and ordered the people to devote only part of their time to its cutting and return to the cultivation of the land" (Kamakau 1992:202). St. John (1947:20) deduced that "[t]he northern and southern slopes of the Schofield saddle apparently had much more extensive stands of sandalwood, from Waimano to Honouliuli, and from Pupukea to Makaleha." A historical account penned by ship surgeon and natural historian F. D. Bennett after an 1834 visit to Oʻahu and published in his book titled *Narrative of a Whaling Voyage Round the Globe* provides a succinct summary of land use practices and the economy at that time:

> The staple commodities of the [island] group are at present very few. Sandal-wood is the principal of these but the demands for it have been so urgent, and so much beyond the resources of the country, that nearly all the large trees have been destroyed, and for some time past the government has very prudently prohibited the cutting of young wood. The fossil salt of Oahu, and some hides, chiefly afforded by the wild cattle of Hawaii, are therefore the only available exports that remain; but the cultivation of sugar has been lately commenced under favourable [*sic*] auspices, and promises well for the commercial interests of the people. (Bennett 1840:237)

Sereno Bishop, one of the first-generation missionaries provided the following description in which he details the changes in the natural environment to Oʻahu's central region in the 1830s:

> Our family made repeated trips to the home of Rev. John S. Emerson at Waialua during those years. There was then no road save a foot path across the generally smooth upland. We forded the streams. Beyond Kīpapa Gulch the upland was dotted with occasional groves of Koa trees. On the high plains the *ti* plant abounded, often so high as to intercept the view. No cattle then existed to destroy its succulent foliage. According to the statements of the natives, a forest formerly covered the whole of the then nearly naked plains. It was burned off by the natives in search of sandalwood, which they detected by its odor burning. (Bishop in Sterling and Summers 1978:89)

Māhele ʻĀina of 1848

By the mid-19th century, the Hawaiian Kingdom was an established center of commerce and trade in the Pacific, recognized internationally by the United States and other nations in the Pacific and Europe (Sai 2011). As Hawaiian political elites sought ways to modernize the burgeoning Kingdom, and as more Westerners settled in the Hawaiian Islands, major socioeconomic and political changes took place, including the formal adoption of a Hawaiian constitution by 1840, the change in governance from an absolute monarchy to a constitutional monarchy, and the shift towards a Euro-American model of private land ownership. This change in land governance was partially informed by ex-missionaries and Euro-American businessmen in the islands who were generally hesitant to enter business deals on leasehold lands that could be revoked from them at any time. Kauikeaouli (Kamehameha III), through intense deliberations with his high-ranking chiefs and political advisors, separated and defined the ownership of all lands in the Kingdom (King n.d.). They decided that three classes of people each had one-third vested rights to the lands of Hawaiʻi: the *Mōʻī*, the *aliʻi* and *konohiki*, and the native tenants (*hoaʻāina*). In 1846, King Kauikeaouli formed the Board of Commissioners to Quiet Land Titles (more commonly known as the Land Commission) to adopt guiding principles and procedures for dividing the lands, grant land titles, and act as a court of record to investigate and ultimately award or reject all claims brought before them (Bailey in Commissioner of Public Lands 1929). All land claims, whether by chiefs for an entire *ahupuaʻa* or *ʻili kūpono* (nearly independent *ʻili* land division within an *ahupuaʻa*, that paid tribute to the ruling chief and not to the chief of the *ahupuaʻa*), or by *hoaʻāina* for their house lots and gardens, had to be filed with the Land Commission within two years of the effective date of the Act (February 14, 1846) to be considered. This deadline was extended several times for chiefs and *konohiki*, but not for native tenants (Soehren 2005)

The King and some 245 chiefs spent nearly two years attempting to divide all the lands of Hawaiʻi amongst themselves before the whole matter was referred to the Privy Council on December 18, 1847 (King n.d.; Kuykendall 1938). Once Kauikeaouli and his chiefs accepted the principles of the Privy Council, the *Māhele ʻĀina* (Land Division) was completed in just forty days on March 7, 1848. The names of all of the *ahupuaʻa* and *ʻili kūpono* of the Hawaiian Islands, as well as the names of the chiefs who claimed them, were recorded in the *Buke Māhele* (*Māhele* Book) (Buke Mahele 1848; Soehren 2005). As this process unfolded, King Kauikeaouli, who received roughly one-third of the lands of Hawaiʻi, realized the importance of setting aside public lands that could be sold to raise money for the government and also purchased for fee simple title by his subjects. Accordingly, the day after the division when the name of the last chief was recorded in the *Buke Māhele*, the King commuted about two-thirds of the lands awarded to him to the government (King n.d.). Unlike Kauikeaouli, the chiefs and *konohiki* were required to present their claims to the Land Commission to receive their Land Commission Awards (*LCAw*). The chiefs who participated in the *Māhele* were also required to provide to the government commutations of a portion of their lands in order to receive a Royal Patent giving them title to their remaining lands. The lands surrendered to the government by the King and chiefs became known as "Government Land." The lands personally retained by the King became known as "Crown Land." Lastly, the lands received by the chiefs became known as "Konohiki Land" (Chinen 1958:vii; Chinen 1961:13). To expedite the work of the Land Commission, all lands awarded during the *Māhele* were identified by name only, with the understanding that the ancient boundaries would prevail until the lands could be formally surveyed.

As the King and his *aliʻi* and *konohiki* made claims to entire *ahupuaʻa* and prized *ʻili kūpono* lands via the *Māhele*, questions arose regarding the protection of rights for the native tenants. To resolve this matter, on August 6, 1850, the Kuleana Act (also known as the Enabling Act) was passed, clarifying the process by which native tenants could claim fee simple title to any portion of lands that they physically occupied, actively cultivated, or had improved (Garavoy 2005). The Kuleana Act also clarified access to *kuleana* parcels, which were typically landlocked, and addressed gathering rights within an *ahupuaʻa*. Lands awarded through the Kuleana Act were and still are, referred to as *kuleana* awards or *kuleana* lands. The Land Commission oversaw the program and administered the *kuleana* as Land Commission Awards (LCAw) (Chinen 1958). Native tenants wishing to claim their lands were required to register in

writing with the Land Commission, who assigned a number to each claim, and that number (the Native Register) was used to track the claimant through the entire land claims process. The native tenants registering their *kuleana* were then required to have at least two individuals (typically neighbors) provide testimony to confirm their claim to the land. Those testimonies given in Hawaiian became known as the Native Testimony, and those given in English became known as Foreign Testimony. Upon provision of the required information, the Land Commission rendered a decision, and if successful, the tenant was issued the LCAw which conferred a less-than-allodial title (Barrère 1994). Finally, to relinquish any government interest in the property, the holder of a LCAw obtained a Royal Patent Grant from the Minister of the Interior upon payment of the commutation fee .

Prior to the *Māhele ʻĀina*, Mānana Ahupua'a is documented as being retained by Ruth Keʻelikōlani, the great granddaughter of Kamehameha. After her death, the *ahupuaʻa* was endowed to Kamehameha Schools by her heir, Pauahi Bishop (Kameʻeleihiwa 1992). However, as a result of the *Māhele* in 1848, a large amount of *konohiki* land in Mānana were awarded to *aliʻi*. A total of 72 Land Commission Awards were awarded, all within Mānana-iki. Additionally, 8 land grants were awarded. All of Mānana-nui (the upper portion of Mānana), a total of 1478.52 acres, was granted to Reymond, Joseph & Bernard, Louis in 1856 (Gr. 2060), including the land encompassing the current project area. A map drawn in 1887 of Mrs. B.P. Bishop estates record this grant (Figures 14).

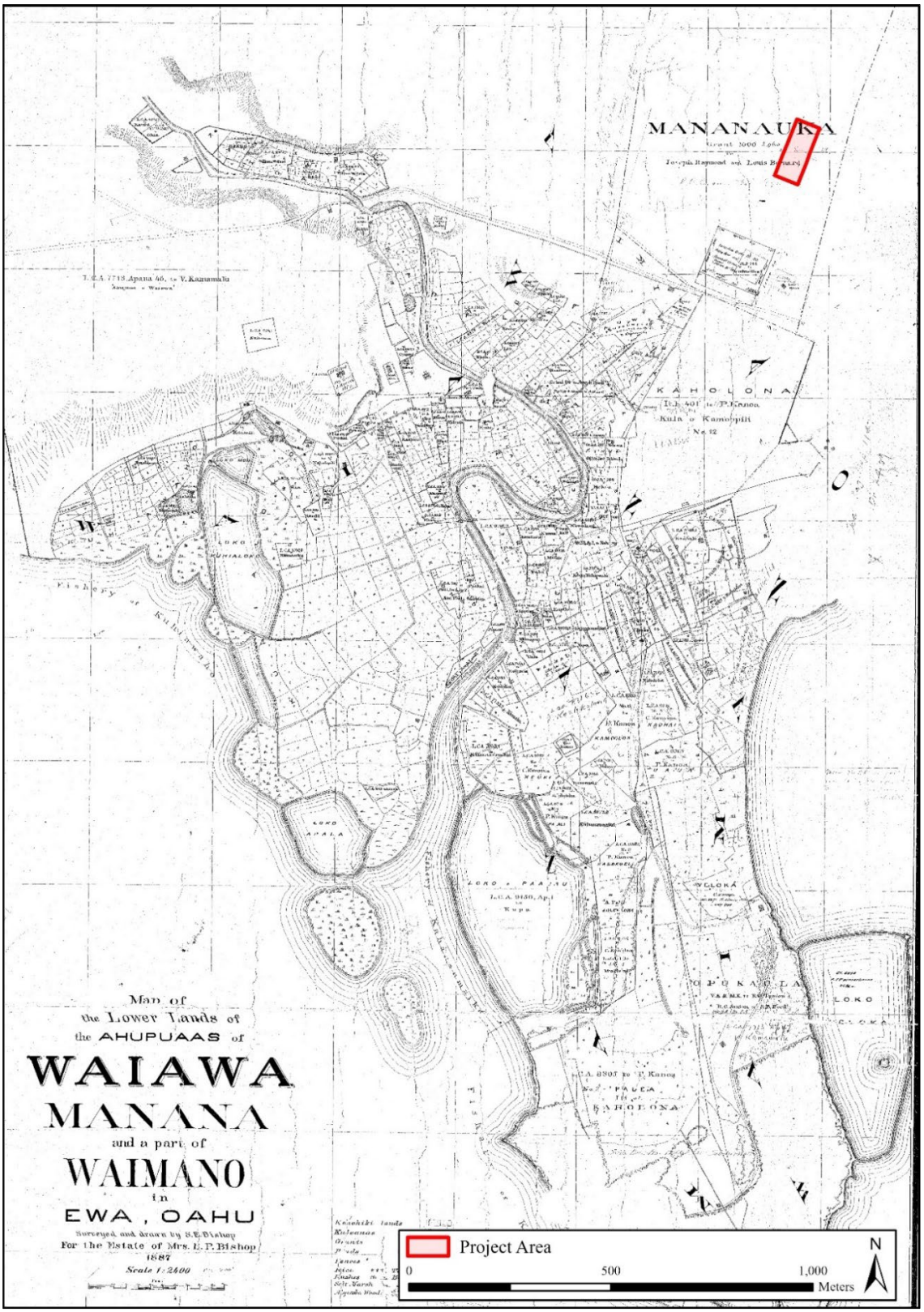


Figure 14. 1887 map of the estates of Mrs. B.P. Bishop depicting Grant 2060 which awarded all of Mananauka (Mānana-nui) to Reymond, Joseph & Bernard.

Early Military Interest in Pu‘uloa

Pearl Harbor was used by foreigners as a military seaport as early as 1794 when John Kendrick used his ships to fire canons for several days at invading warriors from Kaua‘i at the bequest of Chief Kalanikūpule of O‘ahu during the Battle of Kūki‘iahu. Kotzebue (1821), a Russian sea captain, heard the name “Pearl Harbor” from Kamehameha I in 1816, and upon inspection of the port noted its depth and breadth, writing that it should be improved by Europeans. In 1824 an expedition was organized to take soundings of the depths of Pearl Harbor by the *HMS Blonde* which arrived at Honolulu on May 3, 1825 (Byron 1826). In 1840 further survey of the harbor was conducted by Charles Wilkes of the U.S Exploring Expedition, who observed that:

> The inlet has somewhat the appearance of a lagoon that has been partly filled up by alluvial deposits. At the request of the king, we made a survey of it: the depth of water at its mouth was found to be only fifteen feet; but after passing this coral bar, which is four hundred feet wide, the depth of water becomes ample for large ships, and the basin is sufficiently extensive to accommodate any number of vessels. If the water upon the bar should be deepened, which I doubt not can be effected, it would afford the best and most capacious harbor in the Pacific. As yet there is no necessity for such an operation, for the port of Honolulu is sufficient for all the present wants of the islands, and the trade that frequents them (Wilkes 1845:79).

During the early to mid-19th century, profits from whaling, shipping, and agriculture were high and appeared irresistible to the governments of the United States, France, and Great Britain. However, American business interests were strongly represented in Hawai‘i’s legislature and were able to resist foreign pressures throughout the reign of both Kings Kamehameha III and IV (Stevens and Oleson 1894). Kamehameha V enlarged Hawai‘i’s legislature in 1864, and Hawaiian constituencies continued to support Hawai‘i-born foreigners to bolster the government against the aggressive interests of France and Great Britain. Furthermore, an increase in the immigration of plantation field workers to Hawai‘i, the influx of whalers, and the growth of mercantile industries to support the sugar industry resulted in direct pressure on the Kingdom government to form exclusive political and economic ties with either France, Great Britain, or the United States (Kamakau 1992).

By the second half of the 19th century, U.S. nationals residing in Hawai‘i began making serious efforts to secure Pu‘uloa as an exclusive United States (U.S.) naval harbor (Kuykendall 1953). According to a newspaper article titled “Honolulu and Pearl Harbor Vital Centers of America’s Power in Pacific,” beginning in the 1840s, members of the U.S. government made it clear to all European countries who showed any interest in occupying the Hawaiian Islands that the U.S. would not allow it (Evening Bulletin 1908:9). After earlier failed attempts to secure a treaty with the U.S., in 1875, King Kalākaua signed the Treaty of Reciprocity, which established a free-trade agreement between the Hawaiian Kingdom and the U.S. to allow Hawai‘i-grown sugar to enter the California market (Kuykendall 1967). Despite U.S. attempts to gain control over Pearl Harbor in exchange for the free-trade agreement, King Kalākaua refused to surrender sovereign control. However, amendments were made and the treaty was renewed in 1887, which allowed the U.S. to enter a section of Pearl Harbor and create a naval coaling and repair station. An 1872 map (Figure 10) by Lyons shows Kalauao Ahupua‘a and other landmarks such as *kahawai* (stream), *pali* (cliff), and *kuapā*.

Many Hawaiian nationals opposed the signing of a treaty and asserted that a treaty between the Hawaiian Kingdom and the U.S. would ultimately lead to cession or annexation (Kuykendall 1967). Then, as countries in Asia began to show interest, the U.S. shifted its focus to the east. As the Spanish-American war unfolded, the U.S. worked “to acquire the sovereignty of the Hawaiian Islands, both for the protection of the [U.S.] Pacific coast and in order to make it possible to maintain any naval base in the Far East” (Evening Bulletin 1908:9). The need for a mid-Pacific base highlighted the importance of Pearl Harbor and Hawai‘i. In 1898, under the administration of President William McKinley, the U.S. government approved a joint resolution of annexation that purportedly established the Republic of Hawai‘i as a U.S. Territory. On April 30, 1900, President McKinley signed the Organic Act which organized the Territory of Hawai‘i and defined the political structure of the newly established government (An Act to Provide for a Government for the Territory of Hawaii [Organic Act], 31 Stat. 141, 56th Cong. Sess. 1 [April 30, 1900] in Justice 2000). These events led to sweeping and long-lasting changes that altered the political, economic, and socio-cultural fabric of these islands. In 1899, President McKinley issued the first of several executive orders that set aside 15,000 acres of O‘ahu’s public lands for military use.

From 1903 to 1911, business tycoon Walter Dillingham was contracted to dredge Pearl Harbor, making the harbor deep enough to dock the largest ships in the U.S. fleet. In 1914, the U.S. Marine Corps barracks were moved from Honolulu to Pearl Harbor. As trade increased with Asia, the Navy was utilized to protect trade routes, catalyzing further development at Pearl Harbor. By 1917, the Oahu Sugar Co. surrendered its leasehold of Ford Island (also known as Mokuumeume and Poka Ailana) to the military and the U.S. built a small airfield on its southern end in

1919. Renamed Luke Field in 1920, the airbase became home to Pacific-based U.S. Army Air Corps squadrons. Pearl Harbor's facilities steadily grew as the U.S. expanded its influence over an increasingly turbulent Pacific theater. By the 1930s, the harbor had become a major industrial base for the U.S. Pacific Fleet, and other parts of O'ahu were developed as Army bases. The Pearl Harbor Navy Ship Yard (PHNSY) was effectively created when in 1908 the U.S. government purchased five miles of the entrance channel which they were already dredging (Downes 1953). In 1936, U.S. Navy officer, Dudley Knox wrote that the purchase was made for 693.47 acres from the Bishop Estate for $52,737.50; 25.83 acres from the John 'Ī'ī Estate (Ford's Island) for $3,000; and 562 acres from the Honolulu Plantation Company for $75,000, among others (Knox in Genz and Hammatt 2010). No additional information concerning the exact location of this acreage was located.

On December 16, 1911, the battleship *U.S.S. California* docked at the shipyard which ushered in the massive construction of facilities at the PHNSY was underway. Queen Lili'uokalani and Sanford Dole were guests on the ship as it sailed into the harbor. By the 1930s, over 42 million dollars had been spent on the construction of drydocks and service and supply depot facilities. By 1940, the vulnerabilities of the massive fuel tanks at Pearl Harbor were apparent. Construction of underground facilities at Red Hill in Hālawa Valley was undertaken to protect fuel storage. By the end of 1941 expenditures at Pearl Harbor were in the hundreds of millions of dollars. Following the December 7th attack by Japan, reconstruction was aimed at doubling the capacity of the harbor. A new ammunition depot was built in the mountainside at Waipahu, a new hospital in 'Aiea, and many more changes expanded the harbor to accommodate the massive aircraft carrier task forces (Woodbury 1946). A map from 1959 obtained from the collections of the University of Hawai'i at Mānoa library shows the extent of U.S. military occupation throughout O'ahu including demonstration that the current footprint was formerly a part of the Manana Naval Supply Center (Figure 15).

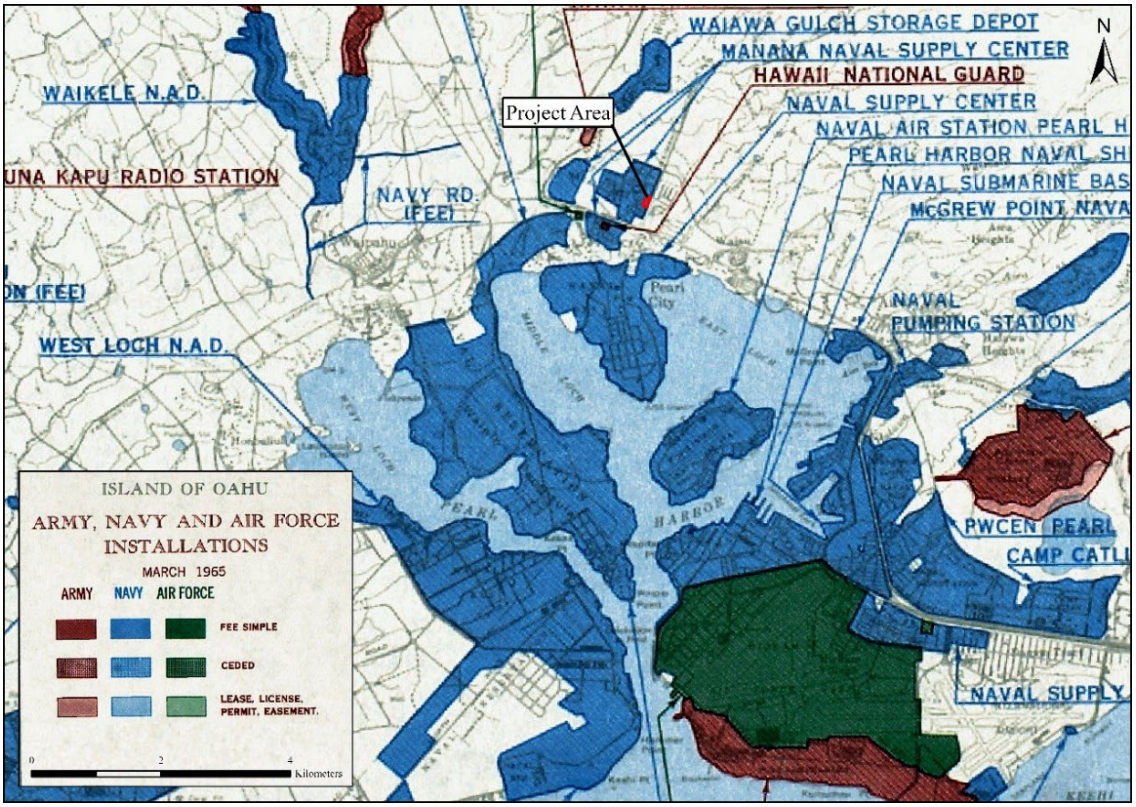


Figure 15. A portion of a 1959 map from the collection University of Hawai'i at Mānoa library showing the extent of U.S. Navy, Air Force, and Army operations in the 'Ewa region illustrated respectively in blue, green, and red.

From *Lo'i* Kalo to Rice Patties, and Fishpond Productivity

Coinciding with the development of Pu'uloa as a military defense station during the 19th century was the transformation of 'Ewa's lowlands surrounding Pearl Harbor. In 1852 the first migrant contract laborers from China settled in the islands to work on the sugar plantations on a five-year contract. Upon completion of their contacts, some

contract laborers opted to stay in the islands and take up other industries. With the increase in Chinese laborers in Hawai‘i and aboard including California, a market for rice—a staple crop of the Chinese diet—soon developed (Coulter and Chun 1937). Chinese laborers, some of whom were well acquainted with the age-old methods of rice production found the climatic conditions of the islands most favorable for rice cultivation. Furthermore, the declining native population and the abandonment of once-flourishing taro lands made establishing a legitimate rice market possible. In 1858, H. Holstein, a horticulturalist with the Royal Hawaiian Agricultural Society led some of the first efforts to market Hawai‘i-grown rice and in 1862 some 300 tons of rice was exported. The Chinese laborers quickly moved and developed rice into a marketable industry. After a few years, Chinese rice farmers transformed former *kalo* lands, as well as swamps, and marshes into flourishing rice patties. By 1875, an estimated 1,000 acres of rice were under cultivation on O‘ahu and this number increased nearly tenfold by 1909 (Glick 1980). According to (Coulter and Chun 1937:11), most of ‘Ewa’s rice production was “…near sea level—undrained areas at the mouths of streams: lowlands, which could be reclaimed without great expense.” In 1882, Frank Damon, toured the ‘Ewa region and penned the following account:

> A few miles out from town the rice plantations begin, and form a fringe bordering the shore for a long distance. This is the season for planting the rice, and the men are busy in the marshy fields from early morning till evening. The wide expanses lying at the foot of the valleys are just now beginning to be covered with the tender shoots of the rice, which in a few weeks will grow into a swaying luxuriant mass of verdure. It requires a steady hand and considerable balancing to run along the narrow foot paths separating the fields, for every available inch of ground seems to be utilized…
>
> But for the Chinese, Ewa would be indeed a desolate plate. The natives seem to have disappeared from the face of the land. But the former nationality have entered in most emphatically to possess the land and their rice fields stretch in every direction. The large native Church stands sad and solitary on the hill, a mute and eloquent reminder of other days. (Damon in Glick 1980:41)

By 1892, there were an estimated 76 acres of land dedicated to rice farming in Kalauao and ‘Aiea with another 262 acres in Waiau, Mānana, and Waiawa (Coulter and Chun 1937). As rice production increased throughout the second half of the 19th century, rice mills and granaries were established, first by Caucasians in the 1860s, then by Chinese in the 1870s. Glick (1980) reported on Young Ah In (Y. Ahin) who held rice plantations in Honolulu and ‘Ewa and went on to become one of the leading Chinese figures in the rice industry. Arriving in Hawai‘i from Chung Chan province in 1872 at the age of nineteen, Ahin began his career as a truck gardener near Honolulu but soon switch to rice cultivation. With several relatives, Ahin opened Tung Sun Wai Plantation at Pālama then increased his production acreage to about seven hundred acres in Waikīkī and Pāwa‘a. As Glick (1980:50) reported:

> Rice plantation which he [Ahin] controlled or for which hew was agent were located on Oahu at Palama, Waikiki, Moanalua, Halawa, Waipio, Kalauao, Waipaau, and Kawaihapai; and on Kauai, at Hanalei. Two rice mills were established, one in Palama and the other at Ewa.

The lower lands of Mānana are recorded as being dominated by Chinese rice farmers at the end of the 19th century as is depicted in a 1901 map of Pearl Harbor drawn by H.E. Newton which shows the extensive cultivation of rice and kalo along the coast of Pearl Harbor (Figure 16) (Farley et al. 2018). Rice production peaked during the turn of the 20th century and Chong (1998) reports that in 1890 “more than ten million pounds of rice were exported, raised on sixteen thousand acres of rice paddies” in the area, which marked the peak of Hawaiian rice production and ranked Hawai‘i as the third largest U.S. rice producer behind Louisiana and South Carolina. However, by 1909, the rice industry was rapidly declining. Despite pleas to the U.S. Congress to allows for more Chinese laborers to enter Hawai‘i to address the labor shortage, California quickly surpassed Hawai‘i in rice production. Many of Hawai‘i’s Chinese rice planters entered into other occupations such as fishing or returned home. Some of them also subleased their lands to Japanese contract laborers (who arrived in 1885) to grow rice and soon the Japanese laborers also took over operations in many of O‘ahu’s rice mills and granaries. By the 1930s, Hawai‘i’s once flourishing rice industry was a thing of the past.

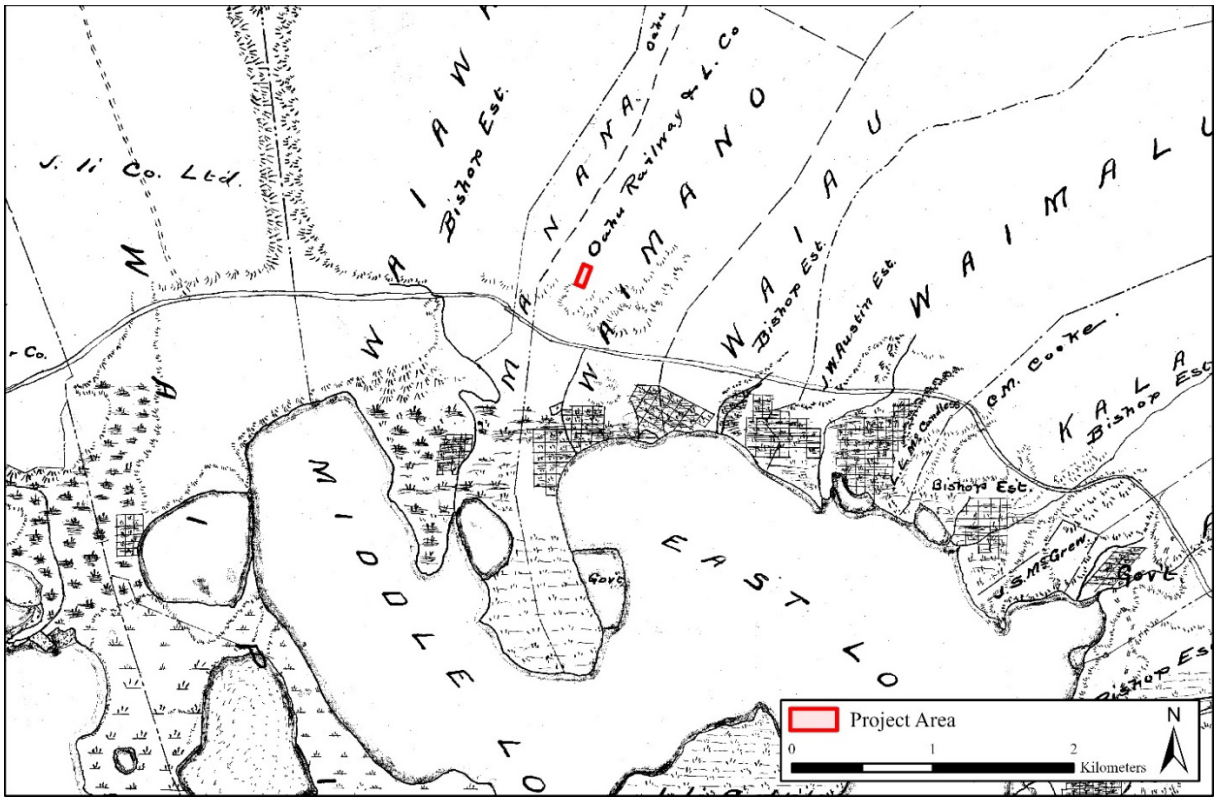


Figure 16. 1901 map of Pearl Harbor depicting rice and taro fields along the coast.

In addition to taking up rice farming, some Chinese laborers also took up fishing. ʻEwa's shoreline areas which included vast wetlands and aquacultural complexes consisting of fishponds and fish traps were taken up by Chinese laborers. The lowlands of Pearl Harbor were very similar to the south Canton delta regions from where some of these settlers originally hailed. Thus, the Chinese were skilled at growing taro, sugar, and rice in these areas, simultaneously using their aquacultural methods to effectively adapt and raise fish in the existing fishponds and fisheries around the area (Rainalter et al. 2005). During the remainder of the 19th century, the five ponds still in operation, in addition to a handful of smaller ones, were leased to and managed by the Chinese who cultivated a variety of fish, crabs, and ducks. As reported by Chong (Chong 1998:101, 103)

> On the peninsula east of Waipahu towards Waiawa, fronting Leeward Community College, stood three large ponds, Loko Paʻauʻau [in Mānana], Loko ʻApala, and Loko Kuhialoko and numerous minor family ponds of ancient Hawaiian land awards. Of these smaller ponds, three belonged to R. Keelikolani and were leased in October 1879 to Akana (Wong Gun), Aki (ah Chee), Ahuna, Ah Sung, and Ah Choy for $275 a year…Lee Kim Chen…had two smaller ponds near the old Loko Moʻo on the Waiau side, where in one brackish pond he raised mullet, other fish, crabs and ducks. In the second freshwater pond, he raised beautiful goldfish and *lee ngee* or carp.

A March 15, 1897, article published in *The Honolulu Advertiser* reported the return of shellfish in ʻEwa waters after a nearly 20-year hiatus (Figure 17). Portions of the article has been reproduced below:

> Pipi, okupe and makamoi—these are them, but to study into their history the last 20 years—as the old natives tell it, have not been seen in Hawaiian waters. Their home when last seen was at Ewa, and to that home they have returned…To look at them casually, one would not attach much importance to them, but to study into their history and to hear the tales the old grey-haired natives relate about them is at once to become enthused with an interest that is only satisfied when all that can be is learned…
>
> Early yesterday morning several natives arrived at the Fish Market, from Ewa, bringing with them a small quantity of pipi and okupe. These they gave to Fish Inspector Keliipio, telling him of their sudden appearance after a very long absence. A young man in the party who has lived in Ewa all

his life, told of how he had been astonished at seeing a new kind of shellfish appear there. Evidently, they disappeared before he was born.

