UNIVERSITY of HAWAI'I SYSTEM

Office of Capital Improvements

December 18, 2013

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

SUBJECT: Draft Environmental Assessment
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu
TMK: (1) 8-7-004:041

Dear Director and Staff:

With this letter, the Office of Capital Improvements hereby transmits the draft environmental assessment and anticipated finding of no significant impact (DEA-AFONSI) for the Wai'anae Coast Campus, Leeward Community College for publication in the next available edition of the Environmental Notice.

Enclosed is a completed OEQC Publication Form, two copies of the DEA-AFONSI, an Adobe Acrobat file of the same, and an electronic copy of the publication form in MS Word. Simultaneous with this letter, we have submitted the summary of the action in a text file by electronic mail to your office.

If there are any questions, please contact Milton Arakawa, Wilson Okamoto Corporation, at (808) 946-2277.

Sincerely,

Maynard Young
Manager, Planning and Design

Enclosures

c: Milton Arakawa – Wilson Okamoto Corporation
Bruce Teramoto

1960 East West Road, Biomedical Sciences B-102
Honolulu, Hawai'i 96822
Telephone: (808) 956-7935
Fax: (808) 956-3175
An Equal Opportunity/Affirmative Action Institution

AGENCY ACTIONS
SECTION 343-5(B), HRS
PUBLICATION FORM (FEBRUARY 2013 REVISION)

Project Name Wai'anae Coast Campus Leeward Community College
Island: O'ahu
District: Mā'ili
TMK: (1) 8-7-004:041
Permits: Chapter 6E, State Historic Preservation Law
Building Permit
Grading Permit

Proposing/Determination Agency:
University of Hawaii System
Office of Capital Improvements
1960 East-West Road, Biomedical Sciences B-102
Honolulu, Hawai'i 96822
Contact: Bruce Teramoto
(808) 956-4800

Accepting Authority:
(for EIS submittals only)

Consultant:
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawai'i 96826
Contact: Milton Arakawa
(808) 946-2277

Status (check one only):

_x_ DEA-AFNSI — Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day comment period ensues upon publication in the periodic bulletin.

__ FEA-FONSI — Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

__ FEA-EISPN — Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day consultation period ensues upon publication in the periodic bulletin.

__ Act 172-12 EISPN — Submit the proposing agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqchawaii@doh.hawaii.gov). NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.

__ DEIS — The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqchawaii@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.

__ FEIS — The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

__ Section 11-200-23

Determination	The accepting authority simultaneously transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the proposing agency. No comment period ensues upon publication in the periodic bulletin.
__Section 11-200-27 Determination	The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.
__Withdrawal (explain)	

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page)**:**

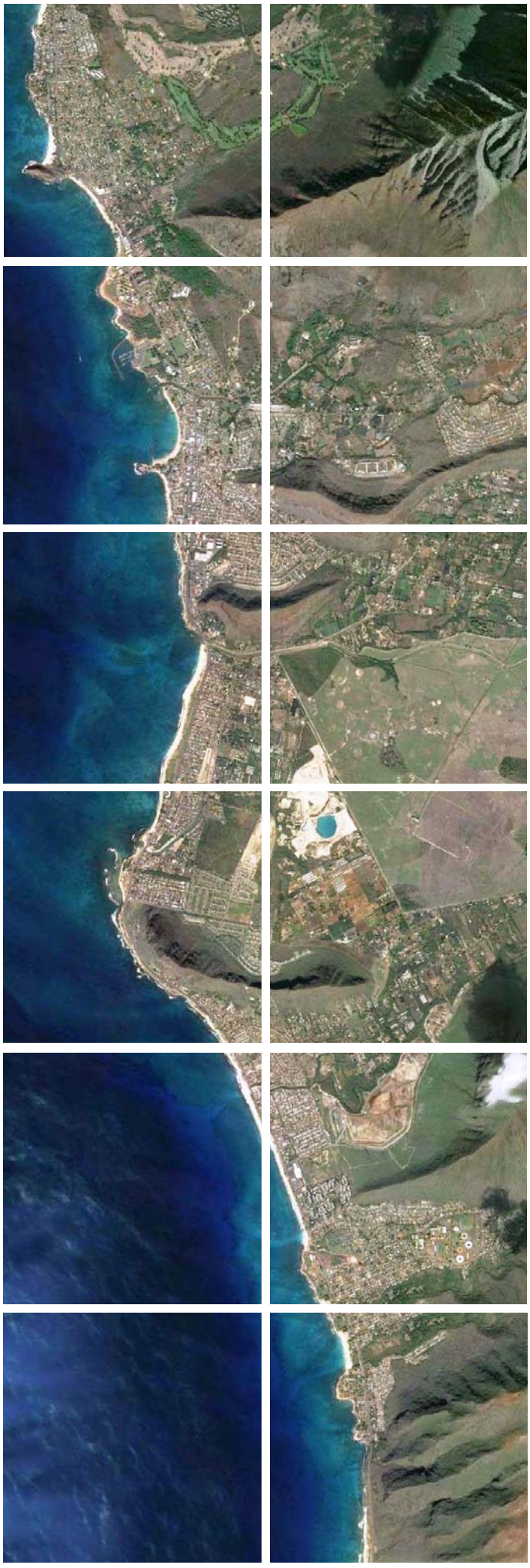
Leeward Community College is proposing to relocate its Wai'anae Coast Campus to a 2.52 acre parcel located at 87-380 Kula'aupuni Street in Mā'ili, O'ahu. The Wai'anae Coast Campus presently leases approximately 10,000 square feet adjacent to the Wai'anae Mall. Enrollment at the Wai'anae Coast Campus has increased 53% over the past 5 years. Classrooms at the existing location are over optimal capacity and overcrowded.

The Kula'aupuni Street parcel contains a vacant one-story building of approximately 38,600 square feet of floor area. The building was constructed as a telecommunications building but was never used for that purpose and has been vacant for over 10 years. Renovations to the site are proposed in two phases. Phase I is intended to meet existing and near term program needs. Approximately 14,000 square feet of the building would be renovated. Five classrooms, wet lab, math computer lab, a computer/English lab, testing center, faculty office spaces, administration area, and 28 parking stalls are proposed. Phase II includes a selective expansion of various credit and non-credit programs. This includes the Learning Resource/Center surrounded by discipline clusters of classrooms, including liberal arts, arts and digital media, culinary arts, nursing, automotive technology, and an additional 71 parking stalls.

Draft Environmental Assessment

WAIʻANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

Māʻili, Oʻahu, Hawaiʻi



Prepared For:

UNIVERSITY OF HAWAII

Prepared By:

WILSON OKAMOTO CORPORATION

DECEMBER 2013

DRAFT ENVIRONMENTAL ASSESSMENT

WAIʻANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

Māʻili, Oʻahu, Hawaiʻi

Prepared For:

University of Hawaiʻi
Office of Capital Improvements
1960 East West Road
Biomedical Sciences, B-102
Honolulu, Hawaiʻi 96822

Prepared By:

Wilson Okamoto Corporation
Engineers and Planners
1907 South Beretania Street, Suite 400
Honolulu, Hawaiʻi 96826
WOC Job No. 8272-01

December 2013

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PREFACE

This Draft Environmental Assessment (EA) / Anticipated Finding of No Significant Impact (FONSI) has been prepared pursuant to Chapter 343, Hawaiʻi Revised Statutes (HRS), and Title 11, Chapter 200, Hawaiʻi Administrative Rules (HAR), Department of Health, State of Hawaiʻi. The University of Hawaiʻi is proposing to relocate the Waiʻanae Coast Campus, Leeward Community College (LCC-W) to the former Tycom Building in Māʻili of the Island of Oʻahu. The project requires the use of State land and funds, therefore, the project is subject to the State environmental review process.

The proposed action assessed herein is for acquisition and renovations to the former Tycom Building to convert the space for use by LCC-W. Renovations to the building will be conducted in two phases; the first phase is intended to meet existing and near-term program needs while the second phase renovations are intended to meet future program needs and allow for additional educational opportunities. Renovations include the construction of various academic and support spaces including classrooms, wet and dry laboratories, an administrative area, offices, and meeting spaces.

It is anticipated that a Finding of No Significant Impact (FONSI) will be issued and filed with the State Office of Environmental Quality Control (OEQC) by the approving agency following public review of the Draft EA.