Mr. Keliipio learned that not more than 20 or 30 of each kind had been gathered, as these were all that could be found. (The Honolulu Advertiser 1897).

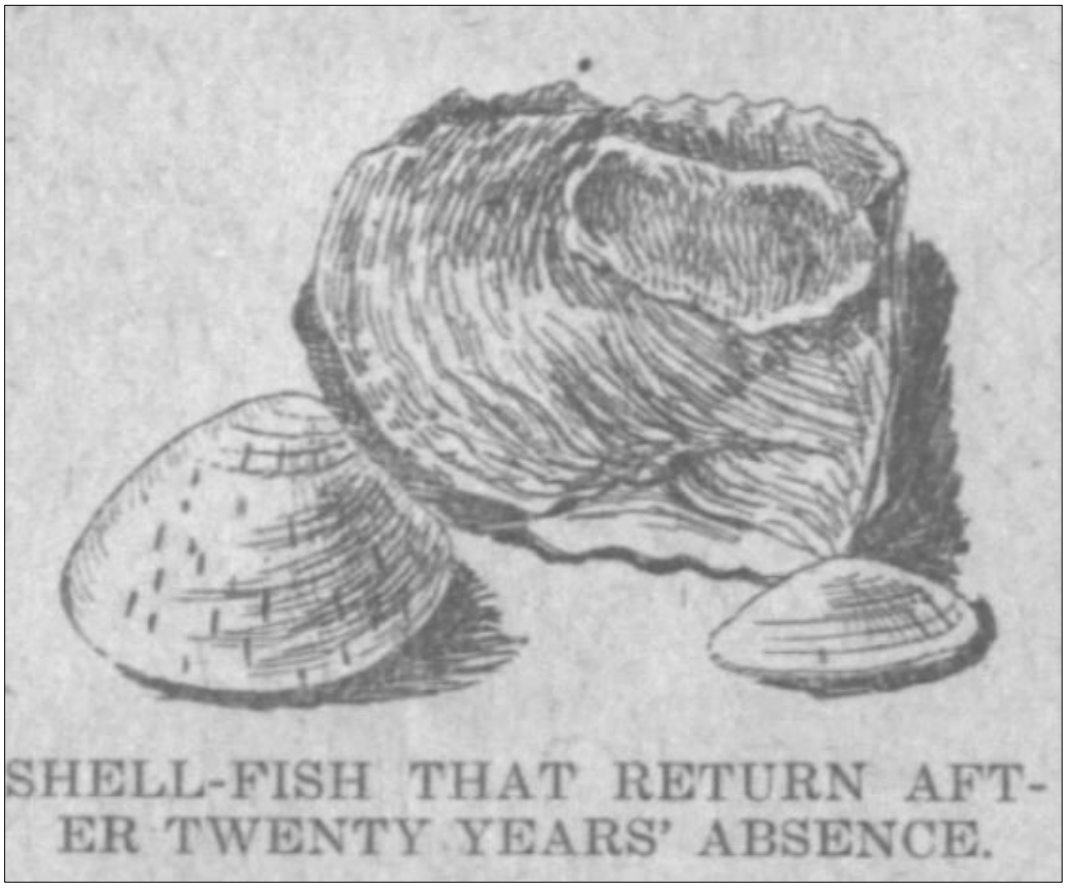


Figure 17. Artistic rendering of the shellfish that reappeared in ‘Ewa’s waters in 1897 (The Honolulu Advertiser 1897).

The wane of *ali‘i* power and the changing political-economy throughout the 19th century and onward likely led to the demise and disrepair of these once-royal fishponds (Chong 1998). Despite its demise, dredging the activities at Pearl Harbor during the 1920s revealed incredible finds regarding some of ‘Ewa’s traditional aquacultural methods. While dredging a portion of Pearl Harbor in 1928, constructions workers uncovered what was described as a “sunken forest.” This “sunken forest” were, however, the remnants of a fish trap built during the 14th century according to David Kupihea, a commercial fisherman and authority on the history of fishing throughout the Hawaiian Islands (Star-Bulletin 1928:3). The article, which is reproduced in its entirety below describes Kupihea’s detailed description of the fish trap as well as its historical associations with certain *ali‘i*:

> The “sunken forest” dredged up in the Pearl Harbor channel Tuesday, discovery of which is said to have caused much speculation locally on the geological history of the ocean floor in that section of the remnant of a fish trap built in the 14th century, according to David Kupihea…
>
> Kupihea has a drawing of the trap made by himself while a student at the Royal school prior to annexation. The drawing, he states, was made to visualize a description of the trap by his grandfather, who repeated the story of its construction as it had been handed down to him through several generations of fishermen. The grandfather, named Noa, was overseer of fisheries under King Kalakaua.
>
> Kupihea’s drawing shows a large, somewhat circular, enclosure more than four acres in area. Protruding from this is a long channel leading to a smaller enclosure a quarter of an acre in size.

> There are two traps, or entrances, for fish. One leads to the main enclosure at the makai side and is labeled pa-niau, or leader trap. The other trap separates the small enclosure from the larger one. It is marked hano, or small trap.
>
> The channel leading to the small trap runs makai from the circle of the main enclosure and is paralleled by a curved wall running outward from the opposite edge of the trap.
>
> According to the author's description, fish carried out with the tide were swept into the big pocket through the main trap, smaller fish continuing to the smaller enclosure later. In this way nehu, iau, mullet, and other small fish were segregated from sharks and ulua, he said. Shadows cast by the sun also scared fish into the traps.
>
> The wood dredged Tuesday was a part of a trap built about 1350 by King Mailekukahi [Māʻilikūkahi] to supply fish for the army and population of Oahu. Reminded that types of wood not found in Oahu were dredged up, Kupihea said that much of the wood was brought from Hawaii. This was done at the command of King Liloa, he said, a monarch who was friendly to the Oahu ruler and assisted him in the work.
>
> According to the story handed down to Kupihea, there are 17 kinds of wood in the trap, many species of which will be found on Hawaii but not here.
>
> This same trap was rebuilt about 1795 by one Holowai, konohiki nui of Kiholo, North Kona in charge of food supplies for King Kamehameha I, Kupihea says.
>
> The trap in question was one of the biggest and most important along the shoreline toward Pearl Harbor. There were many others in more shallow water, but none larger in deep water.
>
> Another near where the coal station and naval hospital now stands was called papioulua. Near Ford island was a third, halawa, for smaller fish.
>
> This was not the first "shark pen" built by Hawaiian here, the fisherman maintains. Many more stone pens antedate that uncovered by the dredges this week. Just when they were built is not known, although boulders used in them are known to have been transported from Waipio. By what method is also not known.
>
> Some of the timbers that form the walls of the pen will be found to be 18 inches thick, Kupihea states. They were sharpened and driven into the sand and loose coral. Coconut leaves added to these made the walls safe against the escape of fish. Building of each pen represents years of labor, the fisherman states.
>
> In these traps large quantities of fish were imprisoned and scooped out when needed. They were the principal source of fish supply for many centuries.
>
> The discovery of the wood was made by a dredging crew working under William F. Wilt, senior inspector of construction on the job. Pieces of wood were embedded in the much in 40 feet of water, he reported. Most of the pieces were well preserved despite the centuries that have passed since they were cut.

During the 1920s, Kupihea was particularly active in the Territorial Legislature where he advocated for the restoration and utilization of traditional Hawaiian fishponds. In another article authored by Kupihea in 1919 and published in the *Honolulu Star-Bulletin,* he felt that more cooperation was needed between the various departments of the Territorial government and federal authorities to increase fish production to supply local markets. Kupihea's intimate knowledge of the production capacities of traditional fishponds in most apparent in this 1919 article. Portions of Kupihea's article that make explicit reference to the Pearl Harbor area are quoted below:

> The great fishery of Pearl Harbor can supply the best mullets all the year around. Part of this great fishing is controlled by the army and navy.
>
> The fishery of Halawa-kai, Puʻuloa (Pearl Harbor), controlled by the United States government (being the fishery reservation off Fort Kamehameha), supplied the most fishes in the local markets during the war periods of 1917-1918 and right up to date the records show (market). The baitless wire baskets were mostly used at that time. At the beginning of this year a few of the pound traps were set up. At the present time there are several of them set up at different locations, and all are doing well and the local markets are well supplied, the public know. Most of those weirs which are now operated are not the best. The best type and of the best material will be installed and the best operators and expert fishermen shall be obtained to handle them.

> I don't care what anybody says, the free operation of these fish traps, such as the weirs and pound traps and the stocking of fish ponds by the operator of weirs and pound traps, the people of Honolulu will enjoy the fishermen's catches at reasonable prices in the future, and beat down Mr. H. C. L. (Kupihea 1919)

Whereas rice production was limited to the wet lowlands and marsh areas and fishing occurred along the coastal areas, sugarcane and all of its supporting infrastructure began to dominate the drier regions and upper plateaus of ʻEwa, including the lands surrounding the current project area.

Oahu Railway and Land Company and the Growth of Commercial Sugar in ʻEwa

In 1865, a young Massachusetts-born sailor names Benjamin F. Dillingham broke his leg while horseback riding in Nuʻuanu and was forced to begin a new life in Hawaiʻi (Yardley 1981). Dillingham became a businessman who transformed the economy of the islands in the pursuit of mass production of cash crops like sugar, pineapple, and a railroad system. In 1889, Dillingham organized the Oahu Railway and Land Company (OR&L), the fate of which would prove to be inexorably linked to that of commercial sugar in ʻEwa. During the late 1880s, Dillingham promised investors that he would connect Honolulu with Pearl Harbor by means of a steam railroad. Although railroads largely associated with the sugar industry were already in operation on Hawaiʻi Island, Oʻahu was undeveloped in comparison and the ʻEwa region was not yet known as a sugar production area (Yardley 1891). Furthermore, according to Yardley (1981:130), "the great dry plains of Ewa produced nothing but cattle and firewood." The main landholders in ʻEwa were amenable to the planned railroad and the promise of increasing the value of their land holdings. On March 8, 1889, the groundbreaking for the railway took place at Moanalua near the intersection of Middle Street and Kamehameha Highway (Yardley 1981). By 1890 a route between Honolulu and Pearl City (Mānana) was laid and in 1895 the route into Waiʻanae was set up. In 1898 and 1899 a connector line between Waialua Plantation and Kahuku and ʻEwa was put up (Kuykendall 1967).

The demand for Hawaiʻi-grown sugar increased significantly during the U.S. Civil War, as a consequence of the U.S. boycott of sugar from Southern states. During 1860 to 1866, sugar exports increased by approximately 175 percent each year (Mason Architects 2018: 2). For instance, in 1861, Hawaiʻi produced 572 tons of sugar and, in 1864, production had exponentially increased to 8,865 tons (Lal et al. 1993:47). Despite escalating production, the demand for sugar continued to outpace production, and these operations were a continual struggle for plantation owners. Hawaiʻi sugar production increased after the passage of the 1875 Treaty of Reciprocity. A mass workforce was needed for these projects, bringing to the islands populations of people from across the world (MacLennan 1997).

In the 1887, Dillingham shifted his focus on developing portion of James Campbell's 60,000 acres in ʻEwa into sugar plantations and constructing a wharf in Honolulu Harbor to accommodate ships loaded with sugar for export, as well as imported goods. Sugar, rice, and pineapple plantations were developed with concomitant infrastructure in the form of railways and more developed ports for larger sea going vessels capable of exporting goods. Unlike other parts of Oʻahu, the development of sugar as an industry in the leeward parts of ʻEwa was largely hampered by scant annual rainfall which delayed crop growth and the cost associated with constructing irrigation ditches that would transport water to the fields . However, the economic potential for developing profitable sugar plantations was revealed in July 1879, when James Campbell contracted John Ashley, who successfully drilled the first artesian well in Honouliuli, which Hawaiians had named Waianiani (The Honolulu Advertiser 1956b).

The availability of freshwater allowed for the expansion of sugar into the more arid parts of ʻEwa and the eventual establishment of several commercial sugar plantations, including The Ewa Plantation, the Oahu Sugar company and the Honolulu Plantation: The Ewa Planation was located largely within Honouliuli and Hōʻaeʻae Ahupuaʻa in the western portion of ʻEwa, The Oahu Sugar Company (OSC) was located upland of the Ewa Plantation and in the central section of the district and lastly, The Honolulu Planation was situated in the eastern section of ʻEwa and included the land surrounding the current project area.

The Honolulu Plantation, founded in 1899, had roughly 1,400 of acres planted cane between Waimano and Kalihi, including in a large portion of Mānana; it was further described as: "distinctly an annexation plantation, the youngest on Oahu, but its boundaries included lands that were planted to cane back in the [18]50s and early [18]60s" (Honolulu Star-Bulletin 1935). By 1935, Honolulu Plantation included "5,500 acres of leased cane lands and 1,000 acres of pasture and waste land, together with 83 acres of land owned in fee simple" (The Honolulu Advertiser 1946). The Honolulu Plantation was entirely dependent on irrigation and took water from artesian wells along the shores of Pearl Harbor, using pumps to reach the highest planted areas at 500 feet in elevation.

While sugar cane cultivation took over much of ʻEwa District and much of Mānana Ahupuaʻa in the late 19th and early 20th centuries, it is unclear if the current project area was cultivated with sugar cane. A 1902 Hawaii Territory

Survey map by Walter E. Wall shows the project area just south of the western most fields of Honolulu Plantation and above wetland used for rice and taro cultivation (Figure 18). An undated map of Honolulu Plantation similarly depicts the project area as surrounded by land owned and cultivated by Honolulu Plantation sugarcane (Figure 19). Both maps depict the project area within the developing Pearl City. However, a 1928 aerial image depicts the project area as having no urban infrastructure (Figure 20). However, a small neighborhood is visible south of the project area. Thus, the depiction of parcels and streets on the 1902 map of Oahu and the undated map of Honolulu Planation lands is interpreted as planned development rather than existing infrastructure. From these maps and aerial imagery, the project area appears as existing within the vicinity of the Honolulu Plantations western most fields and may have been cultivated with sugarcane at some point.

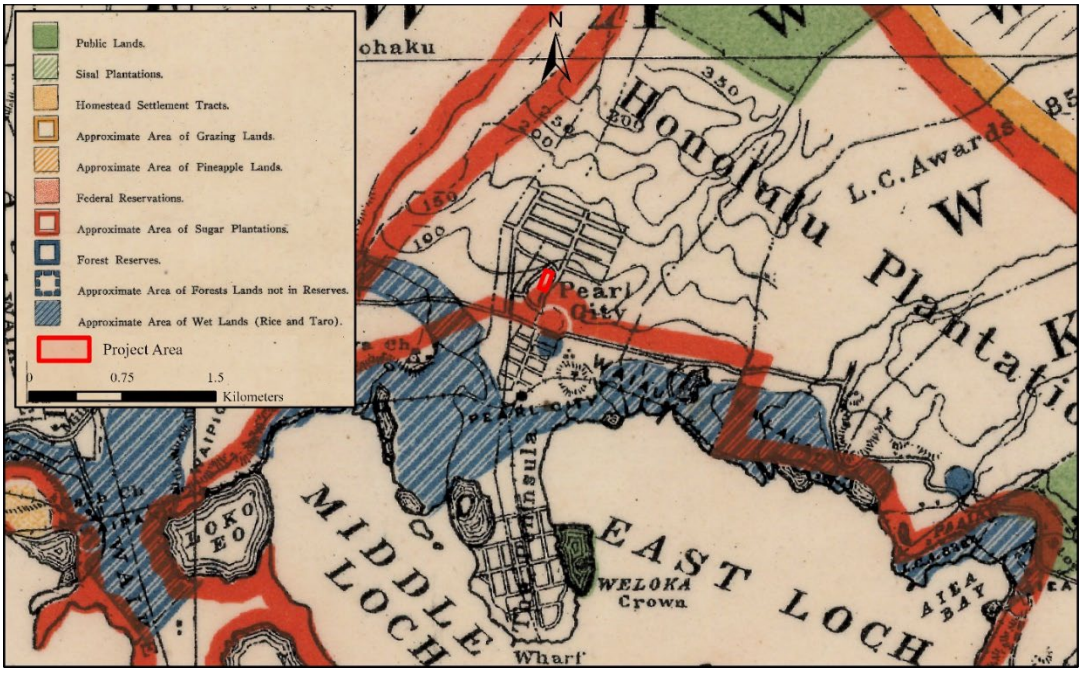


Figure 18. Portion of a 1902 map of O‘ahu by J.M. Donn showing land use in ‘Ewa (UH Mānoa Evols Hawaii Government and Territory Survey Maps).

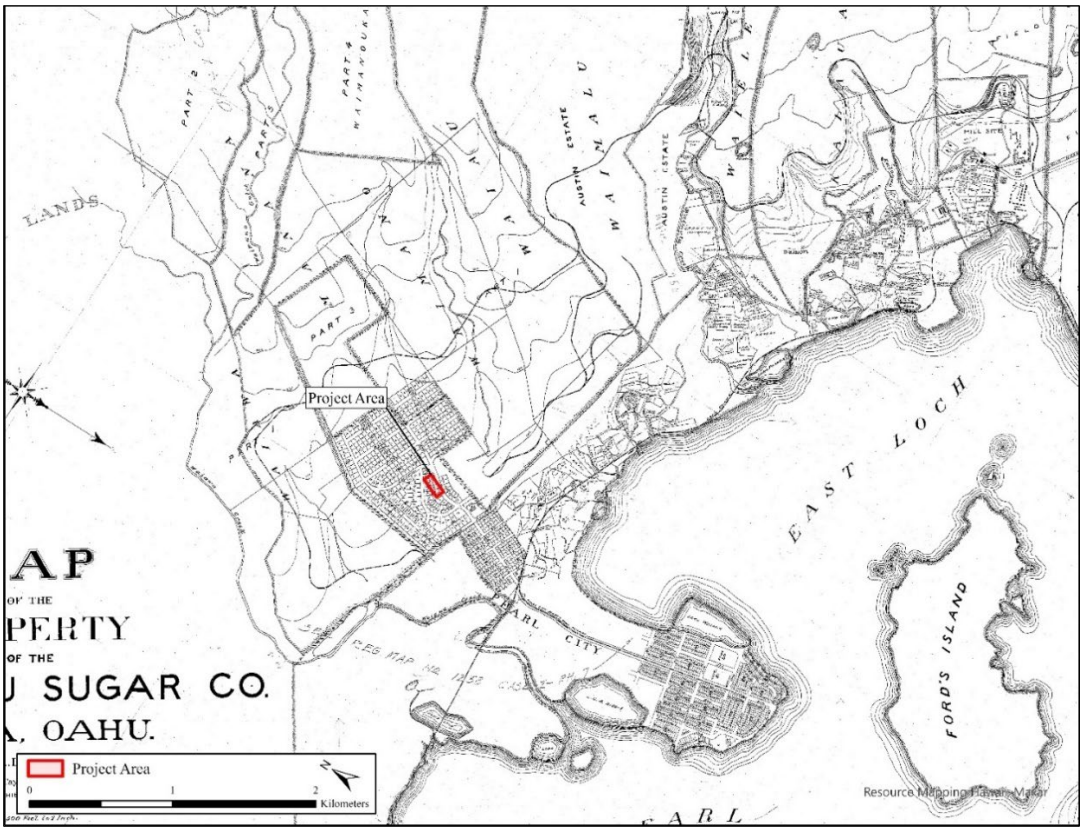


Figure 19. Undated map depicting Honolulu Plantation Lands.

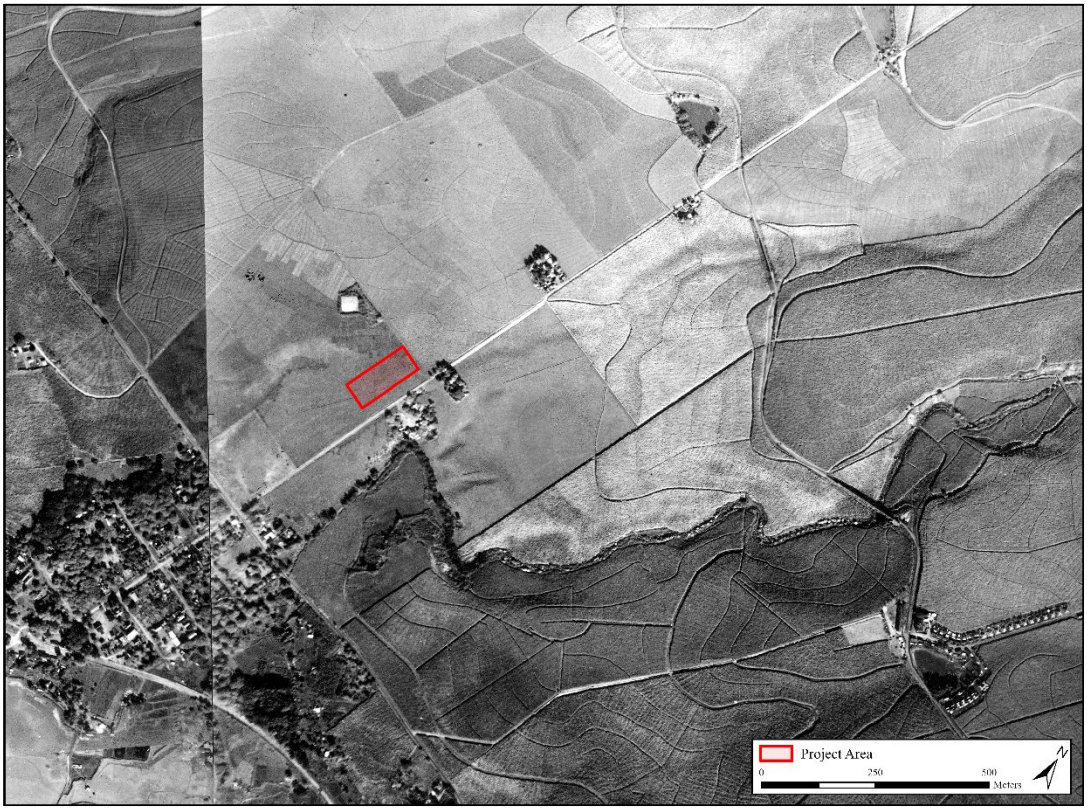


Figure 20. Collage of aerial images from 1928 depicting the project area.

In 1947, Oahu Sugar Company (OSC) bought Honolulu Plantation in its entirety. However, sugar cultivation soon declined "as its most productive lands were lost to the army and navy for home and business development as Honolulu expanded in the direction of Pearl Harbor" (The Honolulu Advertiser 1946). As commercial sugar cultivation fell by the wayside, residential and commercial development associated with the population influx of military personnel and their families took over in Mānana as was happening across O'ahu.

WORLD WAR II AND BEYOND

During World War II, Pearl City Peninsula served as a storage area for the US Navy. The facility was comprised of three one story warehouses, a railroad, an oil drum shed and a marine guard building. The Manana Naval Supply Center, built north of the peninsula, was also built between March and September 1944 and served as a spare parts distribution center and a supply depot. The spare parts distribution center consisted of 18 warehouses and the supply depot consisted of 20 warehouses (United States Bureau of Yards and Docks 1947:128). Aerial imagery from 1944 and 1952 depict the project area within the boundaries of Manana Supply Center (Figure 21 and 22). Several small rectangular warehouses are visible within the footprint of the project area.

Following WWII, the lower lands of Mānana remained part of the Naval Reservation and were used primarily for military family housing. The Manana Naval Supply Center continued to operate after World War II as a supply center as Pearl City quickly developed with residential and commercial properties. Aerial imagery from February 1968 demonstrate that buildings associated with the Manana Naval Supply Center existed within the project area until the construction of the library later that year (Figure 23). The last 4.35 acres of the Manana Naval Supply Center located northwest of the project area was deemed surplus by the federal government in 1976 and subsequently, was given to the City and County of Honolulu for the development of Mānana-Kai park (Honolulu Star-Bulletin 1976a; Honolulu Star-Bulletin 1976b). Today, much of the Pearl City Peninsula is occupied by the U.S. military while the area surrounding the current project area and immediately above Pearl City Peninsula consists of residential and commercial properties.

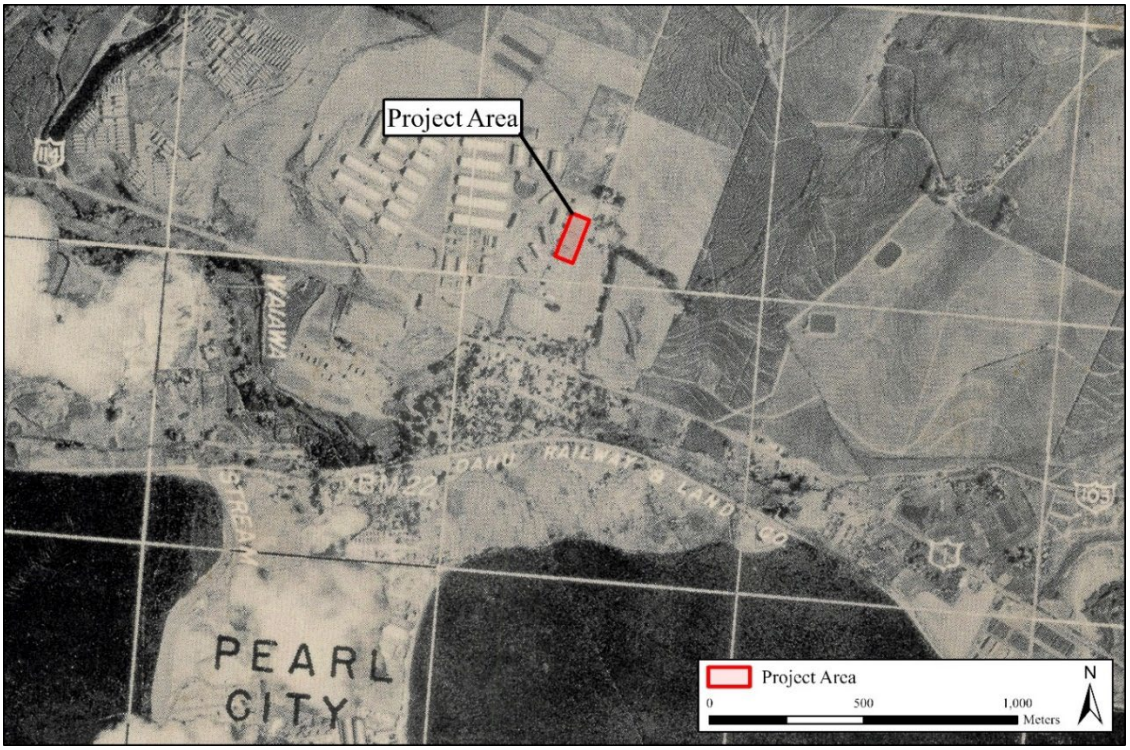
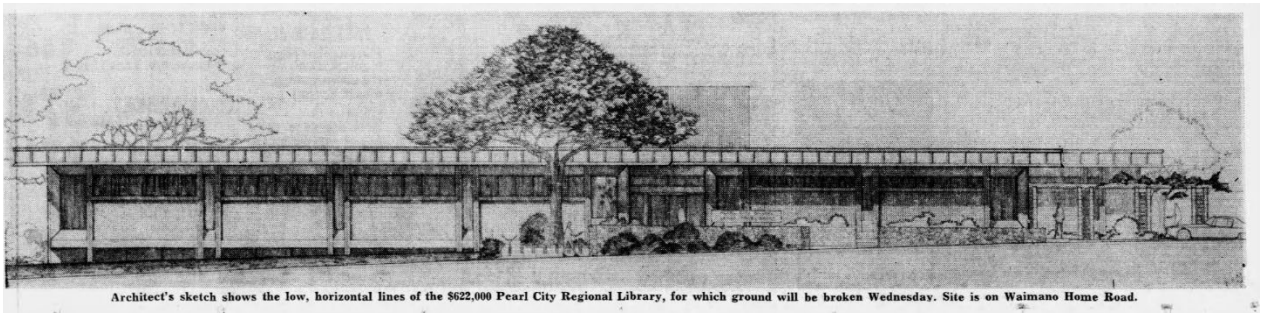


Figure 21. Aerial images from 1944 depicting the project area within Manana Supply Center.

Figure 22.1 Aerial images from 1952 depicting the project area within Manana Supply Center and the growth of Pearl City.

Figure 23.1 Aerial images from Feb 1968 depicting the project area prior to the construction of the library.

In August 1968, work began on the construction of Pearl City Regional Library with a groundbreaking ceremony (The Honolulu Advertiser 1968). The library was designed by Arthur Kohara and consisted of 16,000 square foot single story building that featured "textured concrete [exterior] walls, with narrow rock trim and strip windows" (Figure 24; Honolulu Advertiser 1968:28). The library cost a total of $622,000 and was intended to serve the entire leeward side of Oʻahu, which at the time consisted of 150,000 residents. The library was dedicated and officially opened in November 1969 (Honolulu Star-Bulletin 1969). Newspapers leading up to its opening boasted that the library would be stocked with 120 periodical, 75,000 books, microfilm readers, electrified carrels, and a moveable projector and screen (Honolulu Advertiser 1968:28; Honolulu Star Bulletin 1969:30). Since its opening in 1969, Pearl City Public Library has remained one of the largest public libraries on Oʻahu.



Architect's sketch shows the low, horizontal lines of the $622,000 Pearl City Regional Library, for which ground will be broken Wednesday. Site is on Waimano Home Road.

Figure 24. Sketch of Pearl City Regional Library by architect Arthur Kohara (Honolulu Advertiser 1968:28).

PREVIOUS ARCHAEOLOGICAL AND CULTURAL STUDIES

Only one previous archaeological study, the field inspection for the current Pearl City Public Library Expansion project (Belluzzo 2023), has been conducted within the extant of the current project area. However, 15 archaeological and 2 cultural studies have been conducted within the nearby vicinity of the subject parcels. This section describes these studies to develop a comprehensive understanding of potential archaeological and cultural sites which may be extant within the project area (Table 1 and Figure 25)

Table 1. Previous Archaeological and Cultural Studies Conducted in the Vicinity of the Project Area

Year	*Author*	*Type of Study*	*Results*
1933	McAllister	Island-Wide Survey	Identified Site -114, Kukona pond, Site -115, Loko Luakahaole, Site -119, Loko Kuhialoko, Site -120, Loko Mo‘o
1980	Connolly	Archaeological Reconnaissance	No historic properties identified
1988	Pietrusewsky & Mahoney	Osteological Report	Remains of six individuals inadvertently discovered during construction at Leeward Community College
1990	Kaschko	Field Inspection and Subsurface Survey	Identified formal cemetery and located 12 human burials
1995	McGerty and Spear	Archaeological Assessment	No historic properties observed
1998	Hammatt & Chiogioji	Archaeological Reconnaissance	No historic properties identified.
1998	Rechtman & Henry	Archaeological Reconnaissance	No historic properties identified
2003	Dega & O’Rourke	Archaeological Evaluation of environmental samples	No historic properties identified
2008	Groza et al.	Archaeological Inventory Survey	SIHP Site 50-80-07-6918., remains of military barracks and hospital.
2010	Hammatt	Archaeological Inventory Survey	SIHP Site 50-80-09-7751, subsurface deposit of *lo‘i* sediments
2011	Cruz et. al.	Cultural Impact Assessment	Minimal impact on cultural sites.
2012	Sroat et al.	Archaeological Inventory Survey	Identified SIHP Site 50-80-09-7150, *lo‘i* remains
2013	Sroat et al.	Archaeological Inventory Survey	No historic properties identified
2016	Yucha et al.	Archaeological Monitoring Report	No historic properties identified
2019	Gotay & Rechtman	Archaeological Inventory Survey	SIHP Site 50-80-09-8778, historic agricultural station
2020	McElroy et al.	Cultural Impact Assessment	No impact on cultural resources
2021	McElroy et al	Archaeological Inventory Survey	No historic properties identified
2023	Belluzzo	Field Inspection	No historic properties identified

In the first island-wide reconnaissance survey of Oʻahu, McAllister (1933) recorded 4 sites near the current project, Site -114: Kukona pond, Site -115: Loko Luakahaole fishpond, Site -119: Loko Kuhialoko and Site -120: Loko Moʻo. All these sites are located on the northern portion of Pearl City Peninsula, approximately 1.3 km southwest of the current project area. According to Sterling and Summers (1978:48), Site -114, -115 and -119 have been filled in completely, while Site -120 was mostly filled in and is now a very small pond.

In 1980, Archaeological Research Associates conducted an archaeological reconnaissance survey at Manana Kai Neighborhood Park, located 0.5 km west of the current project area (Connolly 1980). Pedestrian survey found no historic properties within the survey area and that the parcel had been modified by historic development in the area. In 1988, the Department of Land and Natural Resources recovered human skeletal remains of at least 6 individuals at a construction site located on the campus of Leeward Community College, approximately 1.5 km from the current project area (Pietrusewsky and Mahoney 1988).The remains were delivered to the Physical Anthropology Lab at the University of Hawaiʻi at Mānoa where they were further analyzed. Items found with the remains include a clear round glass disk thought to be part of a lantern and fragments of red cloth. The remains were interpreted as being of East Asian ancestry.

International Archaeological Research Institute, Inc. (IARII) conducted a field inspection and concurrent subsurface testing of a parcel located in Pearl City (TMK: [1] 9-7-019:010) to test for the presence or absence of unmarked human burials (Kaschko 1990). The field inspection recorded the presence of 4 to 5 intact graves within the western portion of the parcel. Additionally, a large concrete cross and 14 head stones with dates ranging from 1900 to 1908 were observed in the southwest corner of the property. The subsurface testing identified an additional 7 subsurface burials located on the parcel. Only one burial displayed evidence of being disturbed or disarticulated. Kaschko (1990) concluded that the property was likely a "formal graveyard or cemetery burial arrangement" due to the standardized grave orientation and the regular and consistent location of the burials.

In 1995, Scientific Consultant Services completed an archaeological assessment of 138.50 acres located at the juncture of Mānana Ahupuaʻa and Waiawa Ahupuaʻa, located immediately west of the current project area (McGerty and Spear 1995). The field inspection observed no historic properties located in the area.

In 1998, Cultural Surveys Hawaiʻi (CSH) conducted a survey of a 7.6 km long portion of H-1 Highway from Hālawa to the H1-H2 Interchange at Wahiawa (Hammatt and Chiojioji 1998). No surface archaeological sites or features were observed along the highway corridor. However, several buildings that may be eligible for the National Register of Historic Places or Hawaiʻi Register of Historic Places were observed in Pearl City including wood-frame houses, Pearl City Fire Station, and Pearl City Hongwanji.

In 1998, Paul Rosendahl, Ph.D., Inc. (PHRI) conducted an archaeological reconnaissance survey of the Red Hill Fuel Storage Area and the Ewa Drum Filling and Fuel Storage area (Rechtman and Henry 1998). No archaeological properties were observed. However, six historic/modern features were observed, including three concrete slabs, a concrete wall associated with a concrete box, an excavated depression, and an earthen mound. These features were interpreted as related to World War II military infrastructure or related to later military facility construction. However, they were determined to have not retained their original integrity and therefore, are not considered significant.

In 2003, Scientific Consulting Services (SCS) conducted an archeological evaluation of field data recovered during environmental sampling at Neil Blaisdell Park (Dega and O'Rourke 2003). The results of the analysis found no significant cultural components in the samples.

In 2008, CSH conducted an archaeological inventory survey (AIS) including subsurface testing of a 4.7 acre property located between Hale Mohalu and the existing commercial properties located off of Kamehameha Highway (Groza et al. 2008). As a result of the survey, one historic property was identified and documented, SIHP Site 50-80-07-6918. The site consisted of concrete and basalt infrastructure associated with the former World War II barracks and Hale Mohalu Hospital. Trenching in the southern and western portions of the project area revealed soils containing evidence of cultural activities and agricultural deposits, located roughly 0.8 km southwest of the current project area. These areas were associated with LCA locations which suggests these parcels once had *loʻi* and *kula* (pasture). Radiocarbon dating was conducted on charcoal flecks recovered from these trenches; the sample yielded four possible calibrated 2-sigma date ranges with the most likely range being 1610 AD to 1690 AD (41%). No site numbers were given to these subsurface deposits.

In 2010, CSH conducted an AIS for Phase I of the then proposed Honolulu High-Capacity Transit Corridor Project (HHCTCP), which crossed various parcels throughout portions of Honouliuli, Hōʻaeʻae, Waikele, Waipiʻo, Waiawa, and Mānana Ahupuaʻa (Hammatt 2010). Pedestrian survey of the roughly 7.4-mile-long alignment, limited Ground Penetrating Radar survey, and over ninety subsurface test excavations, resulted in the identification of a single intact cultural deposit (SIHP Site 50-80-09-7751). Site 7751, a subsurface deposit of *loʻi* sediments, was discovered at the

proposed location for the Waipahu Transit Station, roughly 3.8 kilometers southwest of the current study area. The site was interpreted as a Precontact agricultural feature and CSH prepared a Data Recovery Plan for the site (O'Hare et al. 2011).

In 2011 Cultural Surveys Hawaii prepared a CIA at the request of AECOM Pacific, Inc. and the City and County of Honolulu (CCH) for the proposed Honouliuli/Waipahu/Pearl City Wastewater Facilities Project (Cruz et al. 2011). The project traverses through twelve of the thirteen *ahupua'a* located in the 'Ewa district. Five formal interviews were recorded by the Cultural Surveys and as a result, several areas of cultural significant were identified along with multiple areas of concerns for the community. Background research and ethnographic interviews identify the area of 'Ewa as having more fishponds than any other district on O'ahu with the project transecting through at least nine of the former fishponds. The area is also famous for its abundant marine resources with several interviewees recalling their time in the 'Ewa area and the stories of their ancestors being able to provide and subsist with resources solely from the neighborhood. Mr. Tin Hu Young describes the area of Pearl Harbor as a place of abundance full of mullet, clams, bananas, and taro in his neighborhood during his youth. Another interviewee, while Mr. Shad Kāne recalls his father gathering oysters, clams, crab and *limu* (seaweed) from the waters of Pearl Harbor. As 'Ewa has a long history related to the importance of freshwater and marine resources, a main concern for community members was the management of the 'Ewa watershed and the impact this project and any future projects could have on the water table. Dr. Ishmael Stagner believes that 'Ewa's most important feature is the watershed which he argues is reflected in the names of the *ahupua'a* in the district that start with the term *wai* (freshwater of any kind) such as Waimalu, Waiu, Waikele, and Waipahu. The many streams and underwater tunnels of the area contribute greatly to the Hālawa Aquifer that supplies most of the drinking water for O'ahu. Additionally, the interviewees explained that cultural layers as well as burials exist throughout the project area. However, they don't think they will be disturbed by the proposed project. Lastly, the community raised concerns for the protection of water tables and the possibility of sewer backups in the low flood lands. Mitigation recommendations include an archaeological monitor present during any ground disturbing activities that affect cultural layers or layer likely to contain burials, hydrological studies prior to excavation or underground boring to prevent damage to aquifers, the address of flooding concerns in the lower areas of 'Ewa, and the recommendation of personnel involved in development activities be informed of the possibility of inadvertent cultural finds including human remains.

In 2012, CSH conducted archaeological inventory surveys and subsurface testing for the Honolulu High-Capacity Transit Corridor Project (HHCPTCP) from Waiawa to Hālawa (Sroat et al. 2012). Only one archaeological site was identified, SIHP Site 50-80-09-7150, a subsurface agricultural deposit, likely having resulted from wetland taro cultivation in the area. The deposit was located within the boundaries of a former mid-19th century LCA. Pollen analysis of the soil reveal evidence of taro and sweet potato pollen. In 2013, CSH conducted a supplemental archaeological inventory survey and subsurface testing of a 0.2-acre portion of Pearlridge Station for the HHCPTCP (Sroat et al. 2013). No historic properties were identified.

In 2016, CSH conducted archaeological monitoring during excavation to repair existing waste water pipelines along the *mauka* border of Pearl City Peninsula (Yucha et al. 2016). Within the vicinity of the project is SIHP Site 50-80-09-9714, OR&L Right-of-Way, and SIHP Site 50-80-09-0119, Loko Kuhialoko fishpond deposit. However, no ground disturbing activities disturbed these sites. No other historic properties were identified as a result of the archaeological monitoring effort.

In 2019, ASM Affiliates conducted an archaeological inventory survey of a roughly 17-acre area that comprised the upper and lower campuses of Waipahu High School in Waipi'o Ahupua'a (Gotay and Rechtman 2019). As a result of the survey, a single newly identified site (SIHP Site 50-80-09-8778) comprising four features (Features A-D) was recorded. Features A-D include multiple sub features, which include the following: a series of discontinuous dry-stacked rock retaining walls, concrete reinforced stone masonry steps, a combination dry-stacked rock and concrete block retaining wall, a concrete block wall with associated concrete pads and steps and a large concrete box/vault. Site 8778 was interpreted as a Historic Period agricultural station.

In 2020, Keala Pono Archaeological Consulting conducted an archaeological survey with subsurface testing on TMK (1) 9-8-009:005 (por.), 014, 015, and 016, located approximately 1.75 miles from the Pearl City Library for the construction and operation of the Pearlridge Bus Transit Center (McElroy et al. 2021). No historic properties were encountered, and the area was found to be previously disturbed by modern construction activities. In addition, Keala Pono Archaeological Consulting conducted an CIA for the same project in an effort to identify any cultural resources or practices within in the project area and greater Waimalu Ahupua'a (McElroy et al. 2020). Consultation resulted in four interviews with local *kama'āina* and *kūpuna* who shared their stories, knowledge, and experiences in Waimalu and the surrounding areas, including Pearl City. The interviews along with oral histories and legends identified several on-going cultural and historical resources near the project area. Overall, the Waimalu and Pu'uloa (Pearl Harbor) were

identified as culturally significant areas with abundant resources that supported traditional subsistence activities such as pipi fishing, *lo'i* (taro fields), and at least three fishponds. Interviewees noted the practice of gathering plants and flowers for hula as an ongoing and widespread practice for many community members in Waimalu. Additionally, they discussed several significant historic sites including a historic church, an unbreakable stone, and an important *heiau* in Hālawa. The CIA noted the identification of archaeological studies in Waimalu that have identified remnants of the OR&L railroad, human burials, and a cultural layer at Neal Blaisdell Park. The CIA concluded that the project proposed would not affect any places of cultural significance. However, one interview did express concern that the region was no longer able to sustain traditional subsistence practice. The CIA recommended that the project should allow the community to consult on the naming of the new facility and should consult with additional cultural practitioners in the area regarding undocumented sites. It was advised that the community members be kept informed about the plans of construction and their recommendations be considered during all phases of the project.

Lastly, in 2023, ASM Affiliates conducted a literature review and corresponding field inspection of the current project area for the proposed Pearl City Library Renovation Project (Belluzzo 2023). No historical properties were identified and ASM recommended that no further work was necessary due to previous ground disturbance by historic and modern development on the parcels.

The results of previous archaeology conducted in the near vicinity of the project demonstrate the scarcity of surface archaeological historic properties within the Pearl City area. Historic commercial agriculture along with historic and modern military development in the area have likely destroyed any previous extant Precontact sites. However, several studies have encountered subsurface deposits, particularly those associated with *lo'i* deposits (Groza et al. 2008; Hammatt 2010; Sroat et al. 2012). Therefore, while no surface archaeological sites were observed during the previous field inspection of the parcel by Belluzzo (2023), there is a small possibility that subsurface archaeological deposits be extant within the project area.

Previous cultural studies indicate that ʻEwa District and Pearl Harbor are important cultural areas associated with numerous oral traditions and have maintained a long history of occupation ranging from the Precontact period to modern day. As places with such deep history, they have supported numerous cultural practices such as fishing, *pipi* collection, kalo agriculture and have important natural and cultural resources. However, interviewees have also noted that due to historic and modern development, the area is unable to support many of these cultural practices today.

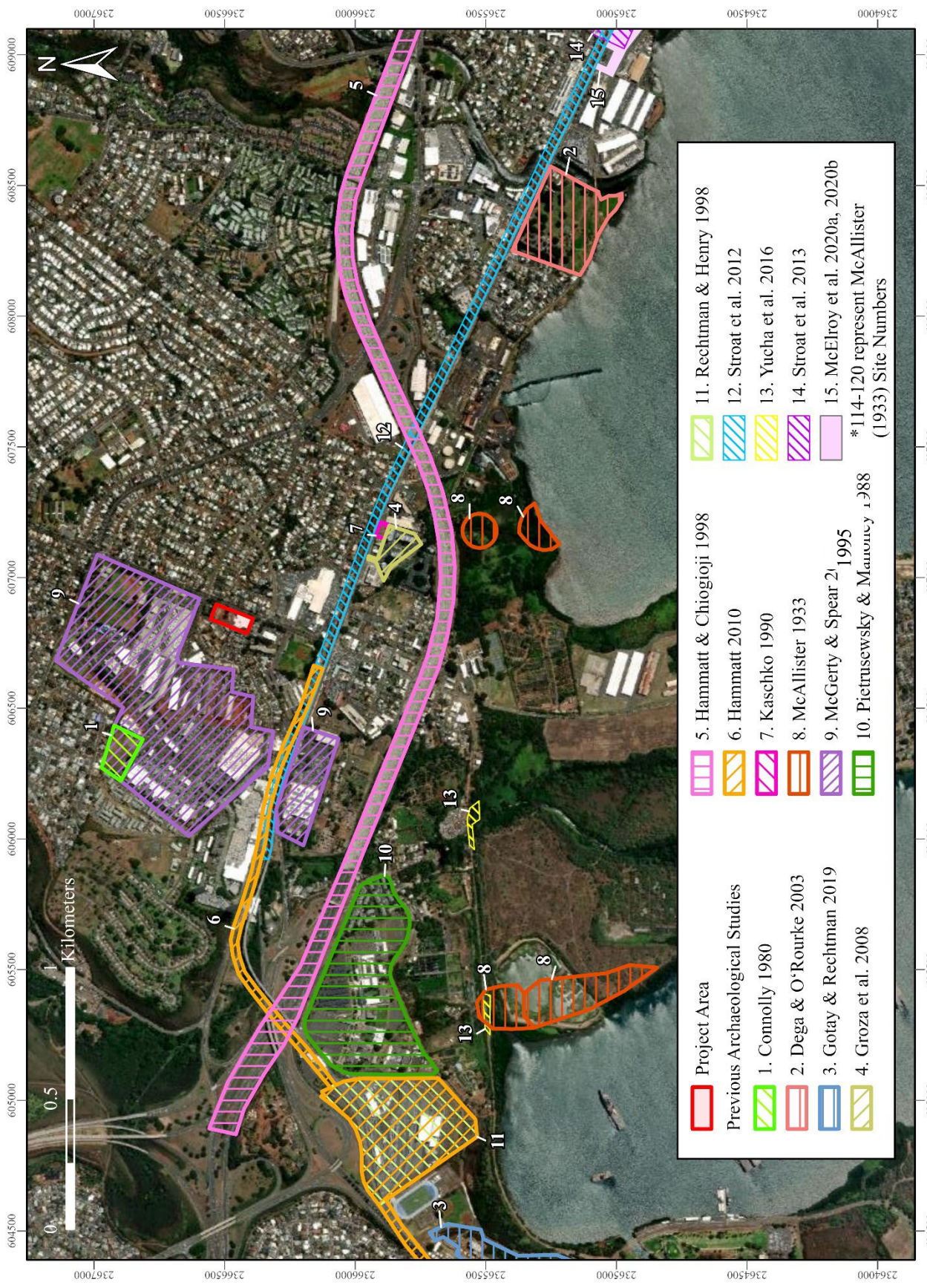


Figure 25. Previous archaeological studies conducted within the vicinity of the current Project Area.

3. CONSULTATION

Gathering input from community members with genealogical ties and long-standing residency or relationships to the study area is vital to the process of assessing potential cultural impacts to resources, practices, and beliefs. It is precisely these individuals that ascribe meaning and value to traditional resources and practices. Community members often possess traditional knowledge and in-depth understanding that are unavailable elsewhere in the historical or cultural record of a place. As stated in the OEQC (1997) *Guidelines for Assessing Cultural Impacts*, the goal of the oral interview process is to identify potential cultural resources, practices, and beliefs associated with the affected project area. It is the present authors' further contention that the oral interviews should also be used to augment the process of assessing the significance of any identified traditional cultural properties. Thus, it is the researcher's responsibility to use the gathered information to identify and describe potential cultural impacts and propose appropriate mitigation as necessary. This section of the report begins with a description of level of effort undertaken to identify persons believed to have knowledge of the study area, followed by the interview methodology. This section of the report concludes with a presentation of the interview summaries that have been reviewed and approved by the consulted parties.

In an effort to identify individuals knowledgeable about traditional cultural practices and/or uses associated with the current project and study area, a public notice containing (a) locational information about the project area, (b) a description of the proposed project, and (c) contact information was printed in a newspaper with state-wide readership. The public notice was submitted to the Office of Hawaiian Affairs (OHA) on March 2, 2022, for publication in their monthly newspaper, *Ka Wai Ola*. This notice was published in the April 2023 edition of *Ka Wai Ola* and a copy of the public notice is included in Appendix A of this report. From the public notice, no responses were received.

In addition to the public notice, ASM staff attempted to contact the following nine individuals and one organization as listed in Table 2. As part of the outreach efforts for the individuals listed below, ASM contacted them either via phone or email. If initial contact was made via phone, ASM staff introduced themselves and explained the nature of the proposed project as well as the scope of the CIA study. After this initial conservation, ASM staff emailed a community consultation packet to the community members which included a more comprehensive explanation of the proposed project, contact information including, phone, email, and physical address of ASM staff, as well as maps showing the location of the project area. If initial contact was made via email, the community consultation packet was provided. In some instances, the community members responded with either the names of other community members they felt would be able to contribute to this study or they did not respond altogether. An attempt was made to contact each person/organization at least twice.

Of the ten people/ organization contacted, only one person, Dorinda Nicholson, responded to the interview request and consented to participate in the consultation process. Another individual, Kehaulani Lum, responded to the consultation inquiry but declined to be interviewed as "area around the Pearl City Library is in a different *ahupua'a* than where [her] 'ohana resides." Ms. Lum also provided an additional reference for the consultation process.

Table 2. Individuals and Organizations Contact for Consultation

Individual/Organization	*Association*	*Date of first attempted contact*	*Notes*
Charmaine Doran	Pearl City Neighborhood Board	5/8/23	No response
Kamakana Ferreira	OHA	5/8/23	No response
Heather Giugni	Ulu‘ulu Archive at UH West O‘ahu	5/16/23	No response
Shad Kāne	‘Ewa Representative for Aha Moku Council Oahu and Pearl City Kupuna	4/14/23	No response
Kehaulani Lum	‘Aiea Community Association, Ali‘i Pauahi Hawaiian Civic Club, Kupuna of ‘Aiea	5/16/23	Declined to be interviewed (5/16/23), but provided contact information for Heather Giugni
Kai Markell	OHA	5/8/23	No response
Dorinda Nicholson	Pearl City Kupuna	4/14/23	Agreed to be interviewed. Additionally coordinated a meeting with Michiko Iguchi and Elaine Kunimitsu
Pearl Harbor Hawaiian Civic Club	n/a	4/14/23	No response
Naomi Tully-Ungacta	Pearl City Foundation	5/8/23	No response
Larry S. Veray	Pearl City Neighborhood Board	5/8/23	No response

Prior to the interview, ASM staff provided the potential interviewees with information about the nature and location of the proposed project and the scope the current CIA study. The potential interviewees were informed that the interviews were voluntary and that they would be given an opportunity to review and edit their interview summary prior to inclusion in this report. With their consent, ASM staff then asked questions about their background, their knowledge of past land use, and history of the project area, as well as their knowledge of any past or ongoing cultural practices. The informants were also invited to share their thoughts on the proposed development and offer mitigative solutions. Below are the interview summaries that have been reviewed and approved by the consulted parties.

DORINDA NICHOLSON, MICHIKO IGUCHI, AND ELAINE KUNIMITSU

On June 6th, 2023, ASM Affiliates staff, Carol Oordt, met with Dorinda Nicholson at Pearl City Library in Pearl City, Mānana Ahupua‘a, ‘Ewa District, Island of O‘ahu. Prior to the meeting, Ms. Nicholson arranged for a visit with Michiko Iguchi at her house in Pearl City during the first part of the interview. Ms. Nicholson knew Ms. Iguchi from when she lived in the neighborhood as a child, and they periodically visit with each other when Ms. Nicholson visits O‘ahu. Additionally, Elaine Kunimitsu, a family friend of Ms. Iguchi, arrived incidentally during the meeting and joined in the interview. Following the meeting with Ms. Iguchi, the meeting attendees drove around Pearl City Peninsula and visited areas significant to the history of the area. The meeting focused on the history of Pearl City Peninsula especially concerning the attack on Pearl Harbor and life during World War II.

Ms. Nicholson was born Dorinda Stagner in 1935 in Hawai‘i. She lived with her family on Pearl City Peninsula during World War II, including during the attack on Pearl Harbor on December 7th, 1941, which she witnessed from her home. She lived on the peninsula until after the war when the military forcibly removed her family along with all other civilians from the area. Her mother worked for Pan American, who had offices on the peninsula. Her mother also practiced hula and would teach hula to neighborhood children. Ms. Nicholson attended St. Andrews School in Honolulu and later Punahou School. For college, she attended the University of Hawai‘i at Mānoa and now lives in the continental United States.

Ms. Iguchi was born in August 1920 at her family's home on Pearl City Peninsula. Prior World War II, Ms. Iguchi explained that Pearl City Peninsula was primarily occupied by civilians, many Japanese immigrants like her family. Unlike surrounding towns, Pearl City was not a plantation town and, therefore, their resources such as hospitals, schools, and stores were not provided by a plantation. As a result, the community had to stick together and support each other. Most people had small gardens and sold vegetables to neighbors. Additionally, many of the residents worked at Pearl Harbor or Schofield military bases.

While the community was primarily composed of civilians, the Military Police (MP) also had an office on the peninsula and, therefore, a presence in the neighborhood prior to the war. According to Ms. Iguchi, the military and civilians got along, and the military personnel were often a part of their close-knit community. For example, her mother did laundry for Pan American employees who had offices and houses on the Peninsula, and the MP would transport the laundry back and forth for her. The MP officers eventually asked if her mother could also do their laundry to which she agreed . Ms. Iguchi said they were even friendly with the military during the war even though the MP would show up at their houses when there were "holes in the walls" during a blackout, referring to light that escaped from their houses. She recalled how one time an MP came to their house but was sick. Her mother insisted that the soldier take a special drink that she had rationed to get better. She shared this story to depict the friendliness between the civilians and military even during the war. In addition, many people from the area joined the war effort after Pearl Harbor, including Ms. Iguchi's brother, who was sent to Europe to fight with the 100th Infantry Battalion of the 442nd Infantry Regiment of the Army, a battalion made up entirely of Japanese American Soldiers. Unfortunately, Ms. Iguchi's brother was killed while serving.

When discussing the community on Pearl City Peninsula during the mid-20th century, Ms. Iguchi focused on the establishment of the church which is located next to her current house near the top of the peninsula. She explained the church was once used by a Hawaiian Church group. However, they eventually abandoned the building. Following the war in the 1950s, the Japanese community was looking for a place to gather and worship in Pearl City and they began gathering in the empty church as a mission group. Eventually, they founded a church in this building which is still active today.

On December 7th, 1941, Ms. Nicholson was 6 years old, and Ms. Iguchi was approximately 21 years old when the Japanese military attacked Pearl Harbor. Both recalled the events of the day and described how the Japanese planes flew directly over their houses. The planes were so low that they could see the pilots and Ms. Iguchi added that she remembers seeing one pilot smiling as he flew over. During the attack, the military evacuated all the families who lived on the peninsula. Ms. Nicholson's family evacuated up Waimano Home Road where they hid in sugarcane fields, though the rest of evacuees were taken to Waipahu. Later her family stayed in Waipahu for a few days after the attack before the military allowed them to return to their home. Ms. Nicholson recalled being told by a Japanese classmate of hers that while their family was evacuated from the peninsula, the military kept them separate from others because they were Japanese. Ms. Iguchi did not recall being kept separate due to her Japanese ancestry and said her family was also evacuated to Waipahu where she recalled they could still see explosions and smoke. Elaine Kunimitsu (Elaine Sato), a family friend of Mrs. Iguchi who was also present at the meeting and who is from a Japanese family, was an infant during the attack. However, she said that her father was arrested by the military police after the attacks when he returned to their house on Pearl City Peninsula to retrieve special formula for her. He was subsequently held at Fort Shafter. Ms. Iguchi recalls her father upon realizing the consequences of the attack for the U.S. and for Japanese Americans saying, "this is war, we must be very careful."

In the night following the attack, Ms. Nicholson described how six American planes off of the USS Enterprise flew into Pearl Harbor at night as it was too dark for them to land on the deck of their carrier at sea. However, American forces shot at these planes as they believed the incoming planes were a second Japanese attack. One of these planes crashed on Pearl City Peninsula and Ms. Nicholson remembers going with her family to see it. At the time, the neighborhood thought it was a Japanese plane and it was only years later that Ms. Nicholson learned it was an American plane shot down by friendly fire. Following the attack, martial law was declared in Hawai‘i and blackouts were regularly implemented. Ms. Nicholson remembered a Japanese dentist who lived on the Peninsula and had a gate with two pillars that had Japanese writing on them. She said that the military suspected him of being a spy.

At the end of the war, meeting attendees recalled the celebrations in Pearl City. Ms. Nicholson said that the streets were crowded with people hugging and being cheerful. She described how flares and jets of water were set off from the ships in Pearl Harbor to celebrate. Following the war, all civilians were forced to relocate from the peninsula.

On the topic of traditional cultural resources in the area, the meeting attendees discussed the sharks of Pearl Harbor. Mrs. Iguchi shared one story she knew which occurred when the military was dredging Pearl Harbor to allow aircraft carriers to enter the harbor. During this effort, there was one area in which they would build repeatedly but

the construction kept collapsing. Mrs. Iguchi believes that it was sharks that were knocking down this area to prevent the development. Additionally, Mrs. Iguchi noted that there is a huge flat rock located in the stream which travels to Waipahu. She recalled a story in which a king and queen shark lived under this flat rock.

During the tour around Peal City Peninsula, Ms. Nicholson pointed out many of the sites she had previously discussed including the railroad station and post office near the top of the peninsula. She recalled having to take the train from the railroad station in Pearl City to downtown Honolulu for elementary school. While driving south down Lehua Ave, Ms. Nicholson discussed how a guard shack used to control access to the peninsula. She additionally pointed out open fields to the west of the road which she said once held multiple storage fuel tanks. To the right of the road, she pointed out old warehouses and said they have been standing for as long as she can remember. On the southwest coast of the peninsula, Ms. Nicholson identified the landing site for the Pan Am clippers. Nearby is the location where the USS Monaghan and USS Curtis sunk a Japanese midget submarine on Dec 7th, 1941. Two plaques commemorate the location as the landing spots of the Pan Am Clippers and as the spot of the sunken submarine. Nearby, Ms. Nicholson pointed out several houses previously owned by Pan Am. She also identified a nearby concrete platform as the remains of the patio belonging to the original Pan Am World Airways building. In addition, Ms. Nicholson identified the house of the dentist accused of being a Japanese spy. The gate with the two pillars inscribed with Japanese writing remains standing. Several other places on the peninsula that Ms. Nicholson mentioned but that no longer exist include Palms Hotel and a ferry which served as the original transportation to Ford Island. On the topic of traditional Hawaiian sites on the Peninsula, Ms. Nicholson knew that there were once fishponds present in the area. She mentioned that the Pearl Harbor Hawaiian Civic Club is working with the Navy to restore the ponds.

In conversation via email prior to the meeting, Ms. Nicholson stated that she thought the proposed project would be beneficial to the community. During the interview, she suggested that the library could work to highlight the history of the area and, therefore, should know about people such as Ms. Iguchi and herself who lived through such history and would be willing to share it with the community.

4. IDENTIFICATION AND MITIGATION OF POTENTIAL CULTURAL IMPACTS

The OEQC guidelines identify several possible types of cultural practices and beliefs that are subject to assessment. These include "...subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs" (OEQC 1997:1). The guidelines also identify the types of cultural resources, associated with cultural practices and beliefs that are subject to assessment. These include other types of historic properties, both man made and natural, submerged cultural resources, and traditional cultural properties. The origin of the concept and the expanded definition of traditional cultural property is found in National Register Bulletin 38 published by the U.S. Department of Interior-National Park Service (Parker and King 1998). An abbreviated definition is provided below:

> "Traditional cultural property" means any historic property associated with the traditional practices and beliefs of an ethnic community or members of that community for more than fifty years. These traditions shall be founded in an ethnic community's history and contribute to maintaining the ethnic community's cultural identity. Traditional associations are those demonstrating a continuity of practice or belief until present or those documented in historical source materials, or both.

"Traditional" as it is used, implies a time depth of at least 50 years, and a generalized mode of transmission of information from one generation to the next, either orally or by act. "Cultural" refers to the beliefs, practices, lifeways, and social institutions of a given community. The use of the term "Property" defines this category of resource as an identifiable place. Traditional cultural properties are not intangible, they must have some kind of boundary; and are subject to the same kind of evaluation as any other historic resource, with one very important exception. By definition, the significance of traditional cultural properties should be determined by the community that values them.

It is however with the definition of "Property" wherein there lies an inherent contradiction, and corresponding difficulty in the process of identification and evaluation of potential Hawaiian traditional cultural properties, because it is precisely the concept of boundaries that runs counter to the traditional Hawaiian belief system. The sacredness of a particular landscape feature is often cosmologically tied to the rest of the landscape as well as to other features on it. To limit a property to a specifically defined area may actually partition it from what makes it significant in the first place. However offensive the concept of boundaries may be, it is nonetheless the regulatory benchmark for defining and assessing traditional cultural properties.