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SUMMARY

Proposing Agency:	University of Hawaiʻi
Approving Agency:	University of Hawaiʻi
Location:	Māʻili, Oʻahu, Hawaiʻi
Tax Map Keys (TMKs):	(1) 8-7-004:041
Recorded Fee Owner:	Māʻili Telecom, LLC
Existing Use:	A vacant, one-story concrete building
State Land Use Classification:	Urban
Community Plan Designation:	Rural Residential
County Zoning Designation:	Residential (R-5)
Proposed Action:	The proposed action assessed herein is for acquisition and renovations to the former Tycom Building to convert the space for use by LCC-W. Renovations to the building will be conducted in two phases; the first phase is intended to meet existing and near-term program needs while the second phase renovations are intended to meet future program needs and allow for additional education opportunities. Renovations include the construction of various academic and support spaces including classrooms, wet and dry laboratories, an administrative area, offices, and meeting spaces.
Impacts:	No significant impacts are anticipated from the construction and operation of the proposed project. Construction activities are anticipated to have short-term noise, traffic, and air quality impacts in the surrounding area. Construction noise and air quality impacts will be minimized by compliance with applicable State Department of Health Rules. No significant long-term environmental or community impacts in the vicinity of the project site are anticipated.
Anticipated Determination:	Finding of No Significant Impact (FONSI)

Parties Consulted During Pre-Assessment:

Federal Agencies
U.S. Army Corps of Engineers (COE)

State Agencies
Department of Accounting and General Services
Department of Business, Economic Development & Tourism (DBEDT)
DBEDT, Office of Planning
DBEDT, Strategic Industries Division
Department of Education
Department of Health (DOH)
DOH, Environmental Planning Office
DOH, Office of Environmental Quality Control
Department of Land and Natural Resources (DLNR)
DLNR, State Historic Preservation Division
Department of Transportation
Office of Hawaiian Affairs

City and County of Honolulu Agencies
Board of Water Supply
Department of Design and Construction
Department of Environmental Services
Department of Planning and Permitting
Department of Transportation Services
Facility Maintenance Department
Fire Department
Police Department

Utility Companies
Hawaiʻi Gas
Hawaiian Electric Company, Inc.
Oceanic Time Warner Cable

Other Interested Parties and Individuals
Nānākuli - Māʻili Neighborhood Board
Waiʻanae Coast Neighborhood Board

1. INTRODUCTION

1.1 Background Information

LCC-W has been providing higher education services to the Waiʻanae Coast since 1970. It was first located in Nānākuli and has moved several times before settling into their current space located near the Waiʻanae Mall in 1991.

LCC-W currently leases approximately 9,640 square feet of space in a two-story office building located at 86-088 Farrington Highway in Waiʻanae, Oʻahu, Hawaiʻi. It offers the advantages of being close to home for Waiʻanae Coast residents and smaller class sizes. The campus currently serves over 500 students (249 full-time equivalent in Fall 2012) and offers more than 60 class sections in college-transfer courses in science, arts, humanities, Hawaiian studies, social sciences, as well as developmental English, and mathematics. The campus is currently open Monday through Thursday from 8 AM to 9 PM, Friday from 8 AM to 4:30 PM, and Saturday from 8 AM to 3 PM during the fall and spring semesters.

The campus currently employs two English instructors, two mathematics instructors, one science instructor, one Hawaiian studies instructor, as well as one instructor who teaches a variety of college success and student leadership courses. In addition, there are two counselors who provide academic and personal counseling.

1.2 Project Location

LCC-W proposes to relocate their Waʻianae Coast Campus to the former Tycom Building located at 87-380 Kulaʻaupuni Street in Māʻili, Oʻahu, Hawaiʻi (see Figure 1-1). The project site is further identified as Tax Map Key (1) 8-7-004:041, comprising 2.52 acres (see Figure 1-2).

1.2.1 Existing Uses

The former Tycom Building is a 38,600 square foot concrete building which was completed in 2004 for telecommunications uses. However, the building has been vacant for an extended period of time.

1.2.2 Surrounding Uses

The project site is bounded by Māʻili Community Park and Maʻili Elementary School to the north, Kulaʻaupuni Street and the Māʻili Self-Help Project III housing development to the west, and residential housing to the south and east (see Figure 1-3). Also in the vicinity of the project site is the Māʻili Land Transitional Housing, Lualualei Homestead, Ulu Ke Kukui, and the Māʻili drainage channel.

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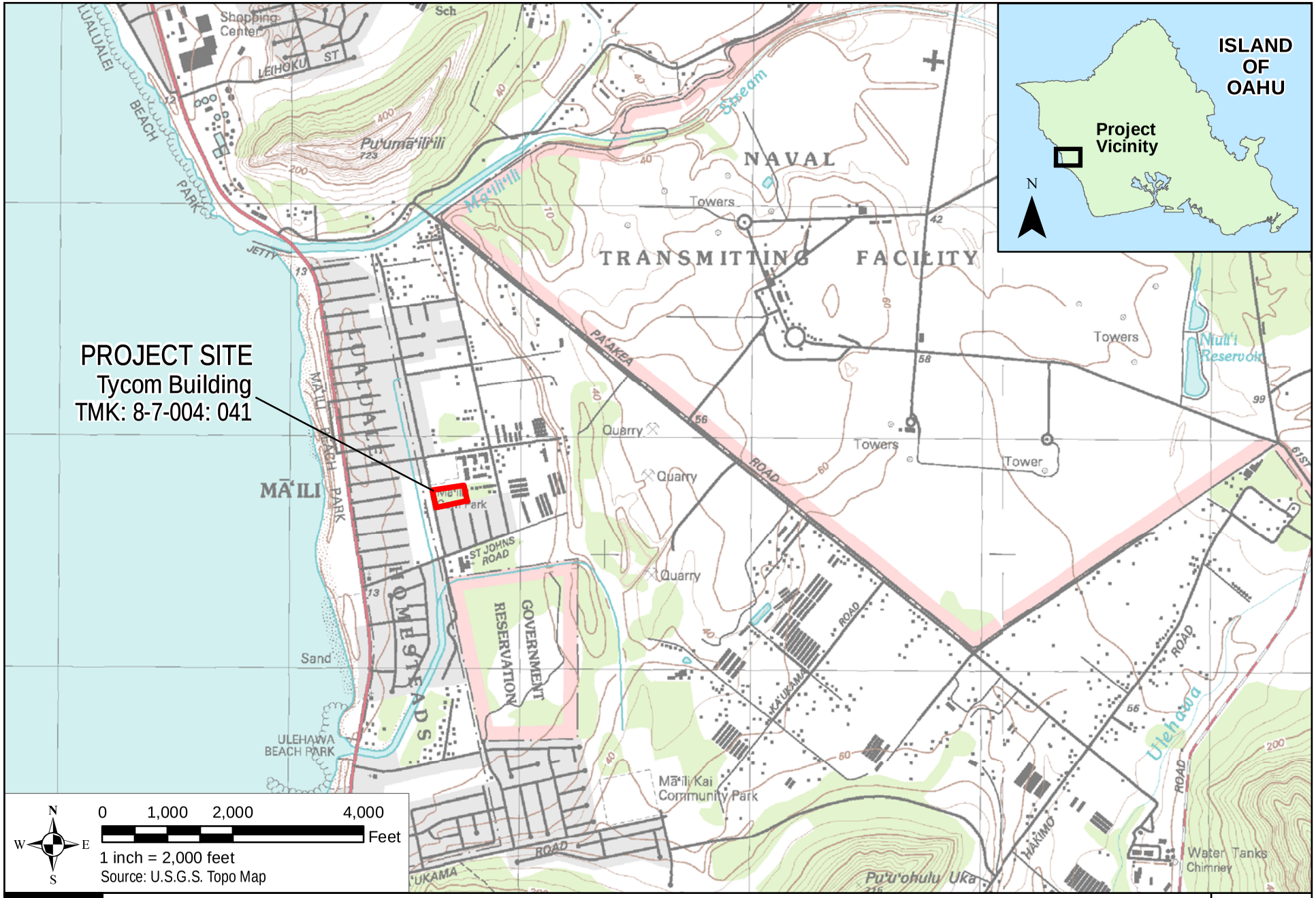