As the OEQC guidelines do not contain criteria for assessing the significance of traditional cultural properties, this study will adopt the state criteria for evaluating the significance of historic properties, of which traditional cultural properties are a subset. To be significant the potential historic property or traditional cultural property must possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of the following criteria:

a Be associated with events that have made an important contribution to the broad patterns of our history;

b Be associated with the lives of persons important in our past;

c Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;

d Have yielded, or is likely to yield, information important for research on prehistory or history;

e Have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group's history and cultural identity.

While it is the practice of the DLNR-SHPD to consider most historic properties significant under Criterion d at a minimum, it is clear that traditional cultural properties by definition would also be significant under Criterion e. A further analytical framework for addressing the preservation and protection of customary and traditional native practices specific to Hawaiian communities resulted from the *Ka Pa'akai O Ka 'Āina* v Land Use Commission court case. The court decision established a three-part process relative to evaluating such potential impacts: first, to identify whether any valued cultural, historical or natural resources are present and/or past or ongoing traditional customary practices; and identify the extent to which any traditional and customary native Hawaiian rights are exercised; second,

to identify the extent to which those resources and rights will be affected or impaired; and third, specify any mitigative actions to be taken to reasonably protect native Hawaiian rights if they are found to exist.

The proposed project includes the expansion of the existing library building to include several outdoor reading areas, the construction of a Community Library Center (CLC) and prekindergarten facility north of the extant library building. The proposed CLC will support various community activities such as early learning programs, childcare, library programs, kūpuna classes and serve as a flexible meeting space. Lastly, a small outdoor recreation area and community lawn, located between the existing library building and the proposed pre-kindergarten and CLC buildings, will provide a space for children to play and learn. The existing parking lot will be reconfigured to accommodate the new library, CLC, and prekindergarten facility.

SUMMARY OF CULTURAL-HISTORICAL BACKGROUND INFORMATION

The cultural-historical information gathered as part of this study demonstrates that the project area is located within a region, ʻEwa District, that was significant throughout the Precontact and Historic Periods. Early historical accounts and maps report a populated landscape along the coast along with the extensive cultivation of the land and use of fishponds. Following European Contact, ʻEwa was transformed by the multiple commercial and military uses of the area. By the late 19th century, rice cultivation dominated the coastline of Pearl Harbor while the sugarcane industry prevailed in the inland areas. The project area was located along the western boundary of the Honolulu Plantation's sugarcane field. However, it is unclear if sugarcane was ever cultivated in the area. Maps from the late 19th and early 20th century indicate that the project area was on land planned to be developed for urban purposes. During World War II, a portion of the Manana Naval Supply Center was built within the project area to serve as a storage and distribution center. The military warehouse buildings remained standing within the project area until 1968 when the construction Pearl City Library began. The library officially opened in 1969 and has remained the one of the largest public libraries on Oʻahu since its opening.

Previous cultural studies have identified numerous cultural practices associated with Pearl Harbor and the ʻEwa District including fishing, *pipi* collection, and *kalo* agriculture. However, interviewees have also noted that due to historic and modern development, the area is unable to support many of these cultural practices today. Ms. Nicholson and Ms. Iguchi provided information about Pearl City during the mid-20th century including highlighting the influence of the U.S. military in the area during and after World War II. From this meeting, it is apparent that the area experienced rapid change following the events of Pearl Harbor and throughout the latter half of the 20th century as Pearl City developed. While the interviewees discussed locations of historical importance on the Pearl City Peninsula, none of these were identified as being within the footprint of the project area.

IDENTIFICATION OF TRADITIONAL AND CUSTOMARY PRACTICES, VALUED CULTURAL RESOURCES

There are no specific ongoing traditional cultural practices or valued cultural resources that were identified within the immediate footprint of the project area. Due to the presence of a Naval Supply Depot in the project area from 1944 to 1948 followed by the Pearl City Library, any traditional cultural practices that may have once taken place within the project area likely predate these developments. While the Pearl City Library, as a public space, may serve as a gathering area in which people may conduct and participate in traditional cultural practices, the current consultation effort did not identify any traditional cultural practices. Additionally, as the proposed project seeks to enlarge the spaces in which people may gather at the library, the project will likely not impact any practices that may exist but were not identified and rather, will develop a larger space for any such events.

Given the negative findings of the current study with respect to the identification of any traditional cultural properties or practices located within the boundaries of project area, it is our conclusion that the proposed Pearl City Public Library expansion project will not result in any direct impacts to valued cultural, historical, or natural resources; or associated traditional and customary practices. However, due to the proximity of the project area to sites of historical importance including traditional Hawaiian sites as well as historical sites, ASM Affiliates recommends that the Pearl City Library strive to serve as an educational resource about the history of the surrounding area. This might include hosting events with speakers to lecture about the history and culture of the area, or a permanent exhibit of books related to local history and educational panels. Furthermore, in accordance with the archaeological field inspection conducted for the proposed project (Belluzzo 2023), ASM Affiliates recommends that in the unlikely event that archaeological resources are discovered during ground-disturbing activity associated with the proposed development, work should cease in the area of the discovery and the DLNR-SHPD contacted pursuant to HAR §13-280-3.

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APPENDIX A. KA WAI OLA PUBLIC NOTICE

NOTICE OF INTENDED DISPOSITION UNDER NAGPRA

Below is an abbreviated version of a public notice published on March 8 and March 22 2023 in the *Honolulu Star-Advertiser*.

Notice is here given in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), 43 CFR 10.6(c) of the intent to transfer custody of Native Hawaiian human remains - iwi kūpuna - and potential funerary objects in the control of United States Army Garrison, Hawaii (USAG-HI) recovered from Pililāʻau Army Recreation Center (PARC), on Neneʻu Beach at Pōkaʻī Bay, Waiʻanae Ahupuaʻa, Waiʻanae Moku, Oʻahu, Hawaiʻi (TMK 8-5-001:009).

Between November 2020 and December 2022, archaeologists recovered 2,354 fragments of iwi kūpuna and 898 potential funerary objects from a construction debris stockpile that was intentionally excavated during a seawall repair project at PARC in 2019. Koʻa Mana has been identified in the NAGPRA Comprehensive Agreement as the Native Hawaiian organization with the closest cultural affiliation to the area(§10.5(e)(9)).

• Officials from USAG-HI have determined that, pursuant to 43 CFR 10.2(d)(1), the human remains described above represent a minimum of 6 individuals of Native Hawaiian ancestry.

• Officials from USAG-HI have also determined that, pursuant to 43 CFR 10.2(d)(2), the 1,146 funerary objects described above are the types of items reasonably believed to have been placed with or near the individual human remains at the time of death or later as part of a death rite or ceremony.

Lineal descendants or representatives of any other Native Hawaiian organization that wish to claim custody of the iwi kūpuna and funerary objects should contact the USAG-HI Cultural Resources Program Manager, Mr. David Crowley, by mail at USAG-HI Directorate of Public Works, Environmental Division Building 105, 948 Santos Dumont Avenue, Wheeler Army Airfield, Schofield Barracks, [illegible]857; by telephone at (808) 655-9707; or by email at usarmy.hawaii.crmp@army.mil; before April 22, 2023. Disposition of the iwi kūpuna and funerary objects to Koʻa Mana may proceed after that date if no additional claimants come forward.

SECTION 106 AND HRS 6E-8 CONSULTATION COUNTY OF HAWAIʻI MASS TRANSIT AGENCY ISLAND-WIDE BUS STOP ACCESSIBILITY PROJECT

The Hawaiʻi County Mass Transit Agency ("County") is conducting consultation under Section 106 of the National Historic Preservation Act and Hawaiʻi Revised Statutes Chapter 6E-8 for upgrades to bus stops around Hawaiʻi Island in order to bring them into compliance with the Americans With Disabilities Act. The Area of Potential Effect includes 61 locations throughout Hawaiʻi County listed below.

The project would use federal funds to improve the bus stops to ensure that each bus stop boarding and alighting area has a firm, stable surface; provides a minimum clear length of 8 feet; is not steeper than 1:48 (2.08%) perpendicular to the roadway; and if a shelter is present, that the shelter provides a minimum clear floor or ground space measuring 2.5 feet wide by 4 foot long, entirely within the shelter, and is not steeper than 1:48 (2.08%) in all directions. To correct these deficiencies, the County would construct ADA-compliant bus stop boarding and alighting areas or modify the existing boarding and alighting areas.

The County is in search of kamaʻāina (persons who have genealogical connections and or are familiar from childhood with the ʻāina) with these locations. If you have and are willing to share any information about historic properties or cultural practices that might be affected by alterations to these bus stops, or would like to suggest other groups or people who may be able to help, please contact John Andoh at John.Andoh@hawaiicounty.gov, by telephone at (808) 961-8555, or by U.S. Postal Service to attn: John Andoh, County of Hawaiʻi Mass Transit Agency, 25 Aupuni Street, Hilo, HI, 96720.

CULTURAL IMPACT ASSESSMENT FOR THE PROPOSED PEARL CITY LIBRARY EXPANSION

On behalf of PBR HAWAII & Associates, ASM Affiliates is preparing a Cultural Impact Assessment to inform a HRS, Chapter 343 Enviornmental Assessment being prepared for the Pearl City Library Expansion. The project is located at TMK: (1) 9-7-094: 029 in Mānana,ʻEwa, Oʻahu.

ASM is seeking kamaʻāina familiar with the area's cultural resources, customs, and practices. We also seek input regarding strategies to prevent or mitigate impacts on culturally valued resources or traditional customary practices. If you know of such information, please contact Brianna Mendez at bmendez@asmaffiliates.com, (808) 439-8089, mailing address ASM Affiliates 820 Mililani St. Suite 700, Honolulu, HI 96813. ■

Appendix E

Literature Review and Field Inspection Report

ASM affiliates
Archaeology • History • Ethnography • Architectural History

ASM Project 42440.00

July 11, 2023

Dr. Susan Lebo
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Suite 555
Kapolei, HI 96707

Re: Literature review and field inspection for the Pearl City Public Library Expansion Project at 1138 Waimano Home Road (TMK: [1] 9-7-094:026 & 029), Mānana Ahupuaʻa, ʻEwa District, Island of Oʻahu.

Dear Susan:

As requested by the PBR Hawaii & Associates, Inc. (PBR), ASM Affiliates (ASM) conducted a field inspection and background literature review of a parcel at 1138 Waimano Home Road (TMK: [1] 9-7-094:026 & 029), Mānana Ahupuaʻa, ʻEwa District, Island of Oʻahu. The subject parcels consist of a combined 2.2606 acres and are currently occupied by the existing Hawaiʻi State Public Library System (HSPLS)'s Pearl City Public Library building. In an effort to provide a comprehensive analysis and to assess the potential for encountering significant archaeological and cultural resources, this study summarizes background research on the culture-history and archaeology of the Mānana Ahupuaʻa and the ʻEwa District as well as the results of a field inspection of the parcel conducted by ASM on February 23, 2023.

Description of the Subject Parcels

The subject parcel is located at 1138 Waimano Home Road (TMK: [1] 9-7-094:026 & 029), Mānana Ahupuaʻa, ʻEwa District, Island of Oʻahu. The parcel, owned by State of Hawaiʻi–Department of Land and Natural Resources (DLNR), is utilized by the Hawaiʻi State Public Library System (HSPLS) and is currently occupied by the Pearl City Public Library. It is located within central Pearl City, a census-designated place (CDP) located on the northern shores of Pearl Harbor's Middle and East Lochs approximately nine miles northwest of downtown Honolulu (Figures 1 through 3). The Pearl City Public Library (formerly known as the Pearl City Regional Library) opened on November 15, 1969, and remains one of the largest libraries on Oʻahu.

The topography of the project area is comprised of two large, leveled areas, with visual boundaries largely consistent with the TMK boundary separating parcels :026 (*makai* or seaward) and :029 (*mauka* or inland). The *makai* portion of the project area sits at street level, approximately 29 meters (95 feet) above sea level and is vegetated with manicured Bermuda grass (*Cynodon dactylon*) and monkey-pod trees (*Pithecellobium saman*). The *mauka* portion of the project area sits above street level on a raised platform with retention walls along its northern and eastern perimeters at approximately 30 meters (98 feet) above sea level and contains similar vegetation. Geologically, the project area sits atop Koolau Basalt (Figure 4; QTKl) deposited between 1.8 and 3 million years ago (Ma) and overlayed by Molokai Silty Clay Loam (Figure 5; MuC), a well-drained soil found on seven to fifteen percent slopes, and historically used for sugarcane, pineapple, pasture, wildlife habitat, and homesites (Foote et al. 1972; Sherrod et al. 2007). The direct vicinity of the project area receives an average of approximately 729.5mm (28.7 inches) of rainfall annually(Giambelluca et al. 2013).

The State of Hawaiʻi–Department of Accounting and General Services (DAGS) proposes to renovate the existing Pearl City Public Library to include new reading spaces and new learning and community buildings (Figure 6). The footprint of existing library building, situated on TMK: (1) 9-7-094:026), will be reduced from its current extent of 24,064 square feet to approximately 23,500 square feet and several new outdoor reading areas will be constructed on the southern and eastern sides of the building while a fenced enclosure will be constructed on the northern side.

Additionally, a new approximently 3,200 square foot Community Library Center (CLC) and an approximately 2,700 square-foot pre-kindergarten facility are proposed to be constructed north of the library on TMK: (1) 9-7-094:029. The proposed CLC will support various community activites such as early learning programs, childcare, library programs, kupuna classes and serve as a flexible meeting space. Lastly, a small outdoor recreation area and community lawn, located between the the exisitng library building and the proposed pre-kindergarten and CLC buildings, will provide a space for children to play and learn. The existing parking lot will be reconfigured to accomadate the new new library, CLC and pre-kindergarten facility. Currently, the main parking area is envisions to be located north of the pre-kindergarten and CLC facilities.

Culture-Historical Background for ʻEwa District and Mānana Ahupuaʻa

As previously mentioned, the project area is located within the *moku* (district) of ʻEwa, which translates literally as "crooked" (Pukui et al. 1974:28). Sterling and Summers (1978) add that the naming of this district was attributed to the *akua* (deities) Kāne and Kanaloa:

> When Kane and Kanaloa were surveying the island they came to Oahu and when they reached Red Hill saw below them the broad plains of what is now Ewa. To mark the boundaries of the land they would throw a stone and where the stone fell would be the boundary line. When they saw the beautiful land lying below them, it was their thought to include as much of the flat level land as possible. They hurled the stone as far as the Waianae range and it landed somewhere in the Waimanalo section. When they went to find it, they could not locate the spot where it fell. So Ewa (strayed) became known by that name. The stone that strayed (Sterling and Summers 1978:1).

Although the *moʻolelo* suggests that Kane and Kanaloa could not find the stone, Simeon Nawaʻa provides a description of its location along the Waiʻanae Range:

> Eventually the stone was found at Pili o Kahe. This is a spot where two small hills of the Waianae range come down parallel on the boundary between Honouliuli and Nanakuli (Ewa and Waianae). The ancient Hawaiian said the hill on the Ewa side was the male and the hill on the Waianae side was female. The stone was found on the Waianae side hill and the place is known as Pili o Kahe (Pili = cling to, Kahe = to flow*). The name refers, therefore, to the female or Waianae side hill. And that is where the boundary between the two districts runs. (Nawaʻa in Sterling and Summers 1978:1)

ʻEwa extends eastward from Honouliuli Ahupuaʻa to Hālawa Ahupuaʻa and encompasses the estuary of Pearl Harbor, known traditionally as "Ke-awa-lua- o-Puʻuloa, The- many (*lau*)-harbors (*awa*)-of Puʻuloa" (Handy and Handy 1991:469). Well-watered lands are found along the central and eastern limits of the district and correspondingly, many of the *ahupuaʻa* in ʻEwa are associated with *wai* (water) originating from the Koʻolau Mountains. In contrast to the eastern and central areas, the western plains of ʻEwa are arid. Early inhabitants of Precontact Oʻahu settled along the shores of Puʻuloa where they engaged in traditional farming techniques and collected marine resources—summed up by Handy and Handy (1991:469) as follows:

> The salient feature of ʻEwa, and perhaps its most notable point of difference, is its spacious coastal plain, surrounding the deep bays ("lochs") of Pearl harbor, which are actually the drowned seaward valleys of ʻEwa's main streams, Waikele and Waipiʻo. . . These bays offered the most favorable locality in all the Hawaiian Islands for the building of fishponds and fish traps into which deep-sea fish came on the inflow of tidal waters. The lowlands, bisected by ample streams, were ideal terrain for the cultivation of irrigated taro. The hinterland consisted of deep valleys running far back into the Koʻolau range. Between the valleys were ridges, with steep sides, but a very gradual increase of altitude. The lower parts of the valley sides were excellent for the culture of yams and bananas. Further inland grew the ʻawa for which the area was famous.

Concerning the subject *ahupuaʻa* of Mānana, neither Pukui et al. (1974) nor Soehren (2010) provide a translation for Mānana. However, Pukui and Elbert (1986:236) define *mānana* as buoyant, a possible reference to the abundance of water in the area. Additionally, Pukui and Elbert (1986:236) define *mānana* as to stretch out or to protrude; Farley et al. (2018:8) attribute this definition as a reference to the Mānana Peninsula, also called Pearl City Peninsula, which protrudes into Pearl Harbor. Sterling and Summer (1978:16) report that the *ahupuaʻa* was called Mānana-iki (Little Mānana) to describe the lower peninsula of the area and Mānana-nui (large Mānana) to describe the upper region in the mountains and where it broadens. Mānana-nui includes Mānana stream which runs into Waiawa. Mānana is bounded by Waiawa Ahupuaʻa to the west and Waimano Ahupuaʻa to the east.

Very few traditional accounts and stories that specifically reference Mānana Ahupuaʻa are known. However, one story told by Sterling and Summers (1978:16-17) recounts the story of Pilimoʻo Pool, a pool located in Pearl City:

> For a long time there was no danger to the children that came to swim in the pool until a man-eating shark discovered the tunnel and slipped in and out at will.
>
> One day, a boy went to the pool and disappeared. No trace of him was found. His father was so worried that he went to consult a Makaula or prophet. The makaula asked his gods, who told him that it was the will of the gods to change him into a small eel, so that he could live in the depth of the pool and warn the children of danger.
>
> The father of the boy went to the pool to see if it were so. He sat there a long time and neither saw nor heard anything. Then the children gathered at the opposite side of the pool from him and began to dive and play.
>
> Suddenly he heard a whistle which sounded so like the whistling of his son when he went home every day after playing. "That sounds very much like my son's whistling, .. he said to himself. He looked around and saw nothing. The whistling was repeated. Then looking toward a ledge under some hau trees, he noticed the head of an eel. Every now and then it whistled. He drew closer to it and spoke to it, "Can it be that you are my son? How did your human body change to an eel?" The boy replied, "Yes, I was once a boy, now I am an eel because the gods have willed it, so that I may save human lives from the wicked sharks of the deep that come here. Go and tell those children to go home. Tell them to listen and if they hear whistling that is a warning that they are in danger. "
>
> The man went as he was told to do. He told them to listen for a shrill whistle every now and then. That was a signal to go away at once. The eel whistled again so loudly that the children heard him and went away. The father remained to see if a shark would appear. A little while later he saw the dark form of a big shark swim about in the pool. So it was that ever after, a whistle was a signal that danger was near.

Another story in reference to Mānana is the that of the Pearl City Stone, which tells the account of a rock which once stood where the Pearl City Church of Jesus Christ of Latter-day Saints now stands. The story describes how the rock was revered by Native Hawaiians. However, the leaders of the church insisted it must be moved. The story follows that:

> Waiwaiole, a man who lived in the neighbor-hood and knew the legend of this rock was assigned the work of removing it to the roadside. He put it off from week to week as he hoped that his friends would forget about it, but they did not. They became more insistant [sic.] until he found some one to help him to carry it out. At first he tried to lift it but it would not move until he talked to it. He told it that it was unwelcome in the church yard and it would be better for it to be by the roadside. After that, the two men had no trouble in moving it.
>
> Some years later the road was widened where the stone stood and it was blasted. Part of it is gone and a part remains to this day.
>
> Waiwaiole, the man who removed it fell sick and gradually grew worse until he was brought to the Queen's Hospital where he died.
>
> The man who helped him also became sick with a disease that made him look bloated and dark. He became an inmate of the Minoʻaka Home until death took him. Waiwaiole's beautiful home was burned down with fire. No one knew what caused it. His widow is still at Pearl City and expects to build a new home ere long. (Naumau in Sterling and Summers 1978:17)

Before, European Contact, ʻEwa was extensively occupied by Native Hawaiians. In part this was due to the plentiful resources in the area. The coastal plain surrounded by the deep bays of Pearl Harbor provided a favorable location for building fishponds and fish traps (Handy and Handy 1991:469). The lowlands, which contain plenty of streams, were ideal for the cultivation of irrigated taro, while the hinterland, which consisted of valleys that extended far back into the Koʻolau range, were used for growing bananas and yams. Additionally, *ʻawa* was grown further inland. The lower forest areas on the mountain slopes also provided the opportunity for foraging food, especially during times of famine (Handy and Handy 1991:469).

At the time of European Contact, Honouliuli, the western boundry of ʻEwa, was the most populous *ahupuaʻa* in Oʻahu; the majority of the population lived on Pearl Harbor (Farley et al. 2018:23). Early historical sources provide a means to reconstruct life in ʻEwa during the Precontact and Early Historic Periods. In 1793, five years after Captain James Cook arrived in Hawaiian waters, Captain George Vancouver, while anchored off the entrance of West Loch, described the ʻEwa landscape:

> The part of the island opposite to us was low, or rather only moderately elevated, forming a level country between the mountains that compose the east [Koʻolau] and west [Waiʻanae] ends of the island. This tract of land was of some extent, but did not seem to be populous, nor to possess any great degree to natural fertility; although we were told that, at a little distance from the sea, the soil is rich, and all the necessaries of life are abundantly produced. (Vancouver 1801:361)
>
> Mr. Widbey observed, that the soil in the neighbourhood [*sic*] of the harbour [*sic*] appeared of a loose sandy nature; the country low for some distance, and, from the number of houses within the harbour, it should seem to be very populous: but the very few inhabitants who made their appearance was an indication of the contrary (Vancouver 1801:363)

In addition to the observations penned by Vancouver, cartographer, Lieutenant C. R. Malden, on this same trip, drafted a map of Oʻahu's south coast (Figure 7). Malden's map which was later published in 1825 depicts a cluster of houses along the coast expanding inland just south of the current project area. Several fishponds located with Puʻulo are also visible. Malden's map is one of the earliest known cartographic records for this region and thus provides a glimpse into the early Historic settlement of this area. However, very quickly after the arrival of Europeans, the population within ʻEwa dropped drastically. Betweeen 1848 and 1853, a series of epidemics wiped out entire villages and decreased the Native populations even more. Additionally, the sandalwood trade, which quickly rose and fell during the late 18th and early 19th centuries, also resulted in a decline of the native population as farmers and fishermen were ordered by chiefs to spend most of their time logging sandalwood, resulting in food shortages and famine Kamakau (Kamakau 1992:204). The dramatic population loss likely resulting in the uplands being abandonded by the mid 1800s as people moved into the towns of Honolulu, Waipahu and Wahiawa (Farley et al. 2018).

By the mid-19th century, the ever-growing population of Westerners in the Hawaiian Islands forced socioeconomic and demographic changes that promoted the establishment of a Euro-American style of land ownership. By 1840 the first Hawaiian constitution had been drafted and the Hawaiian Kingdom shifted from an absolute monarchy into a constitutional government. Convinced that the feudal system of land tenure previously practiced was not compatible with a constitutional government, the *Mōʻī* (King) Kauikeouli (Kamehameha III) and his high-ranking chiefs decided to separate and define the ownership of all lands in the Kingdom (King n.d.). This change was further promoted by missionaries and Western businessmen in the islands who were generally hesitant to enter business deals on leasehold lands that could be revoked from them at any time. After much consideration, it was decided that three classes of people each had one-third vested rights to the lands of Hawaiʻi : the *Mōʻī*, the *aliʻi* and *konohiki*, and the native tenants (*hoaʻāina*). In 1862 the legislature created the Board of Commissioners to Quiet Land Titles (more commonly known as the Land Commission), first to adopt guiding principles and procedures for dividing the lands and granting land titles, and then to act as a court of record to investigate and ultimately award or reject all claims brought before them.

Prior to the *Māhele ʻĀina*, Mānana Ahupua'a is documented as being retained by Ruth Keʻelikōlani, the great granddaughter of Kamehameha. After her death, the *ahupuaʻa* was endowed to Kamehameha Schools by her heir, Pauahi Bishop (Kameʻeleihiwa 1992). However, as a result of the *Māhele* in 1848, a large amount of *konohiki* land in Mānana were awarded to *aliʻi*. A total of 72 Land Commission Awards were awarded, all within Mānana-iki. Additionally, 8 land grants were awarded. All of Mānana-nui (the upper portion of Mānana), a total of 1478.52 acres, was granted to Reymond, Joseph & Bernard, Louis in 1856 (Gr. 2060), including the land encompassing the current project area. The Hawaiian Government Survey Map of Oahu in 1881 and in 1902 record this grant (Figures 8 and 9).

In the decades following the *Māhele ʻĀina* of 1848, the landscape and demography of ʻEwa and much of Oʻahu began to change drastically as ranching and the commercial cultivation of rice and sugarcane took hold. In the mid- and late 1800s, rice cultivation was a major industry in ʻEwa with the *ahupuaʻa* of Waikele and Waipiʻo having the most productive rice fields in the Hawaiian Islands. The lower lands of Mānana are recorded as being dominated by Chinese rice farmers at the end of the 19th century (Farley et al. 2018). Chinese planters leased abandoned *loʻi* and unused *kuleana* lands from Hawaiian families, taking advantage of the many artesian wells in ʻEwa district that were located between the coast and the inland. Chong (1998) reports that in 1890 "more than ten million pounds of rice were exported, raised on sixteen thousand acres of rice paddies" in the area, which marked the peak of Hawaiian rice production and ranked Hawaiʻi as the third largest U.S. rice producer behind Louisiana and South Carolina.

In addition to commercial rice production, the rise of sugar cane cultivation had major implications for the landscape of ʻEwa, including Mānana. Three major sugar plantations dominated the ʻEwa District: The Ewa Planation located largely within Honouliuli and Hōʻaeʻae Ahupuaʻa in the western portion of ʻEwa, The Oahu Sugar Company (OSC) located upland of the Ewa Plantation and in the central section of the district and lastly, The Honolulu Planation situated in the eastern section of ʻEwa. The Honolulu Plantation, founded in 1899, had roughly 1,400 of acres planted cane between Waimano and Kalihi, including in a large portion of Mānana; it was further described as: "distinctly an annexation plantation, the youngest on Oahu, but its boundaries included lands that were planted to cane back in the [18]50s and early [18]60s" (*Honolulu Star-Bulletin* October 12, 1935:39). By 1935, Honolulu Plantation included "5,500 acres of leased cane lands and 1,000 acres of pasture and waste land, together with 83 acres of land owned in fee simple" (*Honolulu Advertiser* December 7, 1946:11). The Honolulu Plantation was entirely dependent on irrigation and took water from artesian wells along the shores of Pearl Harbor, using pumps to reach the highest planted areas at 500 feet in elevation. While sugar cane cultivation took over much of ʻEwa District and much of Mānana Ahupuaʻa in the late 19th and early 20th centuries, the current project area was not cultivated for suger cane or rice. A 1902 Hawaii Territory Survey map by Walter E. Wall shows the project area as within the developing Pearl City. The map indicates that the project area lies just south of the western most fields of Honolulu Plantation and above wetland used for rice and taro cultivation.

The growing sugarcane industry relied heavily on its ability to transport the sugar product from the fields to the sugermills and eventually to ports or storage locations. In 1888, B.F. Dillingham financed a railroad to connect Honolulu with Pearl Harbor. Thus, the Oahu Railway and Land Company (OR&L) was born. By 1989, the railroad had grown and extended from Honolulu to Pearl City, to Waiʻanae in 1895 and to Kahuku by 1899 (Farley et al. 2018:27). In Mānana, the Pearl City Depot on the OR&L tracks was a major landmark and destination.

In 1947, Oahu Sugar Company (OSC) bought Honolulu Plantation in its entirety. However, suger cultivation soon declined "as its most productive lands were lost to the army and navy for home and business development as Honolulu expanded in the direction of Pearl Harbor" (*Honolulu Advertiser* December 7, 1946:6). As commercial sugar cultivation fell by the wayside, residential and commercial development associated with the population influx of military personnel and their families took over in Mānana as was happening across Oʻahu.

Thus, in addition to the development of major commerical plantations, the development of Pearl Harbor as a naval stronghold played a large role in the changing landscape of Mānana Ahupuaʻa and the greater ʻEwa District. In 1884, King David Kalākaua and U.S. President Grover Cleveland negotiated a treaty (referred to as the Pearl Harbor Treaty) through which the U.S. acquired Pearl Harbor. According to a newspaper article titled "Honolulu and Pearl Harbor Vital Centers of America's Power in Pacific," beginning in the 1840s, members of the U.S. Government made it clear to all European countries who showed any interest in occupying the Hawaiian Islands that the U.S. would not allow it (*Evening Bulletin* July 16, 1908:II:1). Then, as countries in Asia began to show interest, the U.S. shifted their focus to the east. As the Spanish-American war unfolded, the U.S. determined "to acquire the sovereignty of the Hawaiian Islands, both for the protection of the [U.S.] Pacific coast and in order to make it possible to maintain any naval base in the Far East" (ibid.). The same article states that Pearl Harbor was a position that offered "strategically and otherwise, the finest site for a naval and coaling station to be found in the whole Pacific" (ibid.). To that end, more than 600 acres had been acquired for the construction of a naval station and that almost 10 years had passed since the annexation of Hawaiʻi in 1898 without breaking ground. In 1908, an appropriation of $3,000,000.00 was made by Congress to straighten the channel and establish the extant Naval Base at Pearl Harbor (ibid.)

When the U.S. entered World War II, "the Army took possession of over 500,000 acres of Ewa Plantation land" (Campbell 1994:2). The OR&L continued to flourish through the end of World War II and provided transport for millions of passengers and freight during the war, proving itself indispensable to the U.S. Army and Navy. However, after the war, as infrastructure improvements to Oʻahu roadways were implemented and a shift to automobiles, trucks, and buses for the transport of people and goods was underway, the OR&L could not compete (Yardley 1981). The year 1947 marked the close of the main line while limited operations between the docks and pineapple canneries continued before complete abandonment of the railway a few years later.

In contrast, ten years after the attack on Pearl Harbor, "a good sugar crop and substantial investment in new equipment and development" were able to mitigate the effects of World War II on the sugar industry (Campbell 1994). Castle and Cooke Ltd. became the majority shareholder of Ewa Plantation Company stock in 1962. In 1970, Ewa Plantation was unable to renew its lease for the Campbell Estate lands and was forced to merge with Oahu Sugar Company (OSC), which had been acquired by AMFAC, Inc. roughly a decade prior to the merger (Yardley 1981). Because of the merger, OSC became "the second largest sugar plantation in Hawaii and the third largest in the U.S." (Yamamoto

et al. 2005:43). By 1982, OSC covered 55 square miles of land with 15,488 cultivated acreages (ibid.). OSC continued to produce high yields well into the 1980s.