WAI'ANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

LOCATION MAP

FIGURE 1-1

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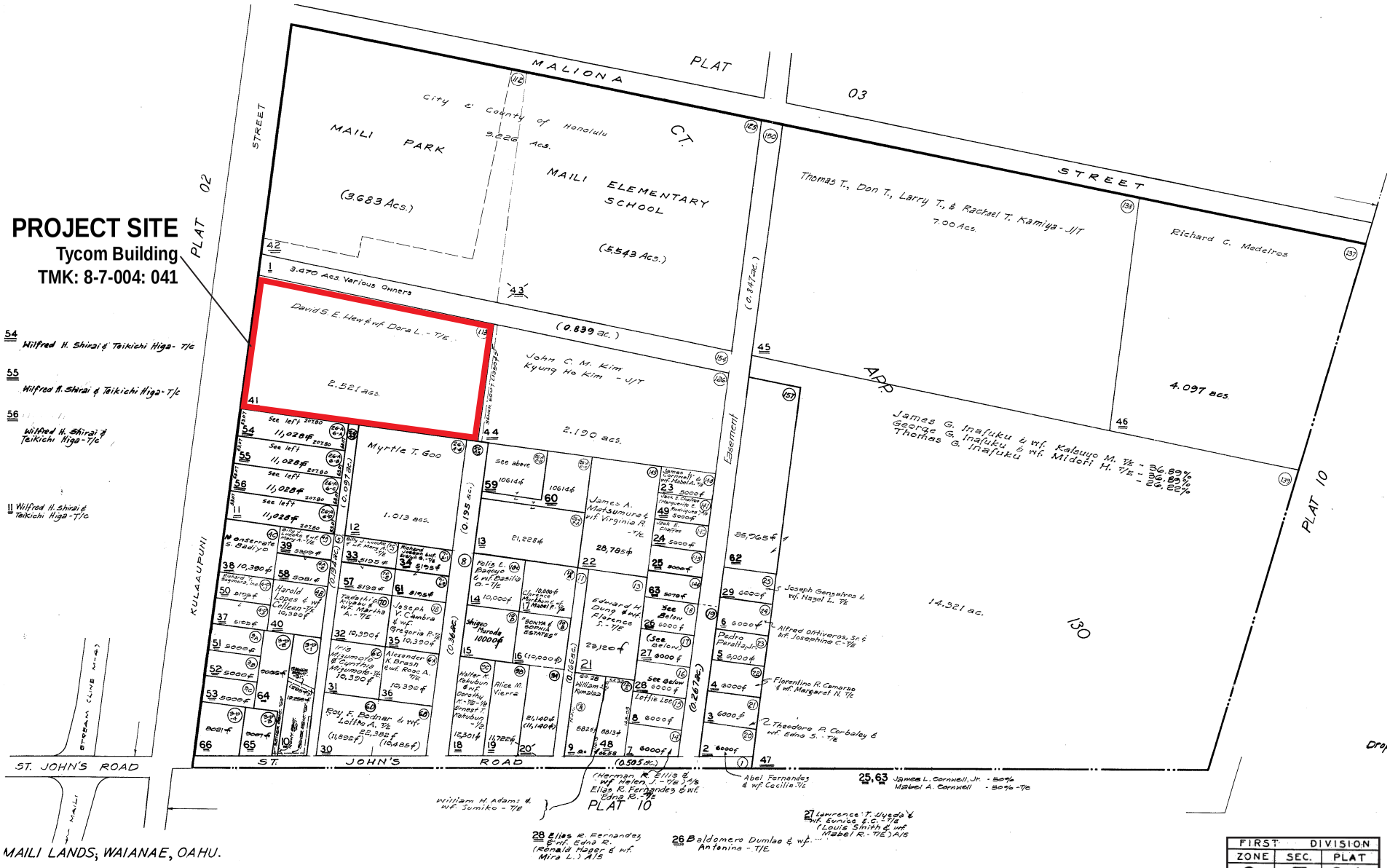

FIRST DIVISION		
ZONE	SEC.	PLAT
8	7	04
CONTAINING PARCELS		

NOT TO SCALE

WAI'ANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

TAX MAP KEY: 8-7-004: 041

FIGURE 1-2

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WAIʻANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

SURROUNDING LAND USE MAP

FIGURE 1-3

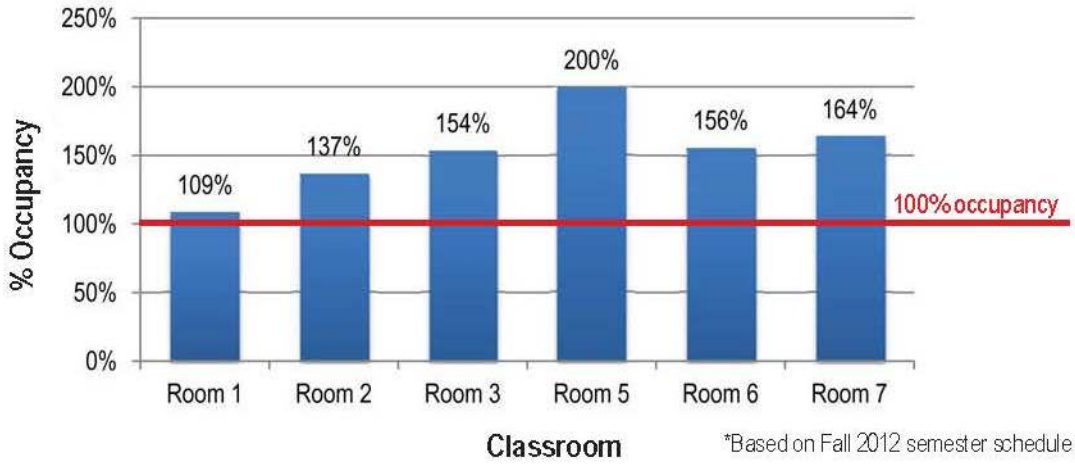
2. PROJECT DESCRIPTION

2.1 Project Purpose and Need

Enrollment at LCC-W has increased 53 percent in the last five years, indicating a greater demand for higher education in the Wai'anae Coast community. As of the 2012 fall semester, LCC-W had a total of 249 full-time equivalent students. However, while enrollment continues to increase, the current space available for LCC-W use has remained the same.

As stated earlier in Chapter 1, LCC-W is currently located in a two story office building and occupies approximately 9,640 square feet of space. The school occupies the entire second floor of the building, along with a portion of the first floor. There are a total of seven classrooms available for use, however all seven classrooms are over optimal capacity and are overcrowded. College classroom capacity guidelines suggest an optimal capacity of 30 square feet per student for a general instruction classroom and 50 square feet per student for computer laboratories, science laboratories, and specialized classrooms. Based on this ratio, all seven classrooms are operating from nine percent to as much as 100 percent over capacity (see Figure 2-1).

FIGURE 2-1 PERCENTAGE OF OCCUPANCY BY ROOM SIZE



The purchase of the former Tycom Building offers LCC-W the ability to expand and provide adequate space for classrooms and student support areas while providing the Wai'anae Coast Campus with a permanent home. In addition, the much needed space will allow the school to accommodate the increasing student enrollment and provide expanded educational opportunities, not only in Liberal Arts, teaching, and Hawaiian studies, but also in career and workforce development programs.

2.2 Project Description

The proposed project involves relocating the LCC-W campus to the former Tycom Building. This will involve renovations to the existing building. Renovations will be conducted in two phases (see Figure 2-2 and 2-3). The renovations for the first phase are intended to meet existing and near-term program needs. Approximately 14,000 square feet of the Tycom building will be renovated. The first phase interior renovations will involve constructing five classrooms in addition to a wet lab, a math computer lab, a computer/English lab, and a testing center. Also included are faculty, counselor, educational specialist, lecturer, and security offices, a community partners space, and an administration area with a conference room and staff lounge. Support spaces include restrooms and janitorial space. Also included in the first phase is the construction of an outdoor seating/gathering area. Food service will be provided at the campus and may include a mixture of vending machines and/or food trucks. Students also have the option of bringing their meals from home.

The second phase renovations are intended to meet future program needs and allow for additional education opportunities. The second phase includes the construction of additional liberal arts classrooms, arts and digital media, culinary arts, nursing and automotive technology classrooms. Also included is a learning resource center, a student lounge, and various offices and meeting spaces. Support spaces include mechanical rooms, electrical rooms, and a number of storage areas.

Classes are anticipated to continue their current schedule with most instructional periods between 9AM and 9PM Monday through Thursday. Friday classes are normally three hour classes, scheduled once a week and Saturday classes are mainly science labs. Table 2-1 shows the existing level of campus activity.

TABLE 2-1 EXISTING LEVEL OF CAMPUS ACTIVITY
Existing Level of Campus Activity

Day of Week	Time Period	# Students	# Faculty/Staff
Mon.-Thur.	9:00 am – 4:30 pm	100 to 125	10 to 15*
Mon.-Thur.	4:30 pm – 9:00 pm	50 to 125	3 to 4
Fri.-Sat.	9:00 am – 4:30 pm	40 o 80	4 to 10

* 3-4 staff members arrive at 8:00 am

Classes are intended to be scheduled so they are not starting or ending during the same times of the day that the Māʻili Elementary School starts and ends. This is intended to minimize traffic impacts upon the neighborhood as well as aid in ensuring the safety of children walking to and from school. The peak instructional period is between 3:00 pm and 4:30 pm, which is after the end of Māʻili Elementary's school day.

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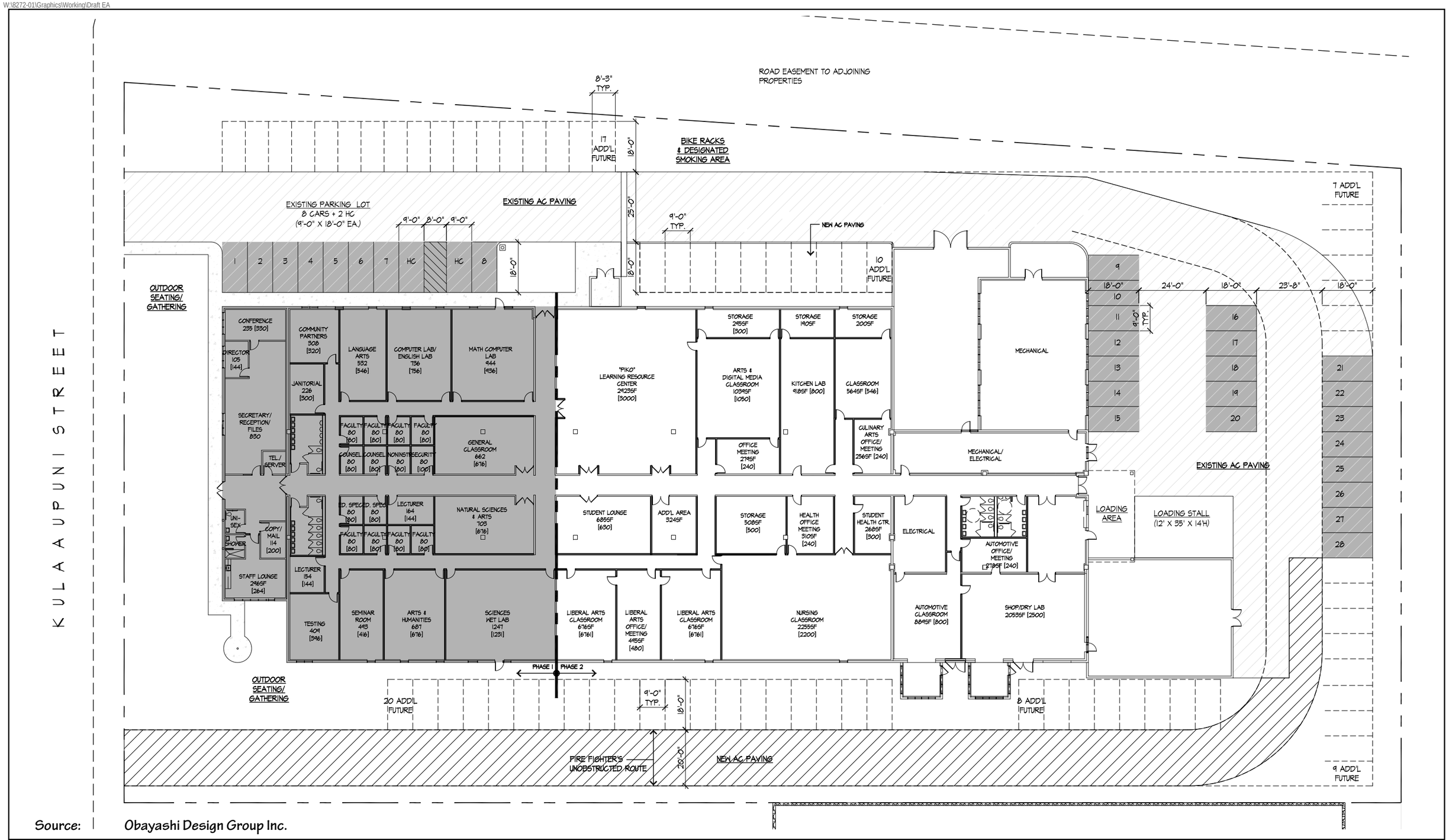

Source: Obayashi Design Group Inc.

WAI'ANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

PROPOSED SITE PLAN - PHASE I

FIGURE 2-2

KULA AUPUNI STREET

ROAD EASEMENT TO ADJOINING PROPERTIES

8'-3" TYP.

17 ADD'L FUTURE

18'-0"

BIKE RACKS & DESIGNATED SMOKING AREA

7 ADD'L FUTURE

EXISTING PARKING LOT
8 CARS + 2 HC
(9'-0" X 18'-0" EA.)

9'-0" 8'-0" 9'-0"

1 2 3 4 5 6 7 HC HC 8

18'-0"

EXISTING AC PAVING

25'-0"

9'-0" TYP.

NEW AC PAVING

10 ADD'L FUTURE

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

18'-0" 24'-0" 18'-0" 23'-8" 18'-0"

9'-0" TYP.

OUTDOOR SEATING/ GATHERING

CONFERENCE 235 [330]

DIRECTOR 105 [144]

SECRETARY/ RECEPTION/ FILES 830

TEL/ SERVER

COMMUNITY PARTNERS 308 [320]

JANITORIAL 226 [300]

LANGUAGE ARTS 532 [546]

COMPUTER LAB/ ENGLISH LAB 736 [756]

MATH COMPUTER LAB 944 [936]

FACULTY 80 [80] FACULTY 80 [80] FACULTY 80 [80] FACULTY 80 [80]

COUNSEL 80 [80] COUNSEL 80 [80] NONINST 80 [80] SECURITY 80 [100]

GENERAL CLASSROOM 662 [676]

UNI-SEX SHOWER

COPY/ MAIL 114 [200]

STAFF LOUNGE 246SF [264]

ID. SPEC 80 [80] ID. SPEC 80 [80] LECTURER 164 [144]

FACULTY 80 [80] FACULTY 80 [80] FACULTY 80 [80] FACULTY 80 [80]

NATURAL SCIENCES & ARTS 103 [676]

LECTURER 154 [144]

TESTING 409 [396]

SEMINAR ROOM 443 [416]

ARTS & HUMANITIES 687 [676]

SCIENCES WET LAB 1247 [1231]

"PIKO" LEARNING RESOURCE CENTER 24235F [3000]

STORAGE 245SF [300]

STORAGE 190SF

STORAGE 200SF

ARTS & DIGITAL MEDIA CLASSROOM 1034SF [1050]

KITCHEN LAB 918SF [800]

CLASSROOM 564SF [546]

OFFICE MEETING 279SF [240]

CULINARY ARTS OFFICE/ MEETING 256SF [240]

STUDENT LOUNGE 685SF [630]

ADD'L AREA 324SF

STORAGE 508SF [500]

HEALTH OFFICE MEETING 310SF [240]

STUDENT HEALTH CTR. 268SF [300]

ELECTRICAL

LIBERAL ARTS CLASSROOM 676SF [676]

LIBERAL ARTS OFFICE/ MEETING 448SF [480]

LIBERAL ARTS CLASSROOM 676SF [676]

NURSING CLASSROOM 2255SF [2200]

MECHANICAL

MECHANICAL/ ELECTRICAL

AUTOMOTIVE CLASSROOM 884SF [800]

AUTOMOTIVE OFFICE/ MEETING 279SF [240]

SHOP/DRY LAB 2053SF [2500]

LOADING AREA

LOADING STALL (12' X 35' X 14'H)

EXISTING AC PAVING

PHASE 1 PHASE 2

OUTDOOR SEATING/ GATHERING

20 ADD'L FUTURE

9'-0" TYP.

18'-0"

8 ADD'L FUTURE

FIRE FIGHTER'S UNOBSTRUCTED ROUTE

20'-0"

NEW AC PAVING

9 ADD'L FUTURE

Source: Obayashi Design Group Inc.

WAI'ANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

PROPOSED SITE PLAN - PHASE II

FIGURE 2-3

Food service will be provided and may include a variety of vending machines and food trucks available at lunch time. Students also have the option to brown bag their food from home. A microwave and a refrigerator will be available for use in the student lounge. There is also the possibility that once the culinary arts program has been established, there could be a partnership with the program to provide another food option for the students.