Following WWII, the lower lands of Mānana remained part of the Naval Reservation and were used primarily for military family housing and for warehouses. Today, much of the Pearl City peninsula is occupied by the US military. The area surrounding the current project area and immediately above Pearl City Peninsula consists of residential and commercial properties. In August 1968, work began on the construction of Pearl City Regional Library with a groundbreaking ceremony conducted with an *o'o*, a traditional Hawaiian digging stick (Honolulu Advertiser 1968:28). The library had been designed by Arthur Kohara and consisted of 16,000 square foot single story building that featured "textured concrete [exterior] walls, with narrow rock trim and strip windows" (Figure 10; Honolulu Advertiser 1968:28). The library cost a total of $622,000 and was intended to serve the entire leeward side of Oʻahu, which at the time was 150,000 residents. The library was dedicated and officially opened in November 1969 (Honolulu Star Bulletin 1969:30). Newspapers leading up to its opening boasted that the library would be stocked with 120 periodical, 75,000 books, microfilm readers, electrified carrels, and a moveable projector and screen (Honolulu Advertiser 1968:28; Honolulu Star Bulletin 1969:30). Since its opening in 1969, Pearl City Public Library has been one of the largest public libraries on Oʻahu.

Prior Relevant Archaeological Studies in the Vicinity of the Current Project Area

While there have been no previous archaeological studies conducted within the extent of the current project area, there are 14 archaeological studies which have been conducted within the nearby vicinity of the subject parcels. This section of the report describes these studies to develop a comprehensive understanding of potential archaeological and cultural sites which may be extant within the project area (Table 1 and Figure 11).

Table 1. Previous Archaeological Studies Conducted in the Vicinity of the Project Area

Year	*Author*	*Type of Study*	*Results*
1933	McAllister	Island-Wide Survey	Identified Site -114, Kukona pond, Site -115, Loko Luakahaole, Site -119, Loko Kuhialoko, Site -120, Loko Moʻo
1980	Connolly	Archaeological Reconaissance	No historic properties identified
1988	Pietrsewsky & Mahoney	Osteological Report	Remains of six individuals inadvertently discovered during construction at Leeward Community College
1990	Kaschko	Field Inspection and Subsurface Survey	Identified formal cemetery and located 12 human burials
1995	McGerty and Spear	Archaeological Assessment	No historic properties observed
1998	Hammatt & Chiogioji	Archaeological Reconaissance	No historic properties identified.
1998	Rechtman & Henry	Archaeological Reconnaissance	No historic properties identified
2003	Dega & O'Rourke	Archaeological Evaluation of environmental samples	No historic properties identified
2008	Groza et al.	Archaeological Inventory Survey	SIHP Site # 50-80-07-6918., remains of military barracks and hospital.
2010	Hammatt	Archaeological Inventory Survey	SIHP Site # 50-80-09-7751, subsurface deposit of *lo'i* sediments
2012	Stroat et al.	Archaeological Inventory Survey	Identified SIHP Site # 50-80-09-7150, *lo'i* remains
2013	Stroat et al.	Archaeological Inventory Survey	No historic properties identified

2016	Yucha et al.	Archaeological Monitoring Report	No cultural features or sites were identified
2019	Gotay & Rechtman	Archaeological Inventory Survey	SIHP Site # 50-80-09-8778, historic agricultural station

In the first island-wide reconnaissance survey of Oʻahu, McAllister (1933) recorded 4 sites near the current project, Site -114: Kukona pond, Site -115: Loko Luakahaole fishpond, Site -119: Loko Kuhialoko and Site -120: Loko Moʻo. All these sites are located on the northern portion of Pearl City Peninsula, approximately 1.3 km southwest of the current project area. According to Sterling and Summers (1978:48), Site -114, -115 and -119 have been filled in completely, while Site -120 was mostly filled in and is now a very small pond.

In 1980, Archaeological Research Associates conducted an archaeological reconnaissance survey at Manana Kai Neighborhood Park, located 0.5 km west of the current project area (Connolly 1980). Pedestrian survey found no historic properties within the survey area and that the parcel had been modified by historic development in the area. In 1988, the Department of Land and Natural Resources recovered skeletal remains of at least 6 individuals at a construction site located on the campus of Leeward Community College, approximately 1.5 km from the current project area (Pietrusewsky and Mahoney 1988).The remains were delivered to the Physical Anthropology Lab at the University of Hawaiʻi Mānoa where they were further analyzed. Items found with the remains include a clear round glass disk thought to be part of a lantern and fragments of red cloth. The remains were interpreted as being of East Asian ancestry.

International Archaeological Research Institute, Inc. (IARII) conducted a field inspection and concurrent subsurface testing of a parcel located in Pearl City (TMK: [1] 9-7-019:010) to test for the presence or absence of unmarked human burials (Kaschko 1990). The field inspection recorded the presence of 4 to 5 intact graves within the western portion of the parcel. Additionally, a large concrete cross and 14 head stones with dates ranging from 1900 to 1908 were observed in the southwest corner of the property. The subsurface testing identified an additional 7 subsurface burials located on the parcel. Only one burial displayed evidence of being disturbed or disarticulated. Kacshko (1990) concluded that the property was likely a "formal graveyard or cemetery burial arrangement" due to the standardized grave orientation and the regular and consistent location of the burials.

In 1995, Scientific Consultant Services (SCS) completed an archaeological assessment of 138.50 acres located at the juncture of Mānana Ahupuaʻa and Waiawa Ahupuaʻa, located immediately west of the current project area (McGerty and Spear 1995). The field inspection observed no historic properties located in the area.

In 1998, Cultural Surveys Hawaiʻi (CSH) conducted a survey of a 7.6 km long portion of H-1 Highway from Hālawa to the H1-H2 Interchange at Wahiawa (Hammatt and Chiojioji 1998). No surface archaeological sites or features were observed along the highway corridor. However, several buildings that may be eligible for the National Register of Historic Places or Hawaiʻi Register of Historic Places were observed in Pearl City including wood-frame houses, Pearl City Fire Station, and Pearl City Hongwanji.

In 1998, Paul Rosendahl, Ph.D., Inc. (PHRI) conducted an archaeological reconnaissance survey of the Red Hill Fuel Storage Area and the Ewa Drum Filling and Fuel Storage area (Rechtman and Henry 1998). No archaeological properties were observed. However, six historic/modern features were observed, including three concrete slabs, a concrete wall associated with a concrete box, an excavated depression, and an earthen mound. These features were interpreted as related to World War II military infrastructure or related to later military facility construction. However, they were determined to have not retained their original integrity and therefore, are not considered significant.

In 2003, SCS conducted an archeological evaluation of field data recovered during environmental sampling at Neil Blaisdell Park (Dega and O'Rourke 2003). The results of the analysis found no significant cultural components in the samples.

In 2008, CSH conducted an archaeological inventory survey (AIS) including subsurface testing of a 4.7 acre property located between Hale Mohalu and the existing commercial properties located off of Kamehameha Highway (Groza et al. 2008). As a result of the survey, one historic property was identified and documented, SIHP Site # 50-80-07-6918. The site consisted of concrete and basalt infrastructure associated with the former World War II barracks and Hale Mohalu Hospital. Trenching in the southern and western portions of the project area revealed soils containing evidence of cultural activities and agricultural deposits, located roughly 0.8 km southwest of the current project area. These areas were associated with LCA locations which suggests these parcels once had *loʻi* and *kula* (pasture). Radiocarbon

dating was conducted on charcoal flecks recovered from these trenches; the sample yielded four possible calibrated 2-sigma date ranges with the most likely range being 1610 AD to 1690 AD (41%). No site numbers were given to these subsurface deposits.

In 2010, CSH conducted an AIS for Phase I of the then proposed Honolulu High-Capacity Transit Corridor Project (HHCTCP), which crossed various parcels throughout portions of Honouliuli, Hōʻaeʻae, Waikele, Waipiʻo, Waiawa, and Manana Ahupuaʻa (Hammatt 2010). Pedestrian survey of the roughly 7.4-mile-long alignment, limited Ground Penetrating Radar survey, and over ninety subsurface test excavations, resulted in the identification of a single intact cultural deposit (SIHP Site # 50-80-09-7751). Site 7751, a subsurface deposit of *loʻi* sediments, was discovered at the proposed location for the Waipahu Transit Station, roughly 3.8 kilometers southwest of the current study area. The site was interpreted as a Precontact agricultural feature and CSH prepared a Data Recovery Plan for the site (O'Hare et al. 2011).

In 2012, CSH conducted archaeological inventory surveys and subsurface testing for the Honolulu High-Capacity Transit Corridor Project (HHCPTCP) from Waiawa to Hālawa (Sroat et al. 2012). Only one archaeological site was identified, SIHP Site # 50-80-09-7150, a subsurface agricultural deposit, likely having resulted from wetland taro cultivation in the area. The deposit was located within the boundaries of a former mid-19th century LCA. Pollen analysis of the soil reveal evidence of taro and sweet potato pollen. In 2013, CSH conducted a supplemental archaeological inventory survey and subsurface testing of a 0.2-acre portion of Pearlridge Station for the HHCPTCP (Sroat et al. 2013). No historic properties were identified.

In 2016, CSH conducted archaeological monitoring during excavation to repair existing waste water pipelines along the *mauka* border of Pearl City Peninsula (Yucha et al. 2016). Within the vicinity of the project is SIHP Site # 50-80-09-9714, OR&L Right-of-Way and SIHP # Site 50-80-09-0119, Loko Kuhialoko fishpond deposit. However, no ground disturbing activities disturbed these sites. No other historic properties were identified as a result of the archaeological monitoring effort.

In 2019, ASM Affiliates conducted an archaeological inventory survey of a roughly 17-acre area that comprised the upper and lower campuses of Waipahu High School in Waipiʻo Ahupuaʻa (Gotay and Rechtman 2019). As a result of the survey, a single newly identified site (SIHP Site # 50-80-09-8778) comprising four features (Features A-D) was recorded. Features A-D include multiple sub features, which include the following: a series of discontinuous dry-stacked rock retaining walls, concrete reinforced stone masonry steps, a combination dry-stacked rock and concrete block retaining wall, a concrete block wall with associated concrete pads and steps and a large concrete box/vault. Site 8778 was interpreted as a Historic Period agricultural station.

The results of previous archaeology conducted in the near vicinity of the project demonstrate the scarcity of surface archaeological historic properties within the Pearl City area. Historic commercial agriculture along with historic and modern military development in the area likely destroyed any previous extant Precontact sites. However, several studies have encountered subsurface deposits, particularly those associated with *loʻi* deposits (Groza et al. 2008; Hammatt 2010; Sroats et al. 2012). Therefore, while no surface archaeological sites are anticipated in the project area due to the development activities associated with the library, there is a small possibility that subsurface archaeological deposits be extant within the project area.

Field Inspection and Findings

On February 23, 2023, Carol Oordt, M.A. and Nick Belluzzo, M.A., who meets the Secretary of the Interior's Professional Qualification Standards of the National Historic Preservation Act (NHPA) Section 112 and the Section 106 regulations (§800.2[a][1]), for Archaeology and History, assessed the subject parcel for any potential historic properties.

The project area consists of two parcels, TMK: (1) 9-7-094:026, which comprised the *makai* portion of the project area and TMK (1) 9-7-094:029, which comprised the *mauka* portion. The *mauka* portion of the project area sits above street level on a raise graded platform (Figures 12 through 15). The parcel is largely devoid of structures. However, several areas of degrading concrete and asphalt, surrounded by overgrown Bermuda grass (*Cynodon dactylon*) are located within the parcel (Figures 13 and 14). A chain link fence surrounds the north, east and west perimeters of the *mauka* portion of the project area. The chain link fence sits atop a concrete retaining wall on the eastern border along Waimano Home Road and atop a cinderblock wall along the northern border of the parcel.

The southern portion of the project area is completely developed and is currently occupied by the Pearl City Public Library and parking lot (Figure 16). The Pearl City Library was constructed in 1969, making it potentially eligible for either the National or State Registers of Historic Places (NRHP). However, this study did not formally evaluate the property. The parking lot is paved with asphalt and has multiple concrete walkways and dividers (Figure 16). A lava rock wall runs parallel to the east side of the library building separating the building from the sidewalk and Waimano Home Road (Figure 17). The southern boundary of the project area has a steep slope running approximately from the edge of library building to the sidewalk along Luehu Street (Figure 18). The western side of the library is separated from residential apartments by a chain link fence and small grassy area (Figure 19). No historic properties were observed during the field inspection.

Given the negative findings with respect to above-ground archaeological resources of the current study and previous ground disturbance activities related to the construction of library and grading of the northern portion of the project area, it is concluded that the proposed development will not affect any historic properties. The recommended determination of effect for the proposed project is "no historic properties affected."

With respect to the historic preservation review process of the Department of Land and Natural Resources–State Historic Preservation Division (DLNR–SHPD), it is recommended that no further work needs to be conducted within the current project area prior to, or during project implementation. In the unlikely event that archaeological resources are discovered during ground-disturbing activity associated with the proposed development, work should cease in the area of the discovery and the DLNR-SHPD contacted pursuant to HAR §13-280-3.

Should you have any question or concerns, please do not hesitate to contact me directly.

Sincerely,

Nick Belluzzo, M.A.
Principal Archaeologist
Honolulu Office Director

Figure 1. Subject parcel on portions of the Waipahu USGS Quadrangle.

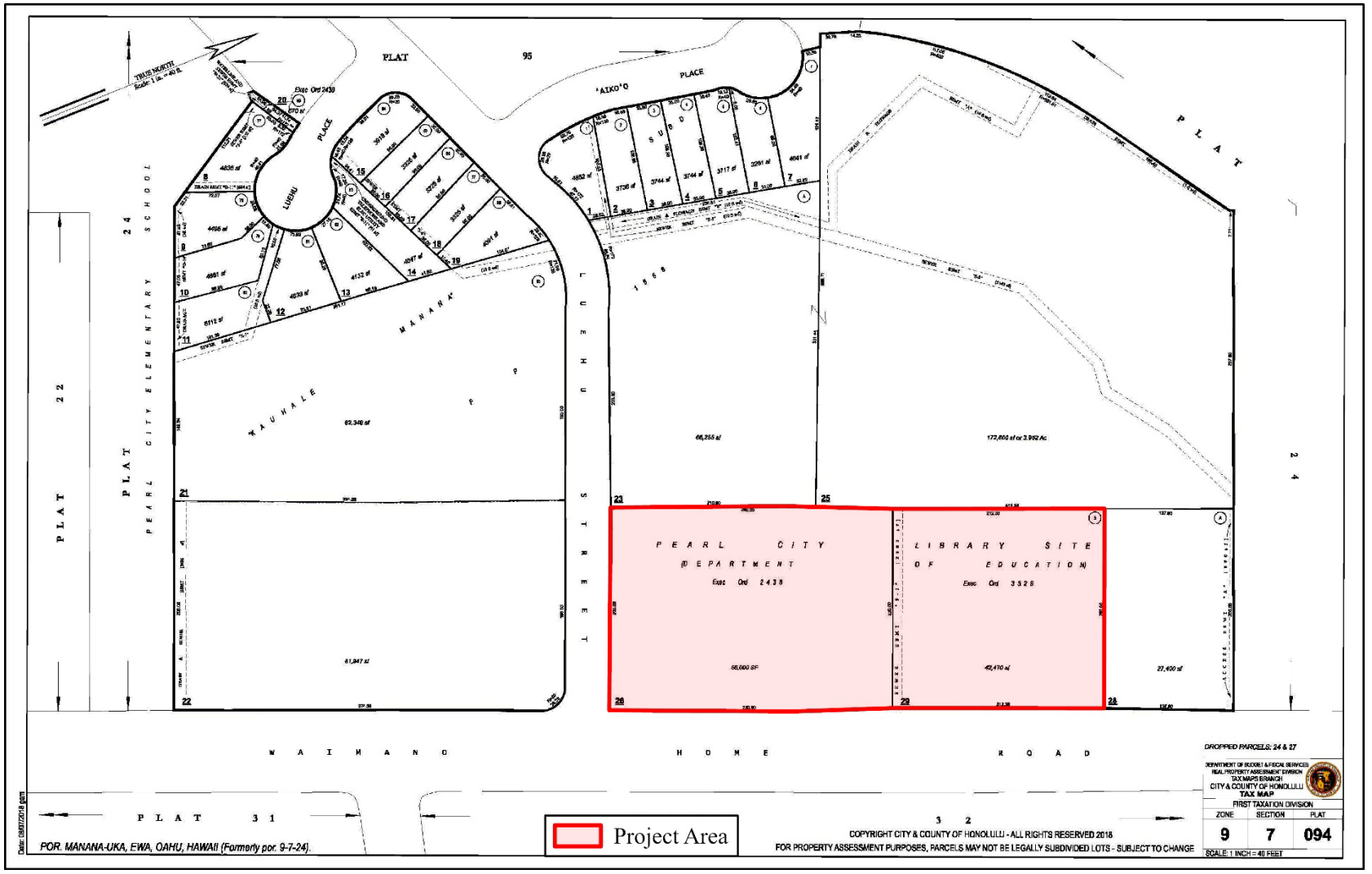


Figure 2. Tax Map Key (1) 9-7-094 showing location of current subject parcels within the project area (:026 & 029).

Figure 3. Recent satellite imagery of the project area.

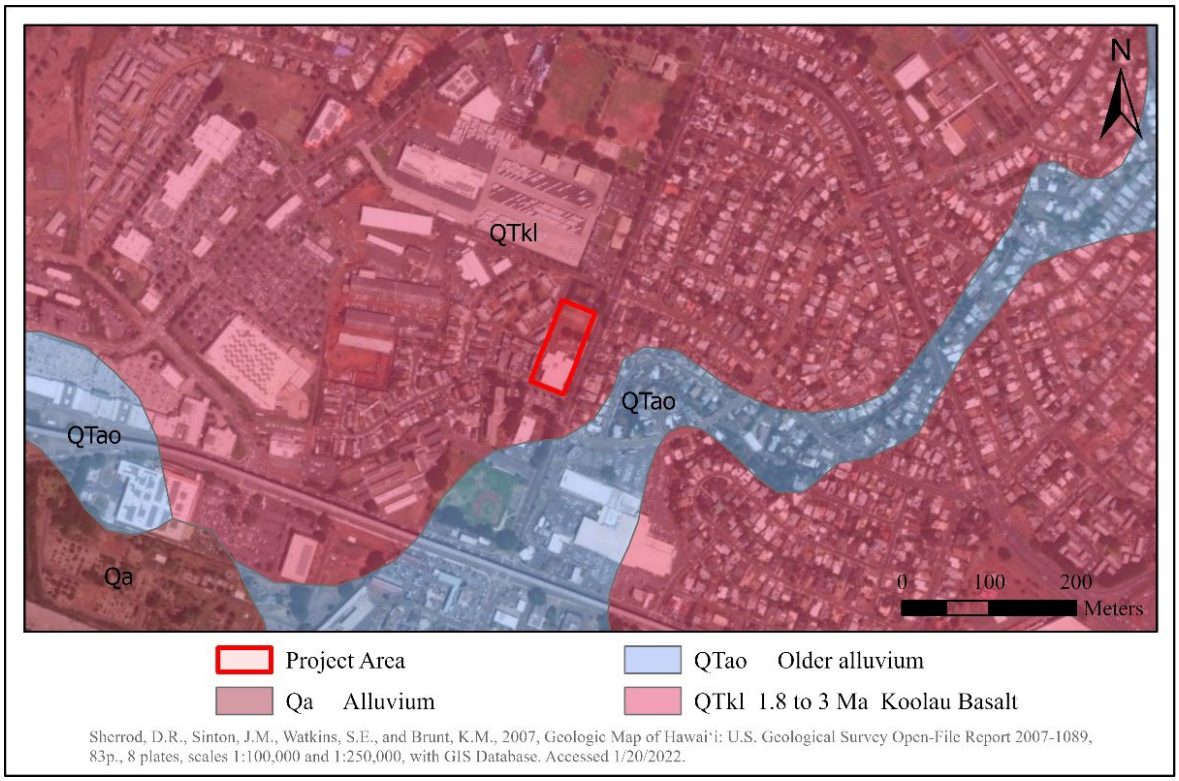


Figure 4. Geology in the vicinity of the project area.

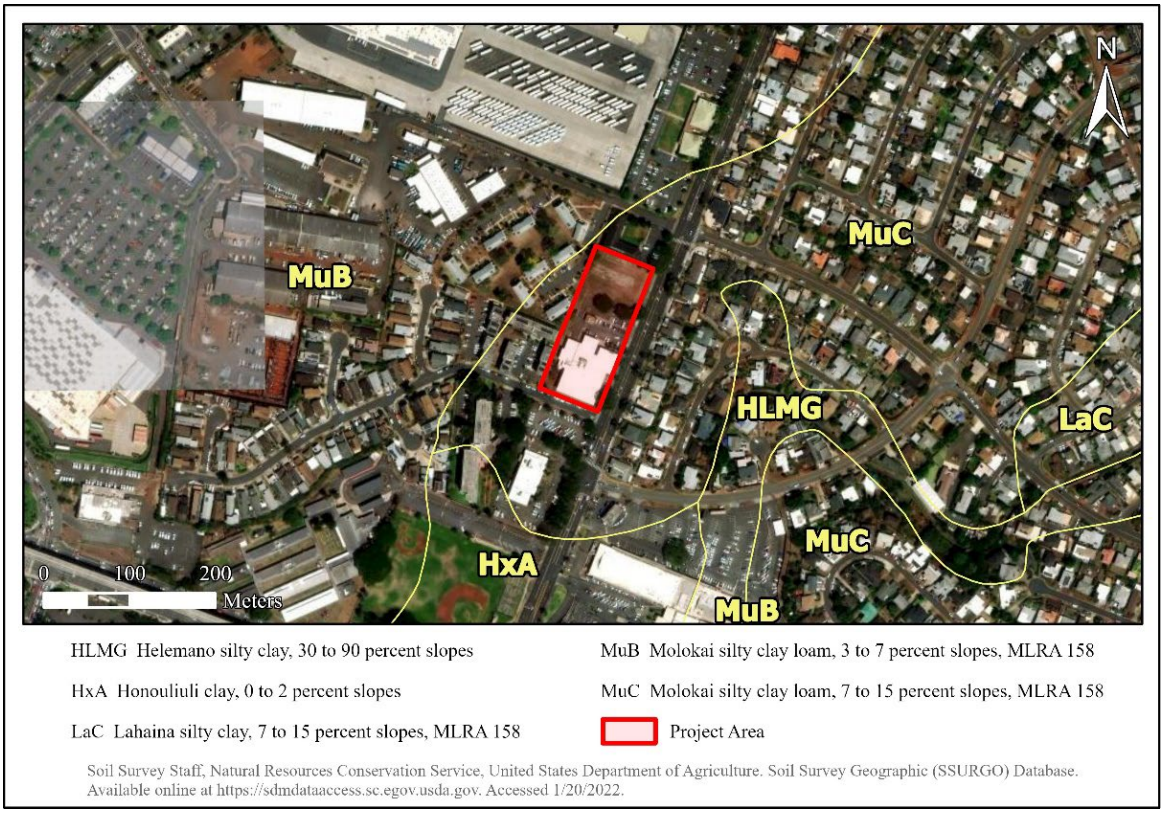


Figure 5. Soils in the vicinity of the project area.

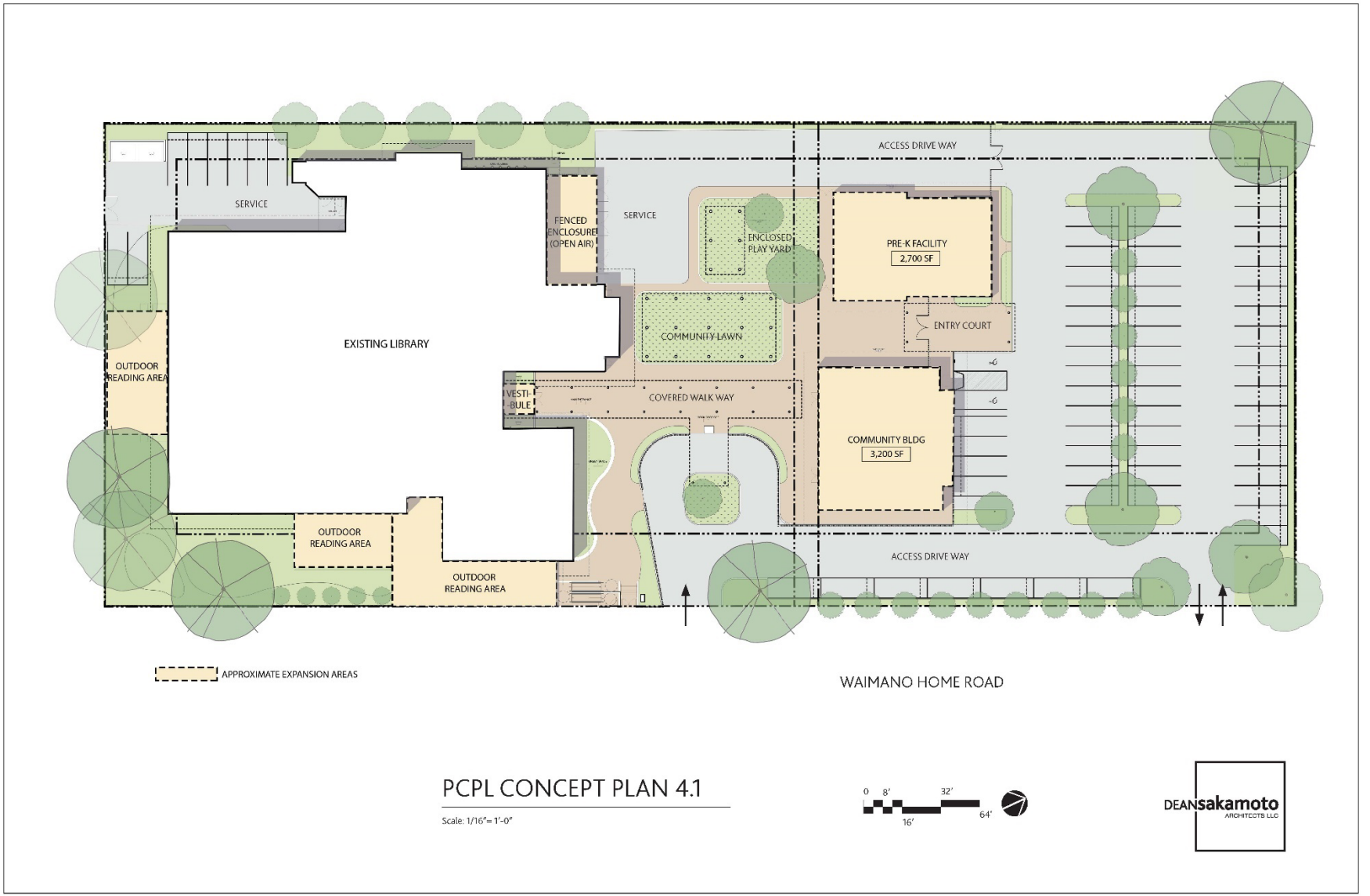


Figure 6. Concept plan for proposed Pearl City Public Library Expansion Project.

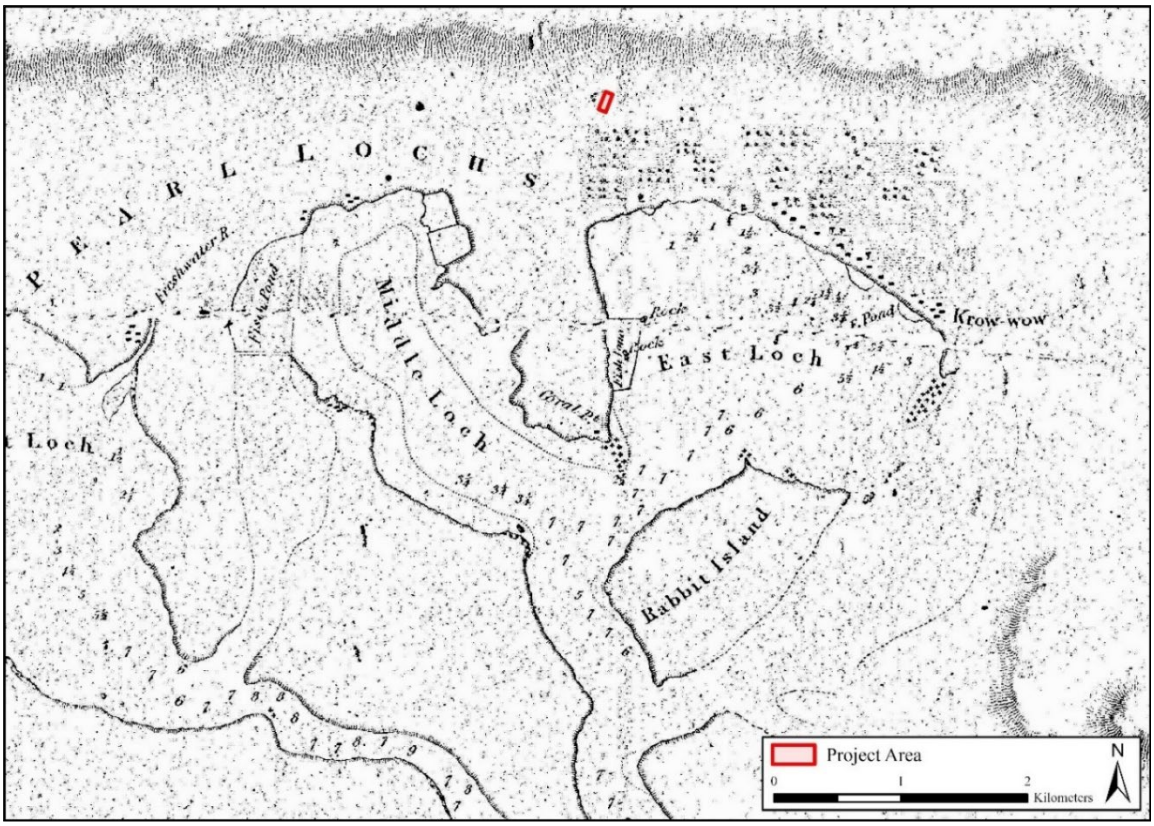


Figure 7. Portion of Hawai‘i Registered Map No. 640 prepared by C.R. Malden, circa 1793, showing project area.