A second ingress/egress is proposed along Kula'aupuni Street. The driveway is proposed to link with existing paved areas to form a loop around the existing building. A total of 28 parking stalls are proposed to be implemented as a part of Phase I. This is equal to the amount of parking available at the current location. In addition to the planned 28 parking stalls, LCC-W has plans to provide several unimproved, overflow parking options within their designated property boundaries. The number of available stalls has not yet been determined, however, the areas designated for overflow parking will not interfere, impede, or conflict with the vehicular and pedestrian movement patterns planned for the campus.

Seventy one additional stalls are planned to be implemented as a part of Phase II. Bike racks will also be provided on-site. However, it is anticipated that most students will continue to walk, catch the bus, or get dropped off and picked-up.

2.3 Project Cost and Schedule

The first phase is anticipated to be completed by August 2015. Construction of the second phase could be as early as 2017, subject to the availability of funding. Land acquisition is expected to cost approximately $2.5 million. The first phase of improvements is expected to cost approximately $3 million. The second phase is anticipated to cost approximately $5.25 million.

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3. DESCRIPTION OF EXISTING ENVIRONMENT, IMPACTS, AND MITIGATION MEASURES

3.1 Climate

The climate of O'ahu, which is relatively moderate throughout most of the year, is characterized as semi-tropical with two seasons. The summer period from May through September is generally warm and dry, with predominantly northeast trade winds. In contrast, the winter season from October through April is associated with lower temperatures, higher rainfall and less prevalent trade winds.

The semi-arid climate of the Mā'ili region is typically dry and sunny. Although the island experiences predominant trade winds from the east or northeast, the Ko'olau and Wai'anae mountain ranges block much of the direct wind exposure. However, trades generally move around the 'Ewa and Mokulē'ia portions of the island to provide the leeward coast the influence of the trade winds from both directions. Occasional storms may generate strong winds from the south (Kona winds) for brief periods. Temperatures in the area are generally very moderate, with average low temperatures of about 63 degrees Fahrenheit (°F) to average high temperatures of 88°F.

Precipitation generally results from the northeasterly tradewinds that are forced up the eastern flank of the Wai'anae mountain range. As the winds rise in elevation, they cool, thereby inducing rain as the air mass is pushed over the tops of the mountain range. Rainfall near the summit of the Wai'anae Range measures approximately 75 inches annually. However, near the project site and shoreline, rainfall totals are less than 20 inches per year.

Impacts and Mitigation Measures

No significant impacts on climate in the project area are anticipated. Construction and operation of the proposed project are not anticipated to affect temperatures, wind, or rainfall levels in the project area.

3.2 Physiography

3.2.1 Geology and Topography

The Wai'anae Volcano created the western half of O'ahu, and the Ko'olau Volcano formed the Ko'olau Range and Schofield Plateau. The Wai'anae Range is composed of three groups of lavas which erupted in the Tertiary Period from three rift zones. The exposed part of the oldest lava is nearly 2,000 feet thick and consists largely of thin-bedded Pāhoehoe. The middle lavas are separated from the first series in most places by an angular unconformity and talus brecchia, and in a few places by an erosional unconformity. The middle basalts are about 2,000 feet thick and closely resemble the lower ones, except that later beds contain more 'A'ā. The upper lavas are about 2,300 feet thick and are mostly massive 'A'ā alkalic lavas issued from large cinder cones.

The subject property is located on the coastal plain approximately 1,500 feet from the shoreline. Geologic features in the vicinity of the project site include Pu'u Ma'ili'ili and Ma'ili'ili Stream to the north, Pu'u o Hulu to the south and the Wai'anae Range to the east. The project site is generally flat and does not contain prominent geographic features.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts on geology or topography are anticipated during construction or operation of the proposed project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking. If applicable, excavation and grading activities will be regulated by the County's grading ordinance.

3.2.2 Soils

According to the U.S. Department of Agriculture, Natural Resource Conservation Service, soils within the project site are classified Mokulē'ia clay (Mtb) and Kea'au stony clay, 2 to 6 percent slopes (KmaB) (see Figure 3-1).

Mokulē'ia clay (Mtb) has a similar profile to that of Mokule'ia clay loam, except for the texture of the surface layer. This soil occurs in small areas on the coastal plains. It is nearly level. In a representative profile, the surface layer is very dark grayish-brown clay loam. The next layer is dark-brown and light-gray, single-grain sand and loamy sand. The surface layer is neutral in reaction and the underlying layer is moderately alkaline. Permeability is slow in the surface layer. Workability is difficult because of the sticky, plastic clay. This type of soil is often used for cultivating sugar cane or pasture activities.

Kea'au stony clay, 2 to 6 percent slopes (KmaB) has a similar profile to that of Kea'au clay, 0 to 2 percent slopes except that there are sufficient stones to hinder machine cultivation. This soil occurs on lowlands on the coastal planes. In a representative profile, the surface layer tends to be dark grayish brown clay. The subsoil is very dark grayish-brown and dark-brown, mottled clay that has subangular and angular block structure. The substratum is white to vary pale brown reef limestone or consolidated coral sand. The soil is mildly alkaline in the surface layer and subsoil and moderately alkaline in the substratum. The water table is at a depth of 1 ½ to 3 feet. Permeability and runoff are slow and the erosion hazard is slight. This type of soil is often used for cultivating sugar cane or pasture activities.

Impacts and Mitigation Measures

In the short- and long- term, no significant impacts on soils are anticipated during the construction or operation of the proposed project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking. If applicable, excavation and grading activities will be regulated by the County's grading ordinance.

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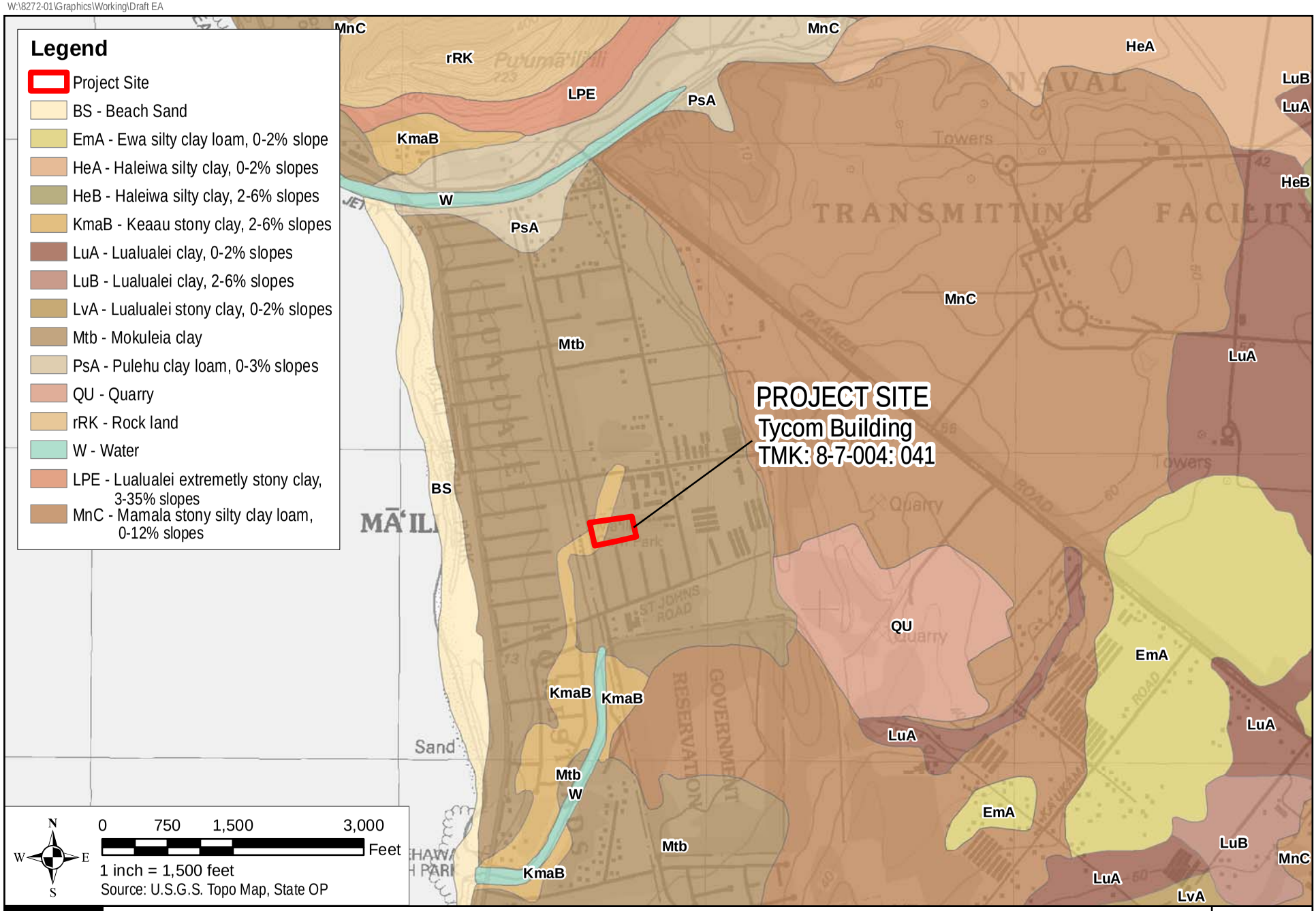

WAIʻANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

SOIL SURVEY OF THE ISLAND OF OʻAHU

FIGURE 3-1

3.3 Hydrology

3.3.1 Surface and Coastal Waters

There are no surface water resources located within the project site. The nearest surface water is the Mā'ili Drainage Channel located approximately 170 feet to the west of the project site and extends parallel to Farrington Highway. According to the National Wetlands Inventory, the channel is classified as an R4SBCx wetland. R4SBCx wetlands are riverine intermittent wetlands that are seasonally flooded and within an excavated basin or channel. The channel connects to the Maipalaoa Stream which is located approximately 0.2 miles south of the project site. Maipalaoa Stream is classified as an E1UBLx wetland. E1UBLx wetlands are estuarine, subtidal wetlands with an unconsolidated bottom within an excavated basin or channel.

Ma'ili'ili Stream is also located approximately 0.7 miles north of the project site. According the Hawaii Stream Assessment, Ma'ili'ili Stream is a perennial stream which flows to the sea year-round. The stream has no listed tributaries.

The nearest coastal water offshore of the project site is Mā'ili Beach which is located approximately 0.3 miles west of the project site. Pursuant to Hawai'i Administrative Rules (HAR) Title 11, Chapter 54, Water Quality Standards, the coastal waters in the vicinity of the project site are classified as Class A marine waters. Class A marine waters are recognized as waters to be used for "recreational purposes and aesthetic enjoyment to be protected. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class".

Impacts and Mitigation Measures

No short- or long-term significant impacts on surface and/or coastal waters in the project vicinity are anticipated during construction or operation of the proposed project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking. If applicable, excavation and grading activities will be regulated by the County's grading ordinance.

3.3.2 Groundwater

The State Department of Land and Natural Resources (DLNR), Commission on Water Resource Management (CWRM) has established a groundwater hydrologic unit and coding system for groundwater resource management. The proposed project site is located within the Wai'anae Sector Area which is comprised of five Aquifer System Areas identified as Kea'au, Mākaha, Wai'anae, Lualualei, and Nānākuli. The project site is located within the Lualualei Aquifer System (30302) area which has an estimated yield of 4 million gallons per day (mgd).

Impacts and Mitigation Measures

No short- or long-term significant impacts on surface and/or coastal waters in the project vicinity are anticipated during construction or operation of the proposed project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking. If applicable, excavation and grading activities will be regulated by the County's grading ordinance. Construction material wastes will be appropriately disposed of to prevent any leachate from contaminating groundwater resources.

3.4 Natural Hazards

3.4.1 Flood and Tsunami Hazard

According to the Flood Insurance Rate Map (FIRM), (Community Panel Number 15003C0192H, Effective Date: January 19, 2013) prepared by the Federal Emergency Management Agency (FEMA), the project site is designated Zone D (see Figure 3-2)

Zone D indicates unstudied areas where flood hazards are undetermined, but possible.

According to the Tsunami Evacuation Zone maps for O'ahu, the project site lies entirely within the tsunami evacuation zone (see Figure 3-3).

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts on flood hazards in the project area are anticipated as the proposed improvements are not anticipated to increase flood risks or cause any adverse flood-related impacts at the project site or lower elevation properties. Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking.

3.5 Natural Environment

3.5.1 Flora and Fauna

The project site is a highly altered environment that provides little habitat for natural flora and fauna. During the original construction of the building, the project site was landscaped, however, as the building has been vacant for some time, there has been little maintenance and/or irrigation of the site. The lawn areas of the project site are a mixture of grass and weedy species. Other larger plant species on the project site include monkeypod (*Samanea saman*), koa haole (*Leucaena leucocephala*), kiawe (*Prosopis pallida*), kukui (*Aleurites moluccana*) and hibiscus (*Hibiscus brackenridgei*).

Avifauna and feral cats, dogs, and rodents are common to urban environments and are likely present at the project site.

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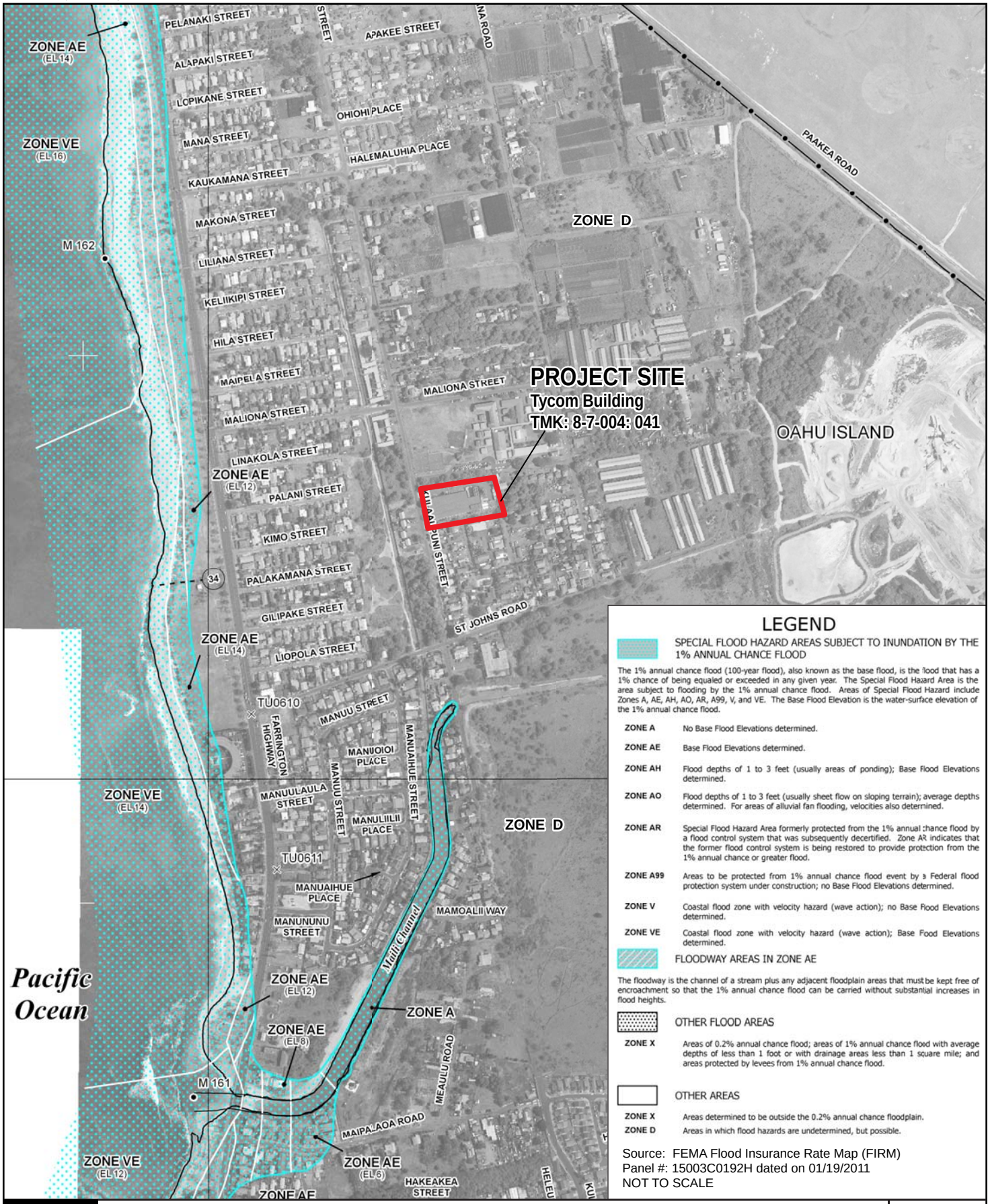

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Food Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

Source: FEMA Flood Insurance Rate Map (FIRM)
Panel #: 15003C0192H dated on 01/19/2011
NOT TO SCALE

WAIʻANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

FLOOD INSURANCE RATE MAP

FIGURE 3-2

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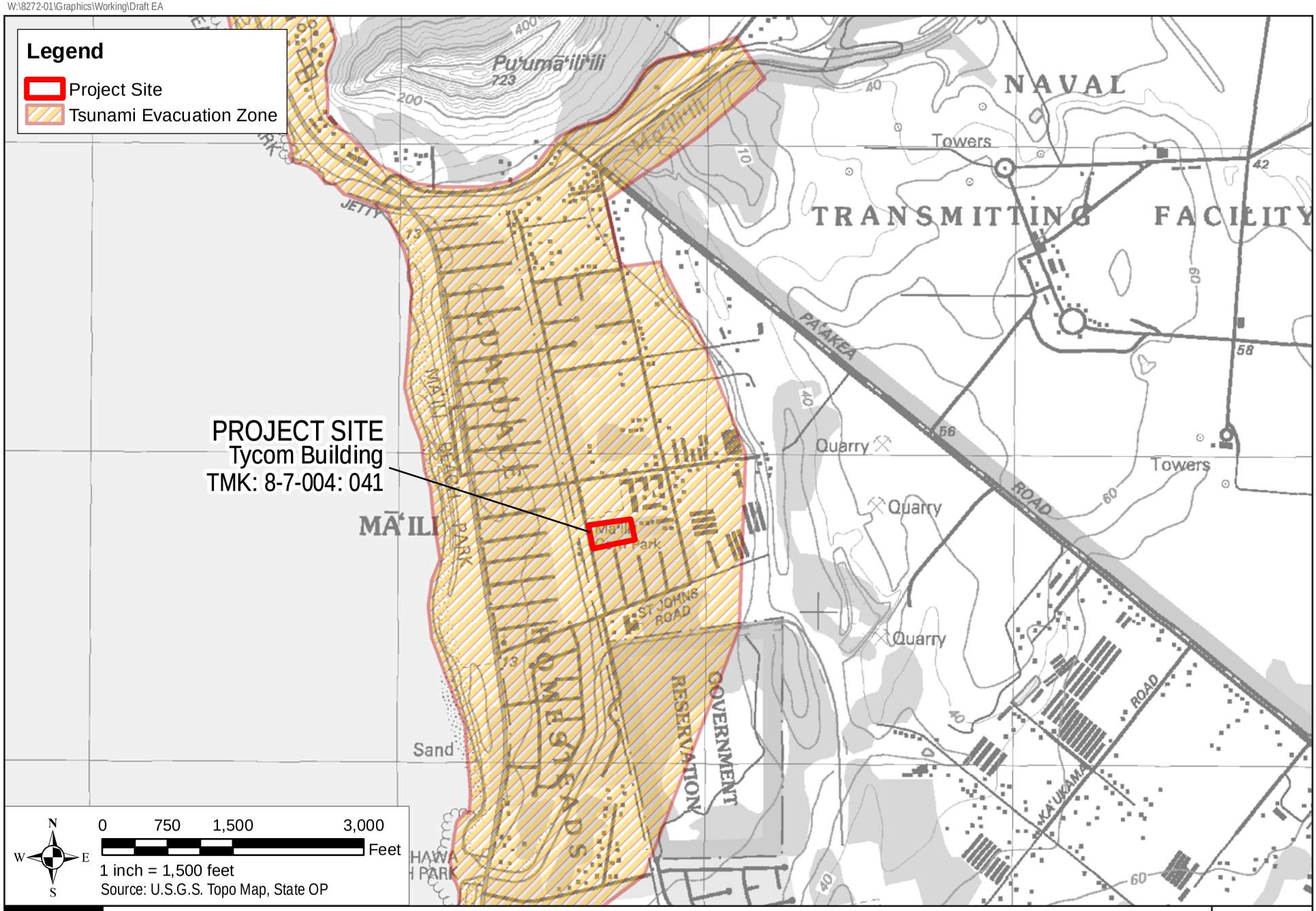

WAIʻANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

TSUNAMI EVACUATION ZONE MAP

FIGURE 3-3

No threatened or endangered flora or fauna species exist at the project site or nearby areas.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts on flora and fauna are anticipated as a result of the construction and operation of the proposed project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking

3.6 Historic and Archaeological Resources

The project site has been completely disturbed and developed during the original construction of the building. It is unlikely that there are any historic and archaeological resources within the project site.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts on historic and archaeological resources are anticipated as a result of the construction and operation of the proposed project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking.

In the unlikely event that any significant archeological, cultural, or historic resources are found during construction activities, all work will cease in the vicinity of the find and the State Historic Preservation Division (SHPD) will be notified immediately to determine appropriate mitigation measures.

3.7 Air Quality

The State of Hawai'i Department of Health (DOH), Clean Air Branch, monitors the ambient air quality in the State for various gaseous and particulate air pollutants. The U.S. Environmental Protection Agency (EPA) has set national ambient air quality standards (NAAQS) for six criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), ozone (O_3), and particulate matter (PM_{10} and PM_2). Hawai'i has also established a state ambient air standard for hydrogen sulfide (H_2S). The primary purpose of the statewide monitoring network is to measure ambient air concentrations of these pollutants and ensure that these air quality standards are met.

Air pollution in Hawai'i is caused by many different man-made and natural sources. There are industrial sources of pollution, such as power plants and petroleum refineries; mobile sources, such as cars, trucks and buses; agricultural sources, such as sugar cane burning, and natural sources, such as windblown dust and volcanic activity. The DOH Clean Air Branch is responsible for regulating and monitoring pollution sources to ensure that the levels of criteria pollutants remain well below the State and federal ambient air quality standards.

The State maintains five air quality monitoring stations on the island of O'ahu. The State DOH's nearest air quality monitoring station is located in Kapolei south of Kapolei Fire Station. This station monitors CO, NO2, SO2, PM10 and PM2.5.

Due to generally prevailing tradewinds, air quality at the project site is generally good. There are industrial sources of air pollution in the Ewa District, related to the petroleum refineries and the H-power generation plant, however, the pollutant levels remain well below both State and Federal ambient air quality standards for all pollutants monitored.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts on air quality are anticipated as a result of the construction and operation of the proposed project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, and possible utility repairs and upgrades. Fugitive dust will be controlled by methods such as water spraying and sprinkling of loose or exposed soil or ground surface areas. As deemed appropriate, planting of landscaping will be done as soon as possible on completed areas to also help control dust.

Exhaust emissions from construction vehicles are anticipated to have negligible impact on air quality in the project vicinity as the emissions would be relatively small and readily dissipated. In the long-term, an increase in vehicular emissions is likely, however, due to the generally prevailing tradewinds, the emissions would be readily dissipated.

3.8 Noise

The existing noise environment at the project site is characteristic of an urban setting. Ambient noise in the project area is predominantly attributed to vehicular traffic traveling along Farrington Highway and adjacent roadways. Also contributing to the acoustic environment is noise from low pitch sounds of waves along the coast, wind and birds.

Impacts and Mitigation Measures

In the short-term, noise from construction activities will be unavoidable. The increase in noise level will vary according to the particular phase of construction. Noise may also increase as a result of operation of power equipment during the construction period.

Construction noise impacts will be mitigated by compliance with provisions of the State DOH Administrative Rules, Title 11, Chapter 46, "Community Noise Control" regulations. These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels stated in the DOH Administrative Rules. It shall be the contractor's responsibility to minimize noise by properly maintaining noise mufflers and other noise-attenuating equipment, and to maintain noise levels within regulatory limits.

In the long-term, no significant noise impacts are anticipated once the construction of the proposed project has been completed. Since the project is not expected to significantly increase roadway capacity or travel demand, ambient noise levels in the vicinity should not change significantly.

3.9 Traffic

The proposed project site is located east of Farrington Highway. In the vicinity of the project, Farrington Highway is a predominantly five-lane, two-way roadway generally oriented in a north-south direction that serves as the primary access road along the western coastline. Northwest of the project site, Farrington Highway intersects Mali'ona Street. At this signalized T-intersection, the northbound approach of Farrington Highways has two lanes that serve through and right-turn traffic movements while the southbound approach has an exclusive left-turn lane and two through lanes. Mali'ona Street is a two-lane, two-way roadway generally oriented in the east-west direction. At the intersection with Farrington Highway, the Mali'ona Street approach has one lane that serves left-turn and right-turn traffic movements.

East of the intersection with Farrington Highway, Mali'ona Street intersects Kula'aupuni Street. At this unsignalized intersection, both approaches of Mali'ona Street have one, stop-controlled lane that serves all traffic movements. Kula'aupuni Street is a two-lane, two-way roadway generally oriented in the north-south direction. At the intersection with Mali'ona Street, both approaches of Kula'aupuni Street have one lane that serves all traffic movements.