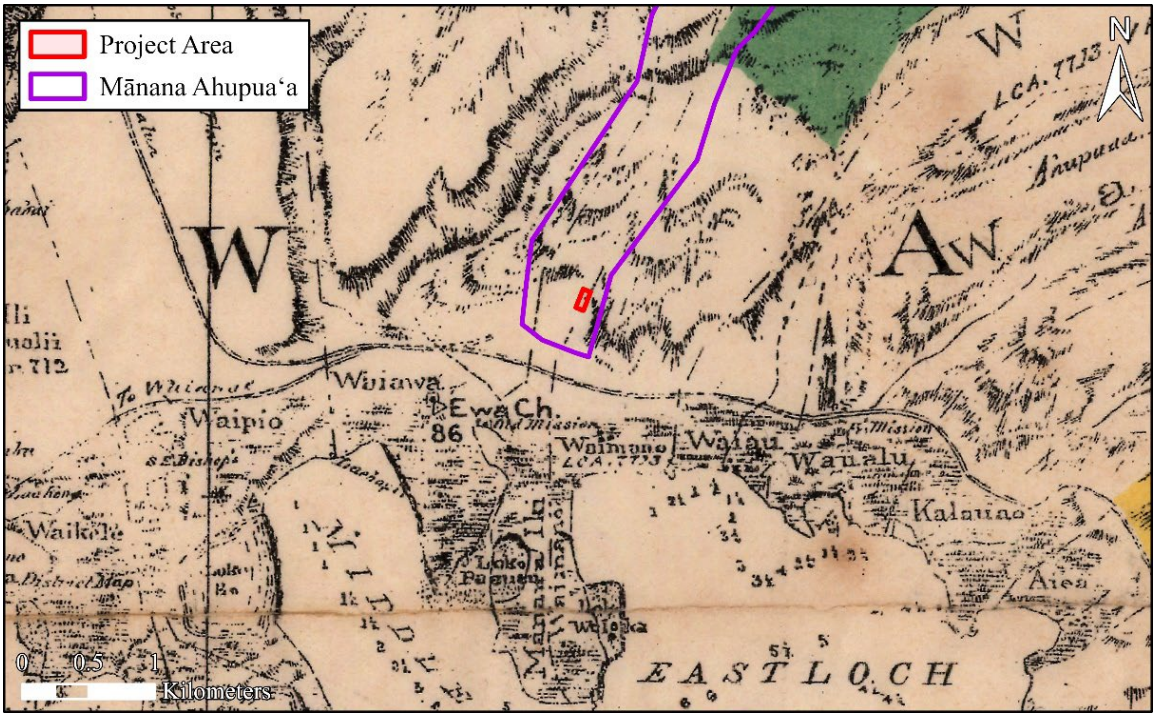


Figure 8. 1881 Hawaiian Territory Survey Map recording land grant comprising of Mānana Ahupua‘a.

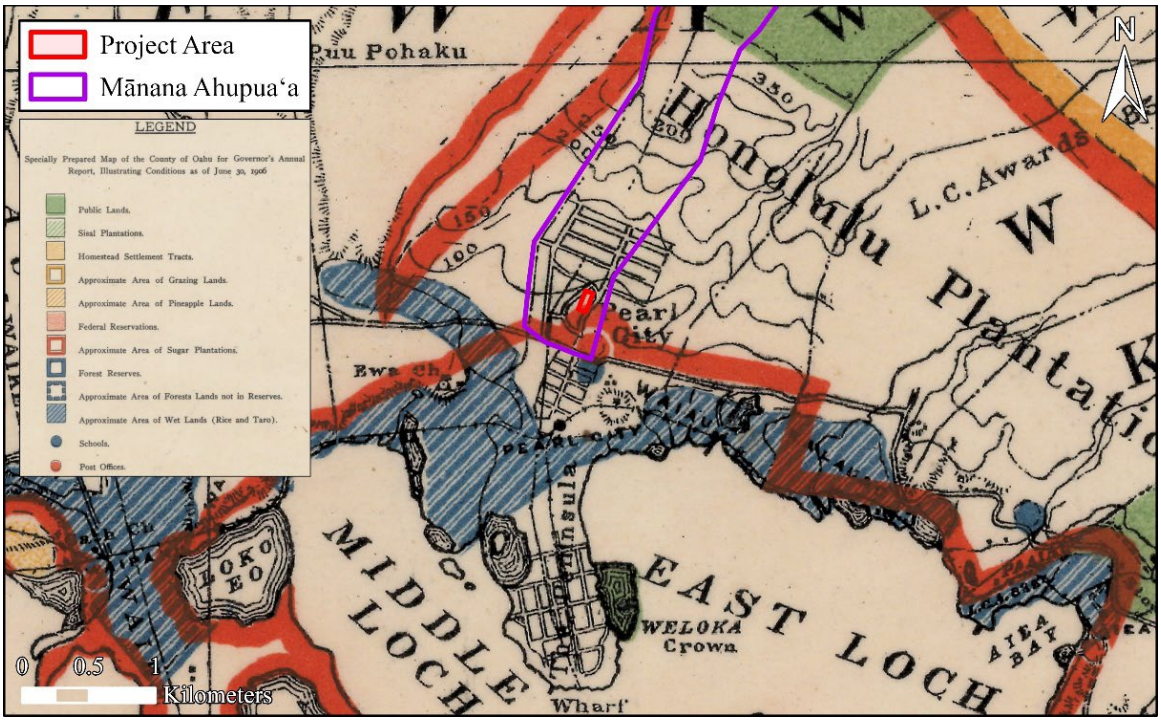
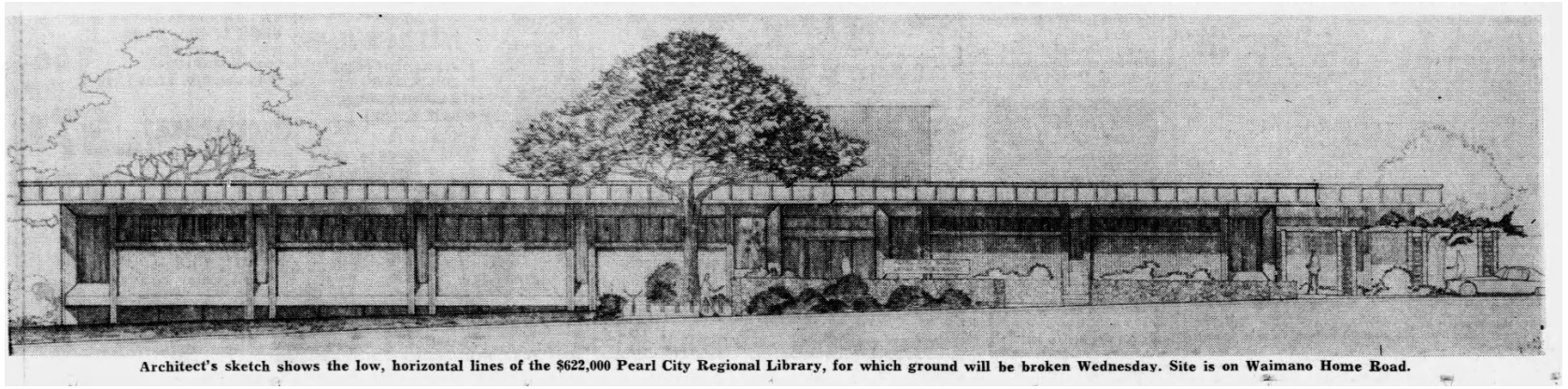


Figure 9. 1902 Hawaiian Government Survey Map recording land use in the vicinity of the project area.



Architect's sketch shows the low, horizontal lines of the $622,000 Pearl City Regional Library, for which ground will be broken Wednesday. Site is on Waimano Home Road.

Figure 10. Sketch of Pearl City Regional Library by architect Arthur Kohara (Honolulu Advertiser 1968:28).

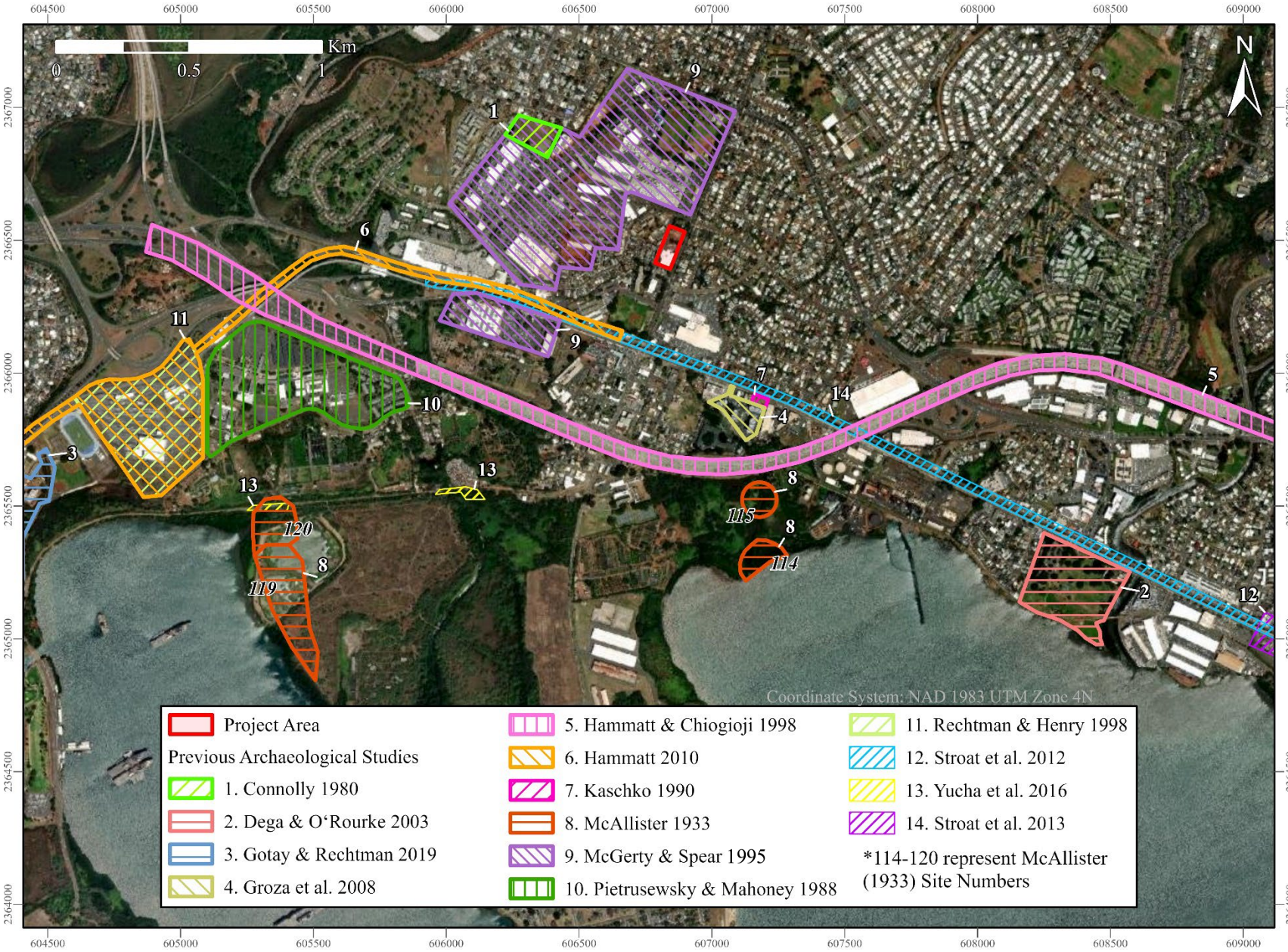


Figure 11. Previous archaeological studies conducted within the vicinity of the current Project Area.

Figure 12. Northern portion of the project area, view to the northeast.

Figure 13. Northern portion of the project area, view to the northwest.

Figure 14. Northern portion of the project area, view to the northwest.

Figure 15. Northern portion of project area, view to the north.

Figure 16. Northern side of Pearl City Public Library and parking lot, view to the south.

Figure 17. Eastern side of Pearl City Public Library along Waimano Home Road, view to the south.

Figure 18. Southern side of Pearl City Public Library along Luehu St., view to the west.

Figure 19. Western side of Pearl City Public Library, view to the south.

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Appendix F
Transportation Impact Assessment Report

Draft

TRAFFIC IMPACT ANALYSIS

Pearl City Library Renovation and Community Learning Center

Pearl City, Oahu, Hawaii

August 2023

Draft

TRAFFIC IMPACT ANALYSIS

Pearl City Library Renovation and Community Learning Center

Pearl City, Oahu, Hawaii

August 2023

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30902534.000

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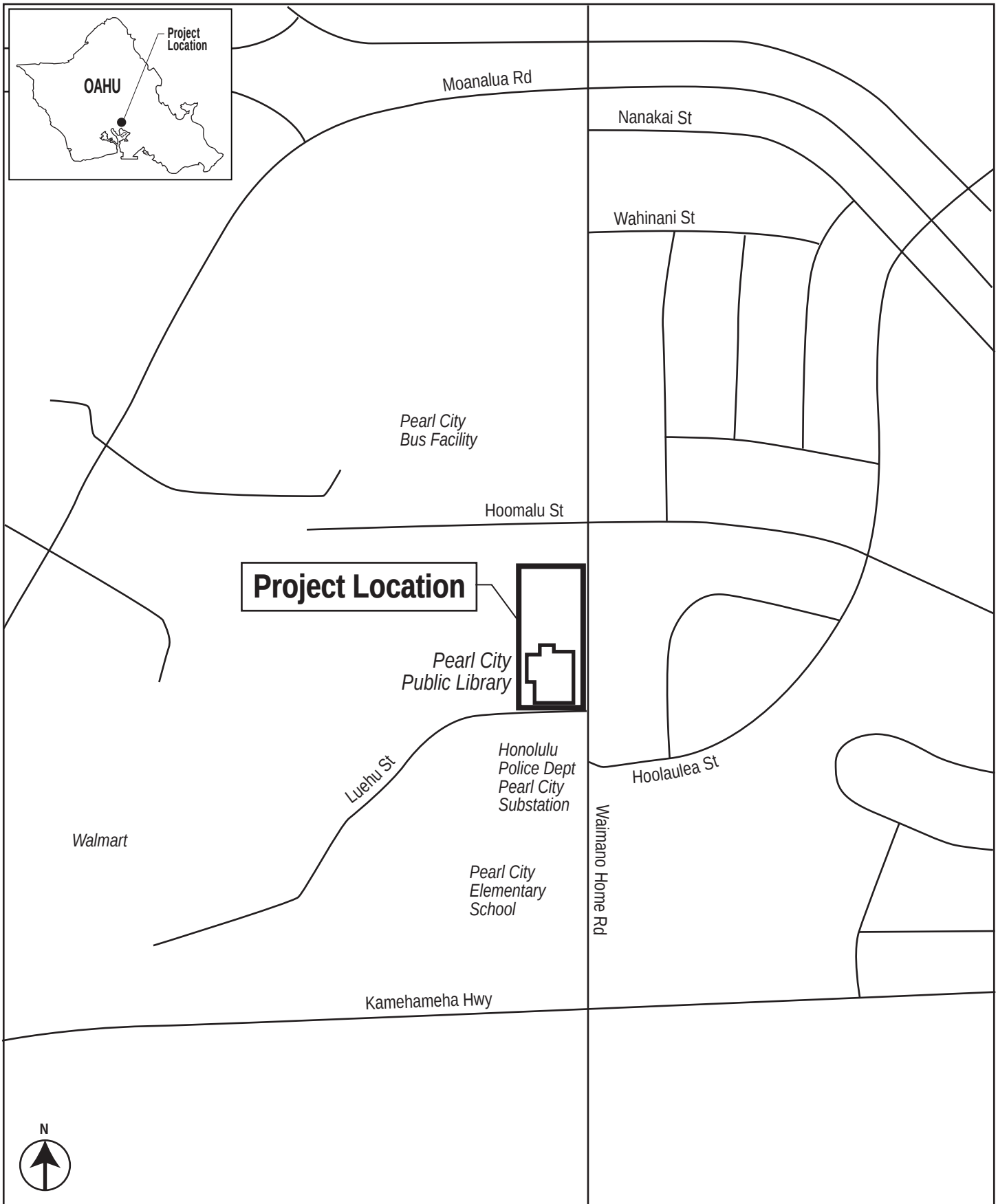
I. INTRODUCTION

The Pearl City Public Library is one of the largest libraries on Oahu. The library was opened on November 16, 1969 and offers a children's room, a Young Adult area, a large reading room, computers, WiFi, and a public meeting room. As shown in Figure 1, the library is located on Waimano Home Road next to the Honolulu Police Department (HPD) Pearl City substation.

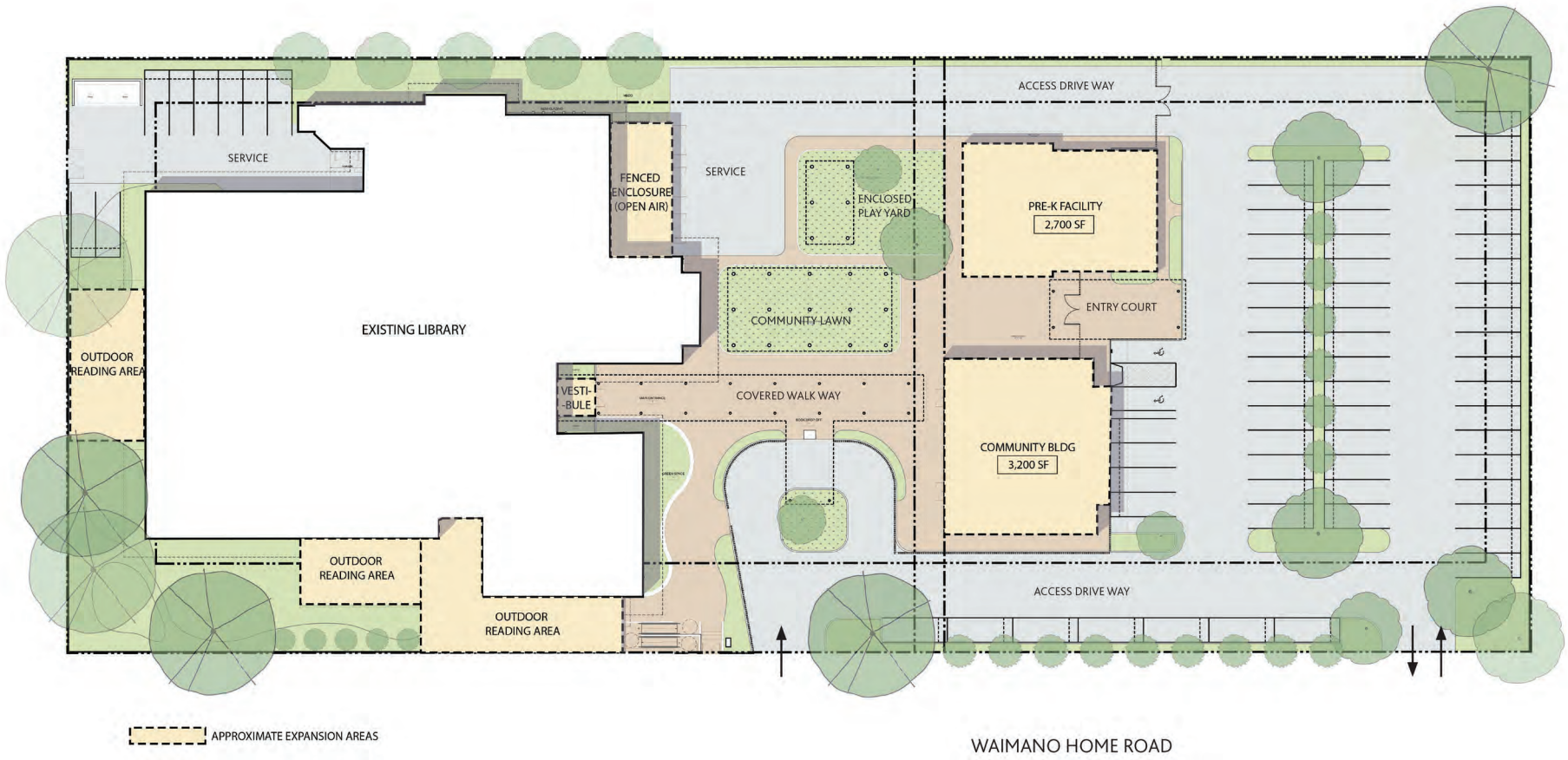
A reimagined Pearl City Public Library has been proposed and is shown in the site plan in Figure 2. The library building would be redesigned and renovated to replace the air conditioning system, electrical and plumbing infrastructure, broadband network, and open public areas of the library. In addition, the seating and collection spaces will be integrated with flexible meeting rooms, upgraded digital/technology equipment, and community maker spaces. WiFi would be extended to the area are surrounding the library to provide open air community meeting areas. In addition, two new buildings are proposed: a 2.7k square foot (SF) pre-K facility which could provide early learning programs and/or child care and a 3.2k SF community building which would support various community uses such as library programs, kupuna classes, and meeting places. These two buildings will be located in the open field area mauka of the existing library. The existing parking lot will be replaced by a new lot located mauka of the two new buildings.

The proposed library footprint will be reduced from the existing 24,064 SF to 23,500 SF. The proposed year of opening is 2026.



Vicinity Map

Figure 1



PCPL CONCEPT PLAN 4.1

Scale: 1/16"= 1'-0"

0 8' 32' 16' 64'

DEANsakamoto ARCHITECTS LLC

Project Site Plan

Figure 2

II. Existing Conditions

A. EXISTING LAND USE

The project site is located on Waimano Home Road in lower Pearl City on the island of Oahu. The areas mauka and Diamond Head of the study area consist largely of single-family dwelling units. In addition to the Pearl City Public Library, the area Ewa of Waimano Home Road contains institutional and commercial land uses, including the HPD Pearl City substation, the Pearl City Bus Facility, Pearl City Elementary School, and various shopping centers.

The Pearl City Public Library is 24,064 SF and provides 61 parking spaces.

B. EXISTING ROADWAY SYSTEM

The project study area centers around a segment of Waimano Home Road between Moanalua Road and Kamehameha Highway.

1. Waimano Home Road

Waimano Home Road provides mauka-makai mobility and access within the Pearl City area. It originates at Kamehameha Highway and travels mauka up the mountain through upper Pearl City, terminating about 1.5 miles beyond Pearl City High School. Within the study area between Moanalua Road/Kuala Street and Kamehameha Highway, Waimano Home Road is a 5-lane roadway with a two-way left turn lane. On-street parking is provided in the mauka-bound direction. The posted speed limit on Waimano Home Road is 25 miles per hour (mph). In the vicinity of the project, the intersections with Moanalua Road, Hoolaulea Street, and Kamehameha Highway are signalized.

2. Hoomalu Street

Hoomalu Street is a minor collector which provides Ewa-Diamond Head access within the study area, primarily within the residential parts of Pearl City. Hoomalu Street is a two-lane roadway with on-street parking in both directions. The posted speed limit on Hoomalu Street is 25 mph. The Waimano Home Road/Hoomalu Street intersection is unsignalized with two-way stop control provided for the Hoomalu Street approaches. Marked crosswalks are provided at the makai leg of Waimano Home Road and the Diamond Head leg of Hoomalu Street.

3. Luehu Street

Luehu Street is a two-lane roadway which provides Ewa-Diamond Head access to residential uses within the study area. Luehu Street is a two-lane roadway with on-street parking provided in the Ewa-

bound direction. The posted speed limit on Luehu Street is 20 mph. The Waimano Home Road/Luehu Street intersection is unsignalized with two-way stop control provided for the Luehu Street approach. Left turns from Waimano Home Road and from Luehu Street are restricted from 6:30 AM-8:30 AM and 3:30 PM-5:30 PM. A marked crosswalk is provided at the Luehu Street leg.

4. Pearl City Public Library Driveways

The library is currently accessed via two driveways on Waimano Home Road. The makai driveway is an in-only driveway and the mauka driveway is out-only.

C. EXISTING TRANSIT

The Public Transit Division of the Department of Transportation Services provides an island-wide public bus transit system called TheBus. TheHandi-Van provides paratransit service for semi-ambulatory and non-ambulatory persons with disabilities. Both systems are operated by Oahu Transit Services (OTS) and carry more than 80 million passengers annually.

The following bus routes serve the study area include:

- Route 53 – Honolulu-Pacific Palisades: Route 53 connects the Pacific Palisades area of Pearl City to Ala Moana Shopping Center via Waimano Home Road, Kamehameha Highway, Moanalua Freeway, and King Street/Kapiolani Boulevard.
- Route 532 – Momilani-Pearl Highlands: Route 532 connects upper Pearl City to the Waiawa Pearl Highlands Station via Hoolaulea Street and Kamehameha Highway.
- Route 533 – Pacific Palisades: Route 533 connects upper Pearl City to the Pearl City Bus Facility via Komo Mai Drive and Waimano Home Road.
- Route 535 – Pearl City Peninsula-Pearl Highlands: Route 535 connects the Waiawa Pearl Highlands Station to the Pearl City Peninsula via Kamehameha Highway, Kuala Street, and Waimano Home Road/Lehua Avenue.

A pair of bus stops are located on either side of Waimano Home Road just makai of Hoomalu Street. A second makai-bound bus stop is located just makai of Luehu Street.

D. EXISTING INTERSECTION GEOMETRY AND CONTROL

Existing traffic conditions were observed and documented, and operations of study area intersections were analyzed. The existing intersection operational characteristics established base conditions for comparison to future operations with and without the project.

Traffic-related data was collected for each of the study intersections. Traffic turning movement counts, field observations of intersection operations, and general intersection characteristics were noted. Geometric lane configurations, intersection traffic control, and traffic signal phasing and timing data were collected. Intersection geometry inventory included the following:

- Number of lanes and lane widths,
- Crosswalk locations,
- Unsignalized intersection control,
- Signalized intersection locations, and
- Posted speed limits.

These data were used as inputs into the intersection analyses.

E. BICYCLE/PEDESTRIAN FACILITIES

Within the study area, bicyclists are expected to share the road with motorists. Raised sidewalks are provided along Waimano Home Road, Hoomalu Street, and Luehu Street. A marked crosswalk is provided across the makai Waimano Home Road leg at Hoomalu Street and along minor street approaches within the study area.

F. EXISTING TRAFFIC/PEDESTRIAN VOLUMES

Traffic turning movement counts and pedestrian/bicycle counts were conducted on Thursday, February 23, 2023 during the AM and PM peak hours at the following intersections:

- Waimano Home Road/Hoomalu Street
- Pearl City Public Library mauka driveway
- Pearl City Public Library makai driveway
- Waimano Home Road/Luehu Street

The AM and PM peak hours were found to occur from 7:15 AM to 8:15 AM and from 4:00 PM to 5:00 PM, respectively. It should be noted that the Library closes at 4:00 PM on Wednesday, Thursday, Friday, and Sunday and at 7:00 PM on Monday and Tuesday. Since the data collection was conducted on a Thursday, the library was closed during the PM commuter peak hour on Waimano Home Road.

Figure 3 shows the existing peak hour traffic volumes for each turning movement at these intersections. Existing traffic count data can be found in Appendix A. Pedestrian crossing volumes are shown in Figure 4. As shown in Figure 4, few pedestrians cross Waimano Home Road throughout the day. Pedestrians tend to stay on one side of the road.

G. EXISTING TRAFFIC OPERATIONS

The intersections were analyzed in Synchro 11 using the methodologies for unsignalized and signalized intersections outlined in the *Highway Capacity Manual 6th Edition (HCM6)* and the *Highway Capacity Manual 2000 (HCM 2000).*

Operating conditions at an intersection by approach are expressed as a qualitative measure known as Level of Service (LOS) ranging from A to F. LOS A represents free-flow operations with low delay, while LOS F represents congested conditions with relatively high delay. The overall intersection LOS is a weighted average of the LOS of individual traffic movement groups. Appendix B has more detailed definitions of intersection LOS. Appendix C contains the Synchro worksheets.

Table 1 displays the existing conditions LOS for each intersection.

1. Waimano Home Road/Hoomalu Street

As shown in Table 1, Ewa-bound and Diamond Head-bound Hoomalu Street approaches operate at LOS C during the AM peak hour. During the PM peak hour, the Diamond Head-bound approach operates at LOS B while the Ewa-bound approach operates at LOS C.

Vehicles were occasionally observed to use the 16'-wide Ewa-bound Hoomalu Street approach as two lanes but this was rare.

2. Waimano Home Road/Pearl City Library Mauka Driveway

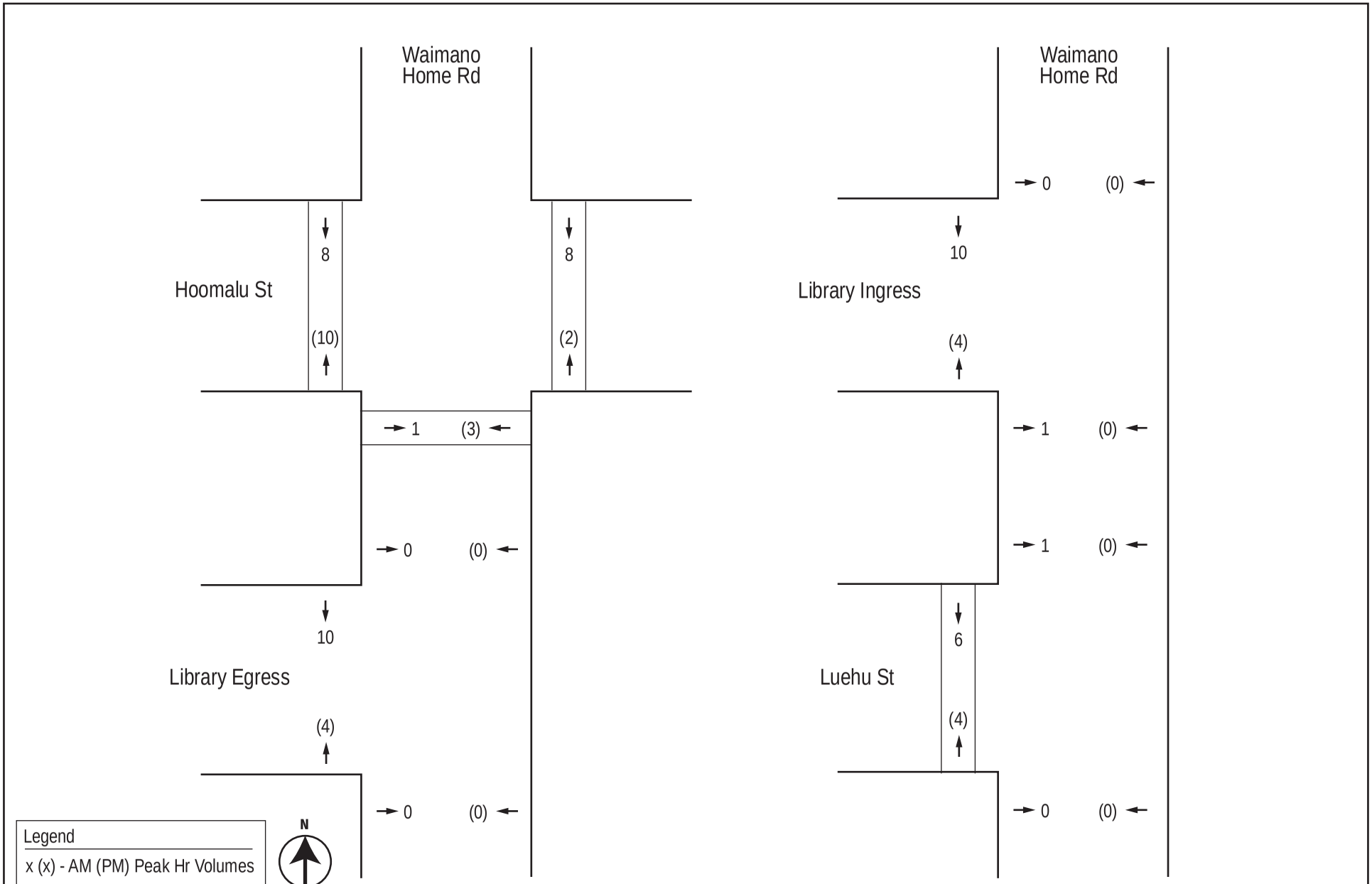
The library egress operates at LOS B overall during the AM and PM peak hours.

3. Waimano Home Road/Pearl City Library Makai Driveway

The mauka-bound Waimano Home Road approach operates at LOS A overall during the AM and PM peak hours.

Figure 3

Existing Peak Hour Traffic Volumes



Existing Peak Hour Pedestrian Volumes

Figure 4

Table 1 Existing Level of Service

			AM Peak Hour			PM Peak Hour		
Intersection	Movement		LOS	Delay	V/C	LOS	Delay	V/C
Waimano Home Road /Hoomalu Street	Mauka-bound Waimano Home Rd	L	A	8.8	0.02	A	8.3	0.01
	Makai-bound Waimano Home Rd	L	A	8.3	0.02	A	8.4	0.01
	DH-bound Hoomalu Street	LTR	C	17.4	0.11	B	14.7	0.09
	Ewa-bound Hoomalu Street	LTR	C	21.3	0.18	C	20.9	0.27
	Overall		C	21.3		C	20.9	
Pearl City Library Mauka Driveway	DH-bound Library Drwy	LR	B	11.0	0.02	B	10.1	0.01
	Overall		B	11.0		B	10.1	
Pearl City Library Makai Driveway	Mauka-bound Waimano Home Rd	L	A	9.1	0.03	A	8.7	0.01
	Overall		A	9.1		A	8.7	
Waimano Home Road /Luehu Street	Mauka-bound Waimano Home Rd	LT	A	9.0	0.02	A	8.0	0.04
		TR	A	0.1		A	0.2	
	DH-bound Luehu St	LR	B	14.4	0.20	B	11.5	0.09
	Overall		B	14.4		B	11.5	

Delay shown in seconds per vehicle

4. Waimano Home Road/Luehu Street

The Diamond Head-bound Luehu Street approach operates at LOS B during the AM and PM peak hours. Although signage on mauka-bound Waimano Home Road and Diamond Head-bound Luehu Street restrict left turns during the AM and PM peak periods, motorists were observed to make the left turns regardless as shown in Figure 3.

H. SUMMARY OF RESULTS

The study area intersections along Waimano Home Road operate well in the existing condition. The stop-controlled approaches at the unsignalized intersections operate at LOS C or better.

III. FUTURE 2026 CONDITIONS WITHOUT PROJECT

2026 is the Pearl City Library Expansion buildout year. The 2026 conditions without project were analyzed to identify the project's impacts on study area intersections.

A. FUTURE 2026 LAND USE

No changes to the existing land use within the study area were assumed.

B. FUTURE 2026 ROADWAY SYSTEM

As part of the City & County of Honolulu Complete Streets Program, Waimano Home Road will be converted into a more pedestrian- and bicycle-friendly roadway. As shown in Figure 5, the Waimano Home Road travel way will be reduced by one lane in each direction, leaving one through lane in each direction and a two-way left turn lane for motorized vehicles. While an 8' parking strip will remain in the mauka-bound direction, the two through lanes will be repurposed into 6' bike lanes with a 3' buffer in both directions. Bicycle conflict stripes will be added across Hoomalu Street, Luehu Street, and the library driveways. The current plan does not reflect proposed driveway modifications.

C. FUTURE 2026 TRANSIT

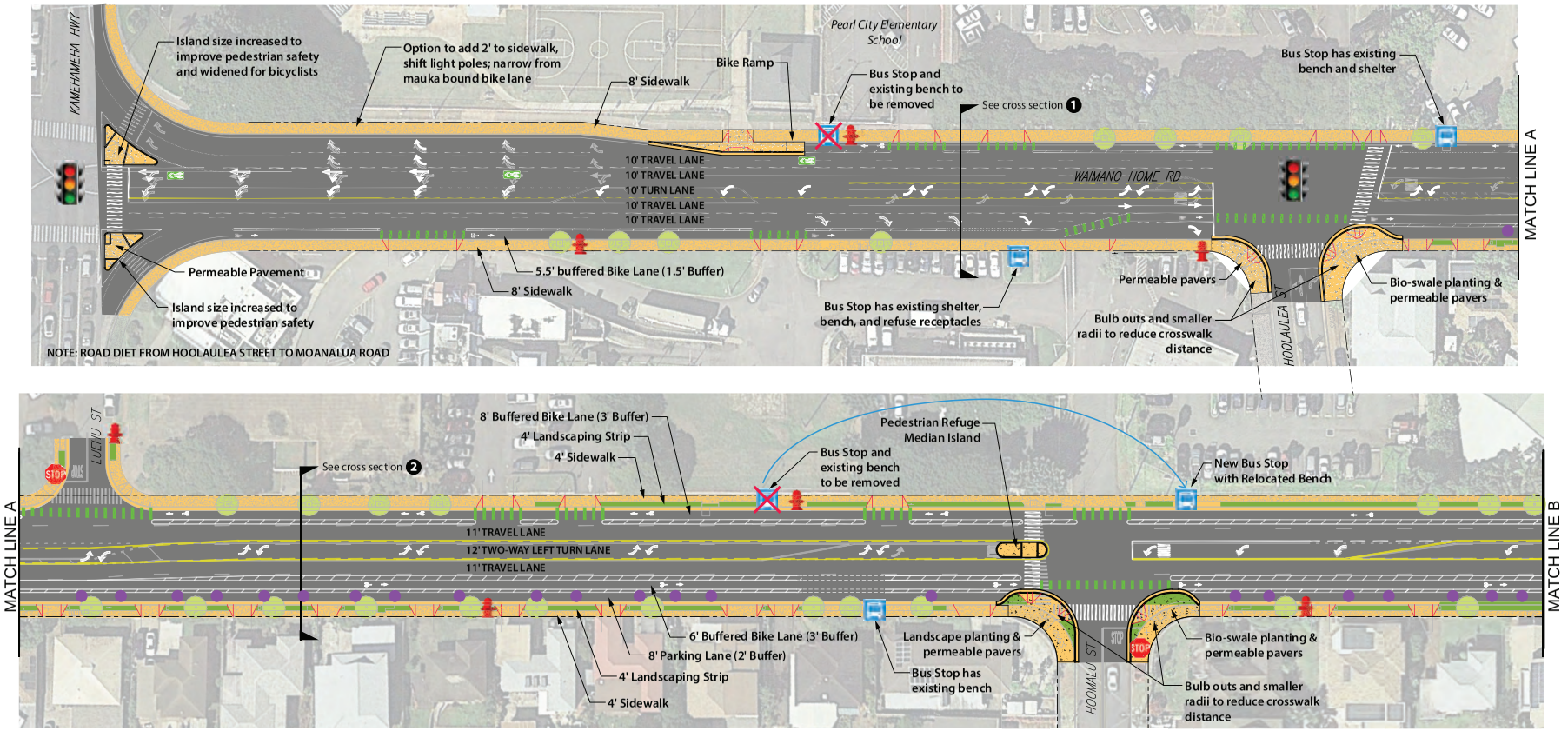
Oahu Transit Services and HDOT have expressed a preference to locate bus stops on the near side of intersections. As part of the implementation of the Complete Streets cross section on Waimano Home Road, the makai-bound bus stop on the far side of the Waimano Home Road/Hoomalu Street intersection will be relocated to the near side as shown in Figure 5. The new bus stop location will be a farther walk mauka for library users. No change to the Luehu Street bus stop is expected.

D. 2026 TRAFFIC VOLUMES WITHOUT PROJECT

In deriving Year 2026 background traffic volumes, growth rates obtained from historical traffic volumes on Waimano Home Road at locations mauka and makai of the project. Annual Average Daily Traffic (AADT) volumes were obtained on Waimano Home Road between Wahinani Street and Nanakai Street and at the Police Station between 2011 and 2019. Although significant negative growth was observed, particularly between 2011 and 2013, positive growth was observed starting around 2015. Based on the recent historical traffic data, an annual growth rate of 2% was obtained and was applied to existing traffic to obtain projected 2026 background traffic. The projected 2026 traffic volumes without project are shown in Figure 6.

Honolulu COMPLETE STREETS PEARL CITY

WAIMANO HOME ROAD:
Kamehameha Highway to Hoomalu Street
Double Right Turn Lane Alternative



LEGEND

- Signalized Intersection
- Stop Sign
- Bus Stop
- Fire Hydrant
- Retain existing parking spot
- Roadway with Crosswalk and stop lines
- Sidewalk with Driveway
- Bike Lane
- Existing Tree
- New Tree
- Landscaping Strip
- Bicycle Conflict Stripe
- New Concrete Pavement
- Existing Concrete Pavement
- Raised Median Island
- Curb Ramp

NORTH

40 0 40 80
SCALE IN FEET

Future Complete Streets - Waimano Home Road

Figure 5

Projected Year 2026 Peak Hour Traffic Volumes Without Project

Figure 6

The library access analysis was performed assuming no changes to the existing access points. The makai driveway would remain in-only and the mauka driveway would be out-only.

E. FUTURE 2026 TRAFFIC OPERATIONS WITHOUT PROJECT

The intersections were analyzed in Synchro 11 using the methodologies for unsignalized and signalized intersections outlined in the *Highway Capacity Manual 6th Edition (HCM6)* and the *Highway Capacity Manual 2000 (HCM 2000).* Table 2 displays the projected 2026 LOS without project for each intersection.

Table 2 Projected 2026 Without Project Level of Service

			AM Peak Hour			PM Peak Hour		
Intersection	Movement		LOS	Delay	V/C	LOS	Delay	V/C
Waimano Home Road /Hoomalu Street	Mauka-bound Waimano Home Rd	L	A	8.9	0.02	A	8.3	0.01
	Makai-bound Waimano Home Rd	L	A	8.4	0.02	A	8.5	0.01
	DH-bound Hoomalu Street	LTR	C	21.3	0.14	C	16.6	0.11
	Ewa-bound Hoomalu Street	LTR	E	35.5	0.29	D	31.7	0.39
	Overall		E	35.5		D	31.7	
Pearl City Library Mauka Driveway	DH-bound Library Drwy	LR	B	14.1	0.03	B	11.9	0.02
	Overall		B	14.1		B	11.9	
Pearl City Library Makai Driveway	Mauka-bound Waimano Home Rd	L	A	9.3	0.03	A	8.8	0.01
	Overall		A	9.3		A	8.8	
Waimano Home Road /Luehu Street	Mauka-bound Waimano Home Rd	LT	A	9.2	0.02	A	8.7	0.04
		TR	A	0.0		A	0.0	
	DH-bound Luehu St	LR	C	17.9	0.25	B	13.6	0.11
	Overall		C	17.9		B	13.6	

Delay shown in seconds per vehicle

1. Waimano Home Road/Hoomalu Street

As shown in Table 2, the Ewa-bound Hoomalu Street approach is projected to operate at LOS E during the AM peak hour while the Diamond Head-bound approach is projected to operate at LOS C.

Although the difference in volume between the existing and future condition is small, the reduction in through lanes from two to one lane in each direction is projected to result in higher delay.

During the PM peak hour, the Ewa-bound Hoomalu Street approach is projected to operate at LOS D while the Diamond Head-bound approach operates at LOS C.

2. Waimano Home Road/Pearl City Library Mauka Driveway

The library egress is projected to operate at LOS B overall during the AM and PM peak hours.

3. Waimano Home Road/Pearl City Library Makai Driveway

The mauka-bound Waimano Home Road approach is projected to operate at LOS A overall during the AM and PM peak hours.

4. Waimano Home Road/Luehu Street

The Diamond Head-bound Luehu Street approach is projected to operate at LOS C during the AM peak hour and at LOS B during the PM peak hour.

F. SUMMARY OF RESULTS

The Ewa-bound Hoomalu Street approach at the Waimano Home Road/Hoomalu Street intersection is projected to operate at LOS E during the AM peak hour and at LOS D during the PM peak hour due to fewer through lanes and fewer gaps in traffic on Waimano Home Road.

The two library driveways are projected to operate at LOS B or better while the Waimano Home road/Luehu Street intersection is projected to operate at LOS C or better during the AM and PM peak hours.

IV. FUTURE 2026 CONDITIONS WITH PROJECT

2026 is the Pearl City Library renovation and Community Learning Center buildout year. The 2026 conditions with project were analyzed to identify the project's impacts on study area intersections.

A. FUTURE 2026 LAND USE

Same as without project.

B. FUTURE 2026 ROADWAY SYSTEM

Same as without project.

C. FUTURE 2026 TRANSIT

Same as without project. The makai-bound bus stop will be shifted to the near side of Hoomalu Street.

D. FUTURE 2026 TRAFFIC VOLUMES WITH PROJECT

1. Trip Generation

As shown in Figure 2, the existing library building footprint will be reduced by the renovations (24,064 SF existing, 23,500 SF proposed). Two new buildings will be constructed: a 2.7k square foot (SF) pre-K facility and a 3.2k SF community building. The *Institute of Transportation Engineers (ITE), Trip Generation, 11th edition* was used to estimate the number of trips generated by the two new buildings based on their proposed land use. Table 3 summarizes the trips generated by the proposed development in its build year 2026.

Table 3 Pearl City Library Expansion Trip Generation Summary

ITE Code	Land Use	Density	Peak	Entering	Exiting	Total
565	Day Care Center	2.7k SF	AM	16	14	30
			PM	14	16	30
495	Recreational Community Center	3.2k SF	AM	4	2	6
			PM	4	4	8
Total			AM	20	16	36
			PM	18	20	38

According to § 21-6.20 Off-street parking requirements of the Revised Ordinances of Honolulu, libraries fall under the "School and Cultural Facilities" land use and are required to provide one off-street parking stall per 500 SF. Based on this, the parking requirement for the library and future additional land uses is 60 parking stalls. The current site plan shows 63 parking spaces.

2. Trip Assignment

Project-generated trips were directionally distributed and assigned to the roadway network based on existing travel patterns. While the existing makai driveway will remain in-only, the mauka driveway will be shifted further mauka and will become a full-movement intersection. Inbound trips were shifted to the mauka driveway accordingly. Project-generated trips are shown in Figure 7. The projected 2026 peak hour volumes with project are shown in Figure 8.

E. FUTURE 2026 TRAFFIC OPERATIONS WITH PROJECT

The intersections were analyzed in Synchro 11 using the methodologies for unsignalized and signalized intersections outlined in the *Highway Capacity Manual 6th Edition (HCM6)* and the *Highway Capacity Manual 2000 (HCM 2000).* Table 4 displays the projected 2026 LOS with project for each intersection.

Figure 7

Project-Generated Peak Hour Traffic Volumes

Figure 8

Projected Year 2026 Peak Hour Traffic Volumes With Project

Table 4 Projected 2026 With Project Level of Service

			AM Peak Hour			PM Peak Hour		
Intersection	Movement		LOS	Delay	V/C	LOS	Delay	V/C
Waimano Home Road /Hoomalu Street	Mauka-bound Waimano Home Rd	L	A	9.0	0.02	A	8.4	0.01
	Makai-bound Waimano Home Rd	L	A	8.4	0.02	A	8.5	0.01
	DH-bound Hoomalu Street	LTR	C	21.6	0.14	C	16.7	0.11
	Ewa-bound Hoomalu Street	LTR	E	36.0	0.30	D	32.3	0.39
	Overall		E	36.0		D	32.3	
Pearl City Library Mauka Driveway	Mauka-bound Waimano Home Rd	L	A	9.3	0.05	A	8.8	0.02
	DH-bound Library Drwy	LR	C	15.2	0.08	B	12.8	0.06
	Overall		C	15.2		B	12.8	
Pearl City Library Makai Driveway	Mauka-bound Waimano Home Rd	L	A	9.2	0.01	A	8.8	0.00
	Overall		A	9.2		A	8.8	
Waimano Home Road /Luehu Street	Mauka-bound Waimano Home Rd	LT	A	9.2	0.03	A	8.7	0.04
		TR	A	0.0		A	0.0	
	DH-bound Luehu St	LR	C	18.3	0.26	B	13.8	0.11
	Overall		C	18.3		B	13.8	

Delay shown in seconds per vehicle

1. Waimano Home Road/Hoomalu Street

As shown in Table 4, the Ewa-bound Hoomalu Street approach is projected to operate at LOS E during the AM peak hour while the Diamond Head-bound approach is projected to operate at LOS C. The intersection's AM peak hour LOS is the same with and without project.

During the PM peak hour, the Ewa-bound Hoomalu Street approach is projected to operate at LOS D while the Diamond Head-bound approach operates at LOS C.

2. Waipahu Street/Pearl City Library Mauka Driveway

The Diamond Head-bound mauka library driveway approach is projected to operate at LOS C overall during the AM peak hour and at LOS B overall during the PM peak hour.

3. Waipahu Street/Pearl City Library Makai Driveway

The mauka-bound Waimano Home Road approach is projected to operate at LOS A overall during the AM and PM peak hours.

4. Waimano Home Road/Luehu Street

The Diamond Head-bound Luehu Street approach is projected to operate at LOS C during the AM peak hour and at LOS B during the PM peak hour.

F. SUMMARY OF RESULTS

The Ewa-bound Hoomalu Street approach at the Waimano Home Road/Hoomalu Street intersection is projected to operate at LOS E during the AM peak hour and at LOS D during the PM peak hour with project. The project adds a small amount of new traffic to Waimano Home Road, resulting in insignificant increases in delay.

The two library driveways are projected to operate at LOS C or better while the Waimano Home road/Luehu Street intersection is projected to operate at LOS C or better during the AM and PM peak hours.

V. CONCLUSIONS & RECOMMENDATIONS

The Pearl City Public Library is proposing to renovate and expand by the year 2026. In addition to renovating the existing library space to replace the air conditioning system, electrical and plumbing infrastructure, broadband network, and open public areas of the library, new pre-K and community buildings are proposed. The library driveways and study area intersections along Waimano Home Road were analyzed with and without the project to determine the project's impact.

A. CONCLUSIONS

Based on the LOS analysis comparing the with and without project scenarios, it is concluded that the project will not have a significant impact on traffic operations at the study area intersections. As shown in Tables 5 and 6, the project is not projected to add a significant amount of delay to the study area intersections.

Table 5 Projected 2026 Without/With Project AM Peak Hour Level of Service

			Without Project		With Project	
Intersection	Movement		LOS	Delay	LOS	Delay
Waimano Home Road /Hoomalu Street	NB Waimano Home Rd	L	A	8.9	A	9.0
	SB Waimano Home Rd	L	A	8.4	A	8.4
	EB Hoomalu Street	LTR	C	21.3	C	21.6
	WB Hoomalu Street	LTR	E	35.5	E	36.0
	Overall		E	35.5	E	36.0
Pearl City Library Mauka Driveway	NB Waimano Home Rd	L			A	9.3
	EB Library Drwy	LR	B	14.1	C	15.2
	Overall		B	14.1	C	15.2
Pearl City Library Makai Driveway	NB Waimano Home Rd	L	A	9.3	A	9.2
	Overall		A	9.3	A	9.2
Waimano Home Road /Luehu Street	NB Waimano Home Rd	LT	A	9.2	A	9.2
		TR	A	0.0	A	0.0
	EB Luehu St	LR	C	17.9	C	18.3
	Overall		C	17.9	C	18.3

Delay shown in seconds per vehicle

Table 6 Projected 2026 Without/With Project PM Peak Hour Level of Service

			Without Project		With Project	
Intersection	Movement		LOS	Delay	LOS	Delay
Waimano Home Road /Hoomalu Street	NB Waimano Home Rd	L	A	8.3	A	8.4
	SB Waimano Home Rd	L	A	8.5	A	8.5
	EB Hoomalu Street	LTR	C	16.6	C	16.7
	WB Hoomalu Street	LTR	D	31.7	D	32.3
	Overall		D	31.7	D	32.3
Pearl City Library Mauka Driveway	NB Waimano Home Rd	L			A	8.8
	EB Library Drwy	LR	B	11.9	B	12.8
	Overall		B	11.9	B	12.8
Pearl City Library Makai Driveway	NB Waimano Home Rd	L	A	8.8	A	8.8
	Overall		A	8.8	A	8.8
Waimano Home Road /Luehu Street	NB Waimano Home Rd	LT	A	8.7	A	8.7
		TR	A	0.0	A	0.0
	EB Luehu St	LR	B	13.6	B	13.8
	Overall		B	13.6	B	13.8

Delay shown in seconds per vehicle

While one of the Hoomalu Street approaches is projected to operate at LOS E during the AM peak with project, the projected increase in delay is due to the narrower Complete Streets cross section. The project is only expected to add about half a second of delay to the movement.

The other study area intersections are projected to operate at LOS C or better overall and can handle the additional project-related trips. Delays for the Waimano Home Road/Luehu Street intersection are projected to increase by half a second at most. The library driveways are projected to operate at LOS C or better.

B. RECOMMENDATIONS

Based on the traffic analysis results, the following are recommended.

- Ensure that sight distance is adequate at the library driveways to maximize pedestrian and bike safety.

- Consider other design elements to help improve pedestrian/bike safety at the project access points such as narrowing driveways or reducing driveway radii in order to reduce the speed of vehicles entering and exiting the site.
- Base any changes to Waimano Home Road on the Complete Streets plans shown in Figure 5. which may include bicycle conflict strips.

Appendix A Traffic Count Data

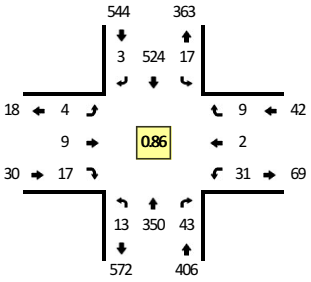
Type of peak hour being reported: Intersection Peak

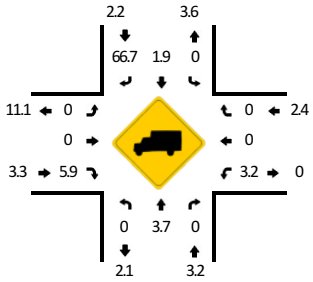
Method for determining peak hour: Total Entering Volume

LOCATION: Waimano Home Rd -- Hoomalu St
CITY/STATE: Pearl City, HI

QC JOB #: 16025505
DATE: Thu, Feb 23 2023

Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:15 AM -- 7:30 AM





Quality Counts
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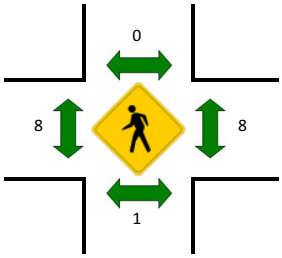

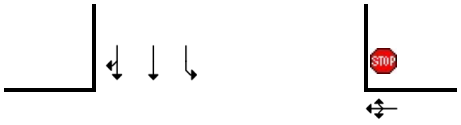

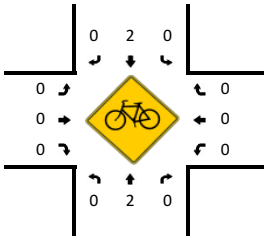

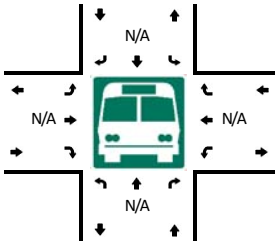

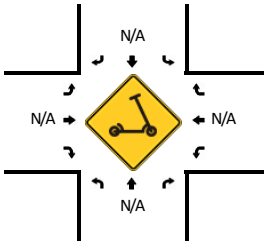

15-Min Count Period Beginning At	Waimano Home Rd (Northbound)				Waimano Home Rd (Southbound)				Hoomalu St (Eastbound)				Hoomalu St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	73	11	0	2	80	3	0	0	4	3	0	5	1	2	0	187	
7:15 AM	2	122	14	0	0	134	1	0	1	6	7	0	7	1	1	0	296	
7:30 AM	3	96	11	0	5	140	0	0	2	1	4	0	8	0	4	0	274	
7:45 AM	6	63	14	0	6	127	0	0	0	1	4	0	10	1	2	0	234	991
8:00 AM	2	69	4	0	6	123	2	0	1	1	2	0	6	0	2	0	218	1022
8:15 AM	3	41	4	0	2	49	2	0	2	1	3	0	11	0	0	0	118	844
8:30 AM	1	57	5	0	4	72	0	0	0	1	1	0	4	0	3	0	148	718
8:45 AM	4	61	4	0	5	93	1	0	1	3	3	0	9	1	1	0	186	670

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	488	56	0	0	536	4	0	4	24	28	0	28	4	4	0	1184
Heavy Trucks	0	4	0		0	8	4		0	0	4		4	0	0		24
Buses																	
Pedestrians		4				0				8				12			24
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 2/28/2023 10:01 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Waimano Home Rd -- Hoomalu St
CITY/STATE: Pearl City, HI

QC JOB #: 16025506
DATE: Thu, Feb 23 2023

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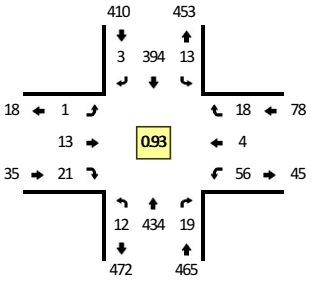
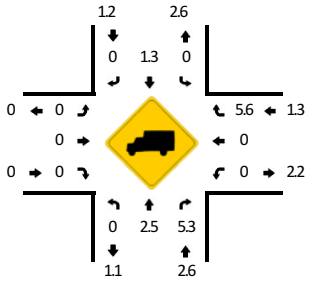
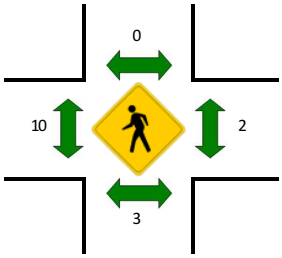
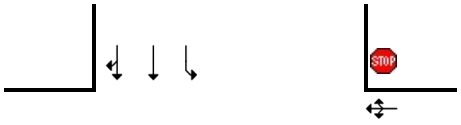
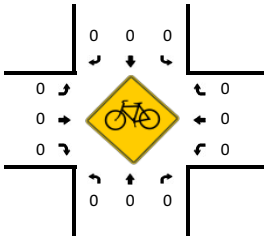
Peak 15-Min: 4:00 PM -- 4:15 PM

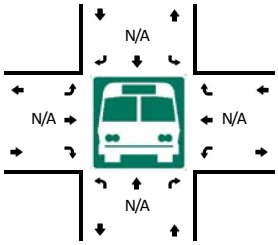


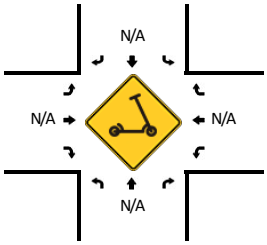












15-Min Count Period Beginning At	Waimano Home Rd (Northbound)				Waimano Home Rd (Southbound)				Hoomalu St (Eastbound)				Hoomalu St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	124	6	0	4	104	1	0	0	5	4	0	13	0	1	0	265	
4:15 PM	3	111	7	1	4	90	1	0	1	2	9	0	12	2	5	0	248	
4:30 PM	3	103	2	0	3	99	0	0	0	3	4	0	12	2	8	0	239	
4:45 PM	2	96	4	0	2	101	1	0	0	3	4	0	19	0	4	0	236	988
5:00 PM	1	101	7	0	1	81	0	0	1	0	6	0	12	0	7	0	217	940
5:15 PM	2	101	5	0	1	72	1	0	1	3	5	0	15	1	5	0	212	904
5:30 PM	3	105	3	0	3	82	1	0	2	2	6	0	8	1	3	0	219	884
5:45 PM	3	83	3	0	6	96	1	0	3	2	9	0	10	0	4	0	220	868

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	496	24	0	16	416	4	0	0	20	16	0	52	0	4	0	1060
Heavy Trucks	0	12	0		0	0	0		0	0	0		0	0	0		12
Buses																	
Pedestrians		4				0				12				4			20
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

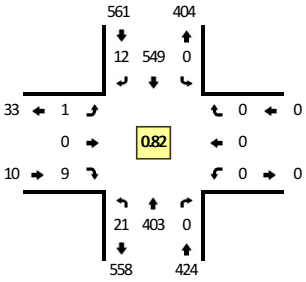
Report generated on 2/28/2023 10:01 AM

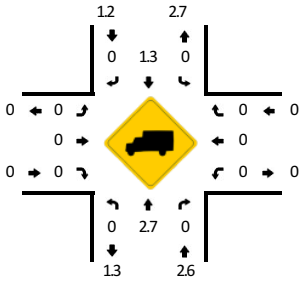
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Waimano Home Rd -- Pearl City Library Dwys | **QC JOB #:** 16025507
CITY/STATE: Pearl City, HI | **DATE:** Thu, Feb 23 2023

Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:15 AM -- 7:30 AM





Quality Counts
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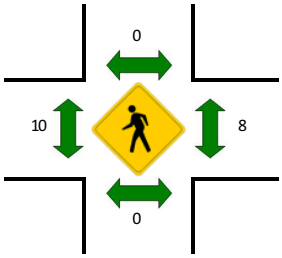
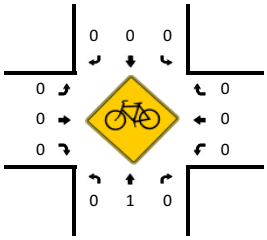
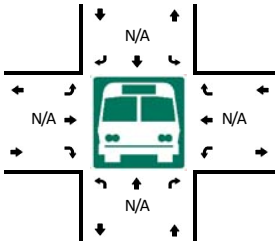
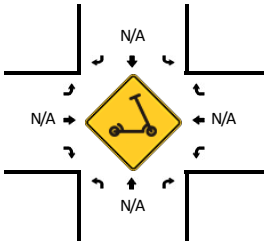








15-Min Count Period Beginning At	Waimano Home Rd (Northbound)				Waimano Home Rd (Southbound)				Pearl City Library Dwys (Eastbound)				Pearl City Library Dwys (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	88	0	0	0	101	2	0	1	0	2	0	0	0	0	0	195	
7:15 AM	8	151	0	0	0	141	1	0	0	0	3	0	0	0	0	0	304	
7:30 AM	3	96	0	0	0	156	3	0	0	0	2	0	0	0	0	0	260	
7:45 AM	6	78	0	0	0	123	5	0	1	0	3	0	0	0	0	0	216	975
8:00 AM	4	78	0	0	0	129	3	0	0	0	1	0	0	0	0	0	215	995
8:15 AM	4	53	0	0	0	60	2	0	1	0	3	1	0	0	0	0	124	815
8:30 AM	1	60	0	0	0	84	0	0	3	0	13	1	0	0	0	0	162	717
8:45 AM	1	56	0	1	0	94	1	0	1	0	2	0	0	0	0	0	156	657

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	32	604	0	0	0	564	4	0	0	0	12	0	0	0	0	0	1216
Heavy Trucks	0	4	0		0	8	0		0	0	0		0	0	0		12
Buses																	
Pedestrians		0				0				12				16			28
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 2/28/2023 10:01 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

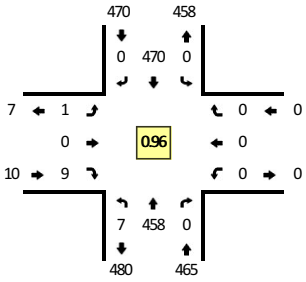
Type of peak hour being reported: Intersection Peak

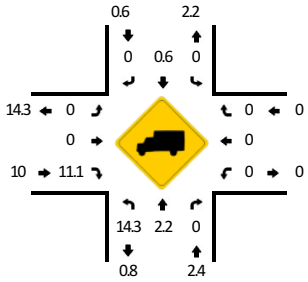
Method for determining peak hour: Total Entering Volume

LOCATION: Waimano Home Rd -- Pearl City Library Dwys
CITY/STATE: Pearl City, HI

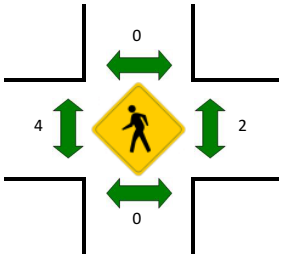
QC JOB #: 16025508
DATE: Thu, Feb 23 2023

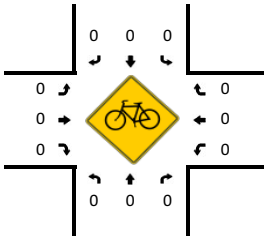
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

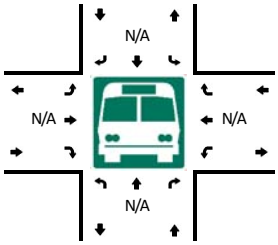


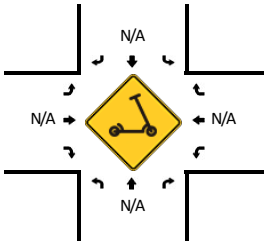


Quality Counts
DATA THAT DRIVES COMMUNITIES









15-Min Count Period Beginning At	Waimano Home Rd (Northbound)				Waimano Home Rd (Southbound)				Pearl City Library Dwys (Eastbound)				Pearl City Library Dwys (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	115	0	0	0	129	0	0	0	0	3	0	0	0	0	0	247	
4:15 PM	1	116	0	1	0	111	0	0	0	0	1	0	0	0	0	0	230	
4:30 PM	1	123	0	0	0	122	0	0	0	0	1	0	0	0	0	0	247	
4:45 PM	4	104	0	0	0	108	0	0	0	0	4	1	0	0	0	0	221	945
5:00 PM	0	109	0	0	0	98	0	0	6	0	9	0	0	0	0	0	222	920
5:15 PM	1	107	0	0	0	93	0	0	1	0	0	0	0	0	0	0	202	892
5:30 PM	0	96	0	0	0	97	0	0	0	0	0	0	0	0	0	0	193	838
5:45 PM	2	97	0	0	0	110	0	0	0	0	1	0	0	0	0	0	210	827

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	460	0	0	0	516	0	0	0	0	12	0	0	0	0	0	988
Heavy Trucks	0	12	0		0	0	0		0	0	0		0	0	0		12
Buses																	
Pedestrians		0				0				4				8			12
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 2/28/2023 10:01 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

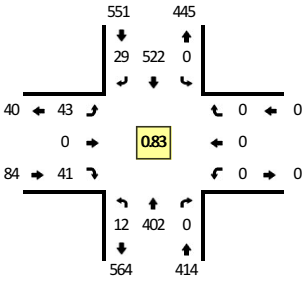
Type of peak hour being reported: Intersection Peak

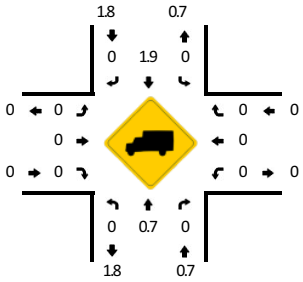
Method for determining peak hour: Total Entering Volume

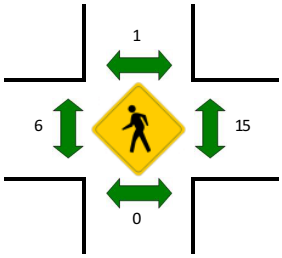
LOCATION: Waimano Home Rd -- Luehu St
CITY/STATE: Pearl City, HI

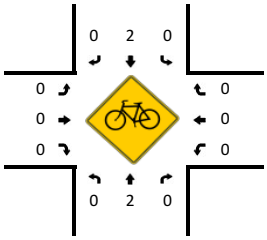
QC JOB #: 16025509
DATE: Thu, Feb 23 2023

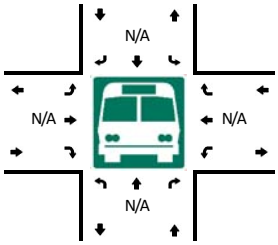
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

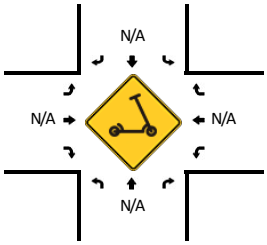












15-Min Count Period Beginning At	Waimano Home Rd (Northbound)				Waimano Home Rd (Southbound)				Luehu St (Eastbound)				Luehu St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	82	0	0	0	96	5	0	12	0	7	0	0	0	0	0	202	
7:15 AM	1	130	0	0	0	157	8	0	12	0	8	0	0	0	0	0	316	
7:30 AM	7	117	0	0	0	134	9	0	12	0	13	0	0	0	0	0	292	
7:45 AM	3	73	0	1	0	135	7	0	7	0	13	0	0	0	0	0	239	1049
8:00 AM	6	74	0	0	0	101	5	0	5	0	7	0	0	0	0	0	198	1045
8:15 AM	2	50	0	0	0	69	4	0	2	0	12	0	0	0	0	0	139	868
8:30 AM	3	55	0	0	0	89	1	0	2	0	5	0	0	0	0	0	155	731
8:45 AM	4	55	0	0	0	90	6	0	3	0	13	0	0	0	0	0	171	663

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	520	0	0	0	628	32	0	48	0	32	0	0	0	0	0	1264
Heavy Trucks	0	0	0		0	16	0		0	0	0		0	0	0		16
Buses																	
Pedestrians		0				0				4				20			24
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4
Scooters																	

Comments:

Report generated on 2/28/2023 10:01 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

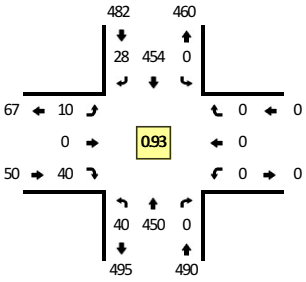
Type of peak hour being reported: Intersection Peak

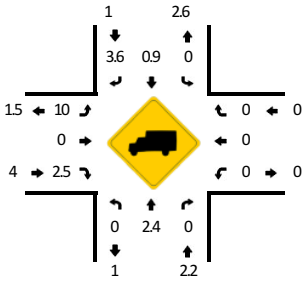
Method for determining peak hour: Total Entering Volume

LOCATION: Waimano Home Rd -- Luehu St
CITY/STATE: Pearl City, HI

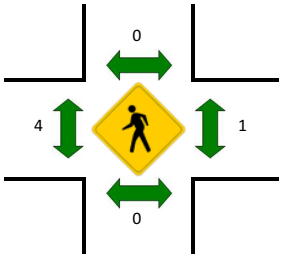
QC JOB #: 16025510
DATE: Thu, Feb 23 2023

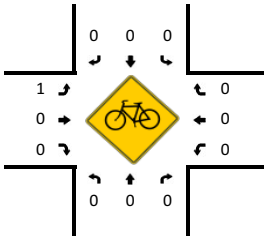
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

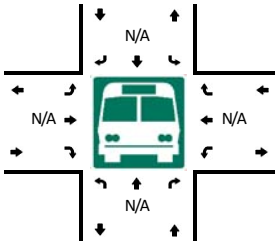


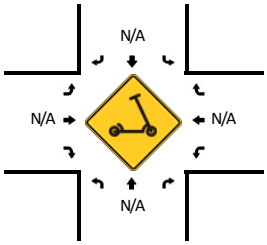


Quality Counts
DATA THAT DRIVES COMMUNITIES









15-Min Count Period Beginning At	Waimano Home Rd (Northbound)				Waimano Home Rd (Southbound)				Luehu St (Eastbound)				Luehu St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	122	0	0	0	118	7	0	3	0	15	0	0	0	0	0	276	
4:15 PM	9	97	0	0	0	113	4	0	2	0	6	0	0	0	0	0	231	
4:30 PM	7	123	0	0	0	113	7	0	2	0	10	0	0	0	0	0	262	
4:45 PM	12	108	0	1	0	110	10	0	3	0	9	0	0	0	0	0	253	1022
5:00 PM	10	104	0	0	0	101	4	0	1	0	12	0	0	0	0	0	232	978
5:15 PM	8	102	0	0	0	74	12	1	4	0	6	0	0	0	0	0	207	954
5:30 PM	15	99	0	0	0	105	2	0	2	0	10	0	0	0	0	0	233	925
5:45 PM	4	89	0	0	0	99	6	0	1	0	8	0	0	0	0	0	207	879

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	44	488	0	0	0	472	28	0	12	0	60	0	0	0	0	0	1104
Heavy Trucks	0	12	0		0	4	0		0	0	0		0	0	0		16
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 2/28/2023 10:01 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Appendix B Level of Service Definitions

The *Highway Capacity Manual* defines six Intersection Levels of Service (LOS), labeled A through F, from free flow to congested conditions.

Levels of Service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group.

LEVEL-OF-SERVICE A: Low control delay, up to 10 s/veh. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.

LEVEL-OF-SERVICE B: Control delay greater than 10 and up to 20 s/veh. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

LEVEL-OF-SERVICE C: Control delay greater than 20 and up to 35 s/veh. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LEVEL-OF-SERVICE D: Control delay greater than 35 and up to 55 s/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LEVEL-OF-SERVICE E: Control delay greater than 55 and up to 80 s/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.

LEVEL-OF-SERVICE F: Control delay in excess of 80 s/veh. This level, considered unacceptable to most drivers, often occurs with oversaturation, that is when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

For unsignalized intersections, the *Highway Capacity Manual* evaluates gaps in the major street traffic flow and calculates available gaps for left-turns across oncoming traffic and for the left and right-turns onto the major roadway from the minor street. Average control delay, based on these factors, is still used to define the levels of service.

LEVEL-OF-SERVICE A: Low control delay, up to 10 s/veh.

LEVEL-OF-SERVICE B: Control delay greater than 10 and up to 15 s/veh.

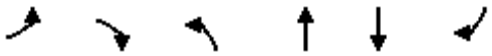
LEVEL-OF-SERVICE C: Control delay greater than 15 and up to 25 s/veh.

LEVEL-OF-SERVICE D: Control delay greater than 25 and up to 35 s/veh.

LEVEL-OF-SERVICE E: Control delay greater than 35 and up to 50 s/veh.

LEVEL-OF-SERVICE F: Control delay in excess of 50 s/veh.

Appendix C Synchro Reports



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	21	403	549	12
Future Volume (Veh/h)	0	0	21	403	549	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	0	26	491	670	15
Pedestrians	8					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	983	350	693			
vC1, stage 1 conf vol	686					
vC2, stage 2 conf vol	298					
vCu, unblocked vol	983	350	693			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	97			
cM capacity (veh/h)	427	652	912			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	26	246	246	447	238
Volume Left	26	0	0	0	0
Volume Right	0	0	0	0	15
cSH	912	1700	1700	1700	1700
Volume to Capacity	0.03	0.14	0.14	0.26	0.14
Queue Length 95th (ft)	2	0	0	0	0
Control Delay (s)	9.1	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.5			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	20.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	9	0	403	549	0
Future Vol, veh/h	1	9	0	403	549	0
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	3	1	0
Mvmt Flow	1	11	0	491	670	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	926	345	-	0	-	0
Stage 1	670	-	-	-	-	-
Stage 2	256	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	271	657	0	-	-	0
Stage 1	476	-	0	-	-	0
Stage 2	769	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	271	651	-	-	-	-
Mov Cap-2 Maneuver	380	-	-	-	-	-
Stage 1	476	-	-	-	-	-
Stage 2	769	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	608	-
HCM Lane V/C Ratio	-	0.02	-
HCM Control Delay (s)	-	11	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↑↑↱		↰	↑↑↱	
Traffic Vol, veh/h	4	9	17	31	2	9	13	350	43	17	524	3
Future Vol, veh/h	4	9	17	31	2	9	13	350	43	17	524	3
Conflicting Peds, #/hr	8	0	9	9	0	8	9	0	9	8	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	6	3	0	0	0	4	0	0	2	67
Mvmt Flow	5	10	20	36	2	10	15	407	50	20	609	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	903	1156	324	830	1132	246	621	0	0	466	0	0
Stage 1	660	660	-	471	471	-	-	-	-	-	-	-
Stage 2	243	496	-	359	661	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.02	7.56	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.56	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.56	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.36	3.53	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	236	198	660	261	205	760	969	-	-	1106	-	-
Stage 1	423	463	-	540	563	-	-	-	-	-	-	-
Stage 2	745	549	-	629	463	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	221	188	649	232	195	748	961	-	-	1097	-	-
Mov Cap-2 Maneuver	221	188	-	232	195	-	-	-	-	-	-	-
Stage 1	413	450	-	527	549	-	-	-	-	-	-	-
Stage 2	715	535	-	580	450	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.4	21.3	0.3	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	961	-	-	325	269	1097	-	-
HCM Lane V/C Ratio	0.016	-	-	0.107	0.182	0.018	-	-
HCM Control Delay (s)	8.8	-	-	17.4	21.3	8.3	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.7	0.1	-	-

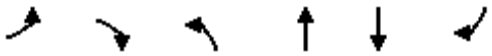
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	41	17	394	527	29
Future Vol, veh/h	36	41	17	394	527	29
Conflicting Peds, #/hr	6	5	5	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	2	0	3	2	0
Mvmt Flow	43	49	20	475	635	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	943	346	676	0	-	0
Stage 1	659	-	-	-	-	-
Stage 2	284	-	-	-	-	-
Critical Hdwy	6.8	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	265	650	925	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	254	643	920	-	-	-
Mov Cap-2 Maneuver	366	-	-	-	-	-
Stage 1	465	-	-	-	-	-
Stage 2	741	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.4	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	920	-	475	-	-
HCM Lane V/C Ratio	0.022	-	0.195	-	-
HCM Control Delay (s)	9	0.1	14.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	6	458	470	0
Future Volume (Veh/h)	0	0	6	458	470	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	6	477	490	0
Pedestrians	4					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	744	249	494			
vC1, stage 1 conf vol	494					
vC2, stage 2 conf vol	250					
vCu, unblocked vol	744	249	494			
tC, single (s)	6.8	6.9	4.4			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.4			
p0 queue free %	100	100	99			
cM capacity (veh/h)	533	757	968			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	6	238	238	327	163
Volume Left	6	0	0	0	0
Volume Right	0	0	0	0	0
cSH	968	1700	1700	1700	1700
Volume to Capacity	0.01	0.14	0.14	0.19	0.10
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	8.7	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.1			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	16.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	9	0	458	470	0
Future Vol, veh/h	0	9	0	458	470	0
Conflicting Peds, #/hr	4	4	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	11	17	2	1	0
Mvmt Flow	0	9	0	477	490	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	733	249	-	0	-	0
Stage 1	490	-	-	-	-	-
Stage 2	243	-	-	-	-	-
Critical Hdwy	6.8	7.12	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.41	-	-	-	-
Pot Cap-1 Maneuver	360	724	0	-	-	0
Stage 1	587	-	0	-	-	0
Stage 2	781	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	360	721	-	-	-	-
Mov Cap-2 Maneuver	463	-	-	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	781	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	721	-
HCM Lane V/C Ratio	-	0.013	-
HCM Control Delay (s)	-	10.1	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	13	21	56	4	18	11	434	19	13	394	3
Future Vol, veh/h	1	13	21	56	4	18	11	434	19	13	394	3
Conflicting Peds, #/hr	10	0	13	5	0	2	13	0	5	2	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	6	0	3	5	0	1	0
Mvmt Flow	1	14	23	60	4	19	12	467	20	14	424	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	737	983	240	766	974	259	440	0	0	492	0	0
Stage 1	467	467	-	506	506	-	-	-	-	-	-	-
Stage 2	270	516	-	260	468	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.02	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.36	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	310	251	767	296	254	728	1131	-	-	1082	-	-
Stage 1	551	565	-	522	543	-	-	-	-	-	-	-
Stage 2	718	538	-	728	565	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	286	241	748	265	244	718	1117	-	-	1077	-	-
Mov Cap-2 Maneuver	286	241	-	265	244	-	-	-	-	-	-	-
Stage 1	538	551	-	514	534	-	-	-	-	-	-	-
Stage 2	679	529	-	671	551	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	20.9	0.2	0.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1117	-	-	409	309	1077	-	-
HCM Lane V/C Ratio	0.011	-	-	0.092	0.271	0.013	-	-
HCM Control Delay (s)	8.3	-	-	14.7	20.9	8.4	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	1.1	0	-	-

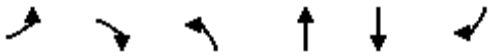
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	40	39	450	454	28
Future Vol, veh/h	10	40	39	450	454	28
Conflicting Peds, #/hr	6	5	5	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	10	3	0	2	1	4
Mvmt Flow	11	43	42	484	488	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	841	270	524	0	-	0
Stage 1	509	-	-	-	-	-
Stage 2	332	-	-	-	-	-
Critical Hdwy	7	6.96	4.1	-	-	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.6	3.33	2.2	-	-	-
Pot Cap-1 Maneuver	288	725	1053	-	-	-
Stage 1	546	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	269	717	1047	-	-	-
Mov Cap-2 Maneuver	384	-	-	-	-	-
Stage 1	513	-	-	-	-	-
Stage 2	672	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1047	-	611	-	-
HCM Lane V/C Ratio	0.04	-	0.088	-	-
HCM Control Delay (s)	8.6	0.2	11.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	21	428	592	12
Future Volume (Veh/h)	0	0	21	428	592	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	0	26	522	722	15
Pedestrians	8					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1312	738	745			
vC1, stage 1 conf vol	738					
vC2, stage 2 conf vol	574					
vCu, unblocked vol	1312	738	745			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	97			
cM capacity (veh/h)	387	421	872			

Direction, Lane #	NB 1	NB 2	SB 1
Volume Total	26	522	737
Volume Left	26	0	0
Volume Right	0	0	15
cSH	872	1700	1700
Volume to Capacity	0.03	0.31	0.43
Queue Length 95th (ft)	2	0	0
Control Delay (s)	9.3	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.4		0.0
Approach LOS			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	9	0	428	595	0
Future Vol, veh/h	1	9	0	428	595	0
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	3	1	0
Mvmt Flow	1	11	0	522	726	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1258	736	-	0	-	0
Stage 1	726	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	190	422	0	-	-	0
Stage 1	483	-	0	-	-	0
Stage 2	593	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	190	418	-	-	-	-
Mov Cap-2 Maneuver	328	-	-	-	-	-
Stage 1	483	-	-	-	-	-
Stage 2	593	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	407	-
HCM Lane V/C Ratio	-	0.03	-
HCM Control Delay (s)	-	14.1	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↑		↰	↑	
Traffic Vol, veh/h	4	9	17	31	2	9	14	371	46	18	556	3
Future Vol, veh/h	4	9	17	31	2	9	14	371	46	18	556	3
Conflicting Peds, #/hr	8	0	9	9	0	8	9	0	9	8	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	6	3	0	0	0	4	0	0	2	67
Mvmt Flow	5	10	20	36	2	10	16	431	53	21	647	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1204	1225	667	1214	1200	475	659	0	0	493	0	0
Stage 1	700	700	-	499	499	-	-	-	-	-	-	-
Stage 2	504	525	-	715	701	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.26	7.13	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.354	3.527	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	162	180	452	158	187	594	939	-	-	1081	-	-
Stage 1	433	444	-	552	547	-	-	-	-	-	-	-
Stage 2	554	533	-	420	444	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	151	170	444	137	177	584	931	-	-	1072	-	-
Mov Cap-2 Maneuver	151	170	-	137	177	-	-	-	-	-	-	-
Stage 1	422	431	-	538	533	-	-	-	-	-	-	-
Stage 2	528	519	-	381	431	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.3	35.5	0.3	0.3
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	931	-	-	255	166	1072	-	-
HCM Lane V/C Ratio	0.017	-	-	0.137	0.294	0.02	-	-
HCM Control Delay (s)	8.9	-	-	21.3	35.5	8.4	-	-
HCM Lane LOS	A	-	-	C	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	1.2	0.1	-	-

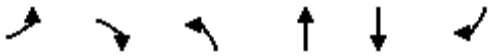
Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	41	18	418	559	31
Future Vol, veh/h	36	41	18	418	559	31
Conflicting Peds, #/hr	6	5	5	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	2	0	3	2	0
Mvmt Flow	43	49	22	504	673	37

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1252	703	716	0	-	0
Stage 1	698	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Critical Hdwy	6.4	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	192	438	894	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	580	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	183	433	889	-	-	-
Mov Cap-2 Maneuver	321	-	-	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	577	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.9	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	889	-	372	-	-
HCM Lane V/C Ratio	0.024	-	0.249	-	-
HCM Control Delay (s)	9.2	0	17.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1	-	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	6	486	508	0
Future Volume (Veh/h)	0	0	6	486	508	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	6	506	529	0
Pedestrians	4					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1051	533	533			
vC1, stage 1 conf vol	533					
vC2, stage 2 conf vol	518					
vCu, unblocked vol	1051	533	533			
tC, single (s)	6.4	6.2	4.3			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.4			
p0 queue free %	100	100	99			
cM capacity (veh/h)	469	551	963			

Direction, Lane #	NB 1	NB 2	SB 1
Volume Total	6	506	529
Volume Left	6	0	0
Volume Right	0	0	0
cSH	963	1700	1700
Volume to Capacity	0.01	0.30	0.31
Queue Length 95th (ft)	0	0	0
Control Delay (s)	8.8	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.1		0.0
Approach LOS			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	30.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	9	0	486	499	0
Future Vol, veh/h	0	9	0	486	499	0
Conflicting Peds, #/hr	4	4	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	11	17	2	1	0
Mvmt Flow	0	9	0	506	520	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1030	524	-	0	-	0
Stage 1	520	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Critical Hdwy	6.4	6.31	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.399	-	-	-	-
Pot Cap-1 Maneuver	261	536	0	-	-	0
Stage 1	601	-	0	-	-	0
Stage 2	607	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	261	534	-	-	-	-
Mov Cap-2 Maneuver	395	-	-	-	-	-
Stage 1	601	-	-	-	-	-
Stage 2	607	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	534	-
HCM Lane V/C Ratio	-	0.018	-
HCM Control Delay (s)	-	11.9	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑		↰	↑	
Traffic Vol, veh/h	1	13	21	56	4	18	12	461	20	14	418	3
Future Vol, veh/h	1	13	21	56	4	18	12	461	20	14	418	3
Conflicting Peds, #/hr	10	0	13	5	0	2	13	0	5	2	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	6	0	3	5	0	1	0
Mvmt Flow	1	14	23	60	4	19	13	496	22	15	449	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1049	1043	477	1050	1033	522	465	0	0	523	0	0
Stage 1	494	494	-	538	538	-	-	-	-	-	-	-
Stage 2	555	549	-	512	495	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.26	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.354	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	207	231	592	207	234	547	1107	-	-	1054	-	-
Stage 1	561	550	-	531	526	-	-	-	-	-	-	-
Stage 2	520	520	-	548	549	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	189	221	577	182	224	539	1093	-	-	1049	-	-
Mov Cap-2 Maneuver	189	221	-	182	224	-	-	-	-	-	-	-
Stage 1	548	536	-	522	517	-	-	-	-	-	-	-
Stage 2	487	511	-	499	535	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.6	31.7	0.2	0.3
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1093	-	-	348	217	1049	-	-
HCM Lane V/C Ratio	0.012	-	-	0.108	0.387	0.014	-	-
HCM Control Delay (s)	8.3	-	-	16.6	31.7	8.5	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	1.7	0	-	-

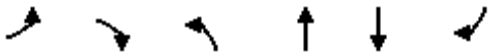
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	40	41	478	482	30
Future Vol, veh/h	10	40	41	478	482	30
Conflicting Peds, #/hr	6	5	5	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	10	3	0	2	1	4
Mvmt Flow	11	43	44	514	518	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1148	545	556	0	-	0
Stage 1	540	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Critical Hdwy	6.5	6.23	4.1	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.327	2.2	-	-	-
Pot Cap-1 Maneuver	212	536	1025	-	-	-
Stage 1	568	-	-	-	-	-
Stage 2	528	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	197	530	1019	-	-	-
Mov Cap-2 Maneuver	331	-	-	-	-	-
Stage 1	531	-	-	-	-	-
Stage 2	525	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.6	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1019	-	473	-	-
HCM Lane V/C Ratio	0.043	-	0.114	-	-
HCM Control Delay (s)	8.7	0	13.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	4	460	604	2
Future Volume (Veh/h)	0	0	4	460	604	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	0	5	561	737	2
Pedestrians	8					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1317	746	747			
vC1, stage 1 conf vol	746					
vC2, stage 2 conf vol	571					
vCu, unblocked vol	1317	746	747			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	389	417	870			

Direction, Lane #	NB 1	NB 2	SB 1
Volume Total	5	561	739
Volume Left	5	0	0
Volume Right	0	0	2
cSH	870	1700	1700
Volume to Capacity	0.01	0.33	0.43
Queue Length 95th (ft)	0	0	0
Control Delay (s)	9.2	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.1		0.0
Approach LOS			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	21	32	428	585	15
Future Vol, veh/h	5	21	32	428	585	15
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	3	1	0
Mvmt Flow	6	26	39	522	713	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1342	742	741	0	-	0
Stage 1	732	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	169	419	875	-	-	-
Stage 1	480	-	-	-	-	-
Stage 2	546	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	158	411	867	-	-	-
Mov Cap-2 Maneuver	297	-	-	-	-	-
Stage 1	454	-	-	-	-	-
Stage 2	541	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	867	-	383	-	-
HCM Lane V/C Ratio	0.045	-	0.083	-	-
HCM Control Delay (s)	9.3	-	15.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	9	17	31	2	9	14	375	46	18	561	3
Future Vol, veh/h	4	9	17	31	2	9	14	375	46	18	561	3
Conflicting Peds, #/hr	8	0	9	9	0	8	9	0	9	8	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	6	3	0	0	0	4	0	0	2	67
Mvmt Flow	5	10	20	36	2	10	16	436	53	21	652	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1214	1235	672	1224	1210	480	664	0	0	498	0	0
Stage 1	705	705	-	504	504	-	-	-	-	-	-	-
Stage 2	509	530	-	720	706	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.26	7.13	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.354	3.527	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	160	178	449	155	184	590	935	-	-	1076	-	-
Stage 1	430	442	-	548	544	-	-	-	-	-	-	-
Stage 2	550	530	-	418	442	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	149	168	441	135	174	580	927	-	-	1067	-	-
Mov Cap-2 Maneuver	149	168	-	135	174	-	-	-	-	-	-	-
Stage 1	419	429	-	534	530	-	-	-	-	-	-	-
Stage 2	524	516	-	379	429	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.6	36	0.3	0.3
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	927	-	-	252	164	1067	-	-
HCM Lane V/C Ratio	0.018	-	-	0.138	0.298	0.02	-	-
HCM Control Delay (s)	9	-	-	21.6	36	8.4	-	-
HCM Lane LOS	A	-	-	C	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	1.2	0.1	-	-

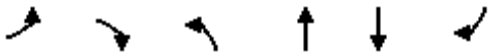
Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	41	18	433	571	31
Future Vol, veh/h	36	41	18	433	571	31
Conflicting Peds, #/hr	6	5	5	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	2	0	3	2	0
Mvmt Flow	43	49	22	522	688	37

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1285	718	731	0	-	0
Stage 1	713	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Critical Hdwy	6.4	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	183	429	883	-	-	-
Stage 1	489	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	174	425	878	-	-	-
Mov Cap-2 Maneuver	312	-	-	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.3	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	878	-	363	-	-
HCM Lane V/C Ratio	0.025	-	0.256	-	-
HCM Control Delay (s)	9.2	0	18.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1	-	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	1	504	523	0
Future Volume (Veh/h)	0	0	1	504	523	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	1	525	545	0
Pedestrians	4					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1076	549	549			
vC1, stage 1 conf vol	549					
vC2, stage 2 conf vol	527					
vCu, unblocked vol	1076	549	549			
tC, single (s)	6.4	6.2	4.3			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.4			
p0 queue free %	100	100	100			
cM capacity (veh/h)	463	539	949			

Direction, Lane #	NB 1	NB 2	SB 1
Volume Total	1	525	545
Volume Left	1	0	0
Volume Right	0	0	0
cSH	949	1700	1700
Volume to Capacity	0.00	0.31	0.32
Queue Length 95th (ft)	0	0	0
Control Delay (s)	8.8	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0		0.0
Approach LOS			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	30.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	24	18	486	499	5
Future Vol, veh/h	5	24	18	486	499	5
Conflicting Peds, #/hr	4	4	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	11	17	2	1	0
Mvmt Flow	5	25	19	506	520	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1075	531	529	0	-	0
Stage 1	527	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Critical Hdwy	6.4	6.31	4.27	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.399	2.353	-	-	-
Pot Cap-1 Maneuver	245	531	966	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	238	527	962	-	-	-
Mov Cap-2 Maneuver	374	-	-	-	-	-
Stage 1	582	-	-	-	-	-
Stage 2	581	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	962	-	492	-	-
HCM Lane V/C Ratio	0.019	-	0.061	-	-
HCM Control Delay (s)	8.8	-	12.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	13	21	56	4	18	12	466	20	14	423	3
Future Vol, veh/h	1	13	21	56	4	18	12	466	20	14	423	3
Conflicting Peds, #/hr	10	0	13	5	0	2	13	0	5	2	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	6	0	3	5	0	1	0
Mvmt Flow	1	14	23	60	4	19	13	501	22	15	455	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1060	1054	483	1061	1044	527	471	0	0	528	0	0
Stage 1	500	500	-	543	543	-	-	-	-	-	-	-
Stage 2	560	554	-	518	501	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.26	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.354	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	204	228	588	203	231	543	1101	-	-	1049	-	-
Stage 1	557	546	-	528	523	-	-	-	-	-	-	-
Stage 2	516	517	-	544	546	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	186	218	574	179	221	535	1087	-	-	1044	-	-
Mov Cap-2 Maneuver	186	218	-	179	221	-	-	-	-	-	-	-
Stage 1	544	532	-	519	514	-	-	-	-	-	-	-
Stage 2	483	508	-	495	532	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.7	32.3	0.2	0.3
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1087	-	-	345	214	1044	-	-
HCM Lane V/C Ratio	0.012	-	-	0.109	0.392	0.014	-	-
HCM Control Delay (s)	8.4	-	-	16.7	32.3	8.5	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	1.7	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	40	41	491	497	30
Future Vol, veh/h	10	40	41	491	497	30
Conflicting Peds, #/hr	6	5	5	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	10	3	0	2	1	4
Mvmt Flow	11	43	44	528	534	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1178	561	572	0	-	0
Stage 1	556	-	-	-	-	-
Stage 2	622	-	-	-	-	-
Critical Hdwy	6.5	6.23	4.1	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.327	2.2	-	-	-
Pot Cap-1 Maneuver	203	525	1011	-	-	-
Stage 1	559	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	188	520	1005	-	-	-
Mov Cap-2 Maneuver	323	-	-	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	517	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1005	-	463	-	-
HCM Lane V/C Ratio	0.044	-	0.116	-	-
HCM Control Delay (s)	8.7	0	13.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-