South of the intersection with Mali'ona Street, Kula'aupuni Street intersects St. John's Road. At this unsignalized intersection, both approaches of Kula'aupuni Street have one, stop-controlled lane that serves all traffic movements. St. John's Road is a two-lane, two-way roadway generally oriented in the east-west direction. At the intersection with Kula'aupuni Street, the St. John's Road approaches have one lane that serves all traffic movements.

West of the intersection with Kula'aupuni Street, St. John's Road intersects Farrington Highway. At this signalized T-intersection, the St. John's Road approach has one lane that serves left-turn and right-turn traffic movements. The northbound approach of Farrington Highway has two lanes that serve through and right-turn traffic movements while the southbound approach has two through lanes and an exclusive left-turn lane.

A Traffic Impact Report (TIR) was prepared for the proposed project by Wilson Okamoto Corporation in December 2013. The purpose of the TIR is to assess traffic operating conditions resulting from the proposed project, and to identify recommendations, if appropriate, that would mitigate the traffic impacts. The TIR is included in Appendix A and is summarized below.

Field investigations were conducted in October 2013 and consisted of manual turning movement count surveys during the morning peak hours between 6:00 AM and 9:00 AM, and the afternoon peak hours between 3:00 PM and 6:00 PM at the following intersections:

- Farrington Highway and Mali'ona Street
- Kula'aupuni Street and Mali'ona Street
- Kula'aupuni Street and St. John's Road
- Farrington Highway and St. John's Road

The highway capacity analysis performed in this TIR is based on procedures presented in the "Highway Capacity Manual", Transportation Research Board, 2000, and the "Synchro" software, developed by Trafficware. The analysis is based on the concept of Level of Service (LOS), a quantitative and qualitative assessment of traffic operations. LOS are defined by LOS "A" through "F", with LOS "A" representing ideal or free-flow traffic operating conditions and LOS "F" representing unacceptable or potentially congested traffic operating conditions.

"Volume to Capacity" (v/c) ratio is another measure indicating the relative traffic demand to the road carrying capacity. A v/c ratio of one (1.00) indicates that the roadway is operating at near capacity. A v/c ratio greater than 1.00 indicates that the traffic demand exceeds the road's carrying capacity.

The AM peak hour of traffic generally occurs between 6:45 AM and 7:45 AM. The PM peak hour of traffic general occurs between the hours of 3:15 PM and 4:15 PM.

Farrington Highway and Mali'ona Stret
At its intersection with Mali'ona Street, Farrington Highway carries 1,072 vehicles northbound and 1,063 vehicles southbound during the AM peak period. During the PM peak period, the overall traffic volume is slightly higher with the Farrington Highway approaches carrying 1,462 vehicles northbound and 1,059 vehicles southbound. Both approaches of Farrington Highway operate at LOS "A" during both peak periods.

Mali'ona Street carries 26 vehicles westbound during the AM peak period and 18 vehicles westbound during the PM peak period. This approach operates at LOS "C" and LOS "D" during the AM and PM peak periods, respectively.

Kula'aupuni and Mali'ona Street
At its intersection with Mali'ona Street, Kula'aupuni Street carries 102 vehicles northbound and 108 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are less with 42 vehicles traveling northbound and 32 vehicles traveling southbound. Both approaches of Kula'aupuni Street operate at LOS "A" during both peak periods.

Mali'ona Street carries 11 vehicles westbound and 59 vehicles eastbound during the AM period. During the PM peak period, the overall traffic volume is less with 21 vehicles traveling westbound and 12 vehicles traveling eastbound. Both approaches of Mali'ona Street operate at LOS "B" and LOS "A" during the AM and PM peak periods, respectively.

Kula'aupuni and St. John's Road
At the intersection with St. John's Road, Kula'aupuni Street carries 73 vehicles northbound and 91 vehicles southbound during the AM peak period. During the PM peak period, traffic

volumes are less with 41 vehicles traveling northbound and 46 vehicles traveling southbound. The northbound approach of Kula'aupuni Street operates at LOS "C" and LOS "B" during the AM and PM peak periods, respectively, while the southbound approach operates at LOS "B" and LOS "A" during the AM and PM peak periods, respectively.

St. John's Road carries 238 vehicles eastbound and 86 vehicles westbound during the AM peak period. During the PM peak period, traffic volumes are less with 106 vehicles traveling eastbound and 46 vehicles traveling westbound. Both approaches of St. John's Road operate at LOS "A" during both peak periods.

Farrington Highway and St. John's Road

At its intersection with St. John's Road, Farrington Highway carries, 1,197 vehicles northbound and 1,070 vehicles southbound during the AM peak period. During the PM peak period, the overall traffic volume is higher with 1,468 vehicles traveling northbound and 1,054 vehicles traveling southbound. The northbound approach of Farrington Highway operates at LOS "B" and LOS "A" during the AM and PM peak periods, respectively, while the southbound approach operates at LOS "A" during both peak periods.

St. John's Road carries 199 vehicles westbound during the AM peak period and 119 vehicles during the PM peak period. This approach operates at LOS "C" during both peak periods.

Impacts and Mitigation Measures

Traffic conditions were forecasted to Year 2015 and Year 2027, the anticipated completion dates of full occupancy for Phase I and Phase II of the renovations, respectively.

Site-generated traffic was calculated for Year 2015 and Year 2027 using trip generation methodology based upon generally accepted techniques developed by the Institute of Transportation Engineers (ITE) and published in "Trip Generation, 9th Edition," 2012. The ITE trip generation rates are developed empirically by correlating the vehicle trip generation data with various land use characteristics such as the number of vehicle trips generated per full-time equivalent student. For the purpose of this study, all trips were conservatively assumed to be new trips along Farrington Highway. Table 3-1 summarizes the project site generation characteristics applied to the AM and PM peak periods of traffic.

As access to LCC-W will be provided via driveways off Kula'aupuni Street between St. John's Road and Mali'ona Street, the direction distribution of vehicles was based on the existing distribution of vehicles along Farrington Highway. As such, 50.1% of the trips were assumed to be headed northbound and 49.9% were assumed to be headed southbound during the AM peak period. During the PM peak period, 57.6% were assumed to be headed northbound and 42.4% were assumed to be headed southbound. Site-generated traffic was distributed along the surrounding roadways based upon their assumed origin/destination and the relative convenience of the available routes to and from the project site.

TABLE 3-1:
PEAK HOUR TRIP GENERATION

YEAR 2015		
JUNIOR/COMMUNITY COLLEGE INDEPENDENT VARIABLE: # of students = 272 (FTE)		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	28
	EXIT	5
	TOTAL	33
PM PEAK	ENTER	21
	EXIT	12
	TOTAL	33
YEAR 2027 (FROM YEAR 2015)		
JUNIOR/COMMUNITY COLLEGE INDEPENDENT VARIABLE: # of additional students = 128		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	12
	EXIT	3
	TOTAL	15
PM PEAK	ENTER	9
	EXIT	6
	TOTAL	15
TOTALS		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	40
	EXIT	8
	TOTAL	48
PM PEAK	ENTER	30
	EXIT	18
	TOTAL	48

Through traffic forecasting was also calculated for Year 2015 and Year 2027. For Phase I, under Year 2015 with project conditions, traffic operations in the project vicinity are generally expected to remain similar to without project conditions despite the addition of site generated vehicles to the surrounding roadways (see Table 3-2). Traffic operations at the study intersections along Farrington Highway are expected to operate at LOS "C" or better during both peak periods. Along Kula'aupuni Street, traffic operations at the intersection with Mali'ona Street are expected to operate at LOS "B" or better during both peak periods while those at the intersection with St. John's Road are expected to operate at LOS "C" or better during both peak periods.

TABLE 3-2:
EXISTING AND PROJECTED YEAR 2015 (WITHOUT AND WITH PROJECT)
LOS TRAFFIC OPERATING CONDITIONS

Intersection	Approach	AM		PM	
		Year 2015 w/out Proj.	Year 2015 w/ Proj.	Year 2015 w/out Proj.	Year 2015 w/ Proj.
Farrington Hwy/ Mali'ona St	Westbound	C	C	D	C
	Northbound	A	A	A	A
	Southbound	A	A	A	A
Kula'aupuni St/ Mali'ona St	Eastbound	B	B	A	A
	Westbound	B	B	A	A
	Northbound	A	A	A	A
	Southbound	A	A	A	A
Kula'aupuni St/ St. John's Rd	Eastbound	A	A	A	A
	Westbound	A	A	-	-
	Northbound	C	C	B	B
	Southbound	B	B	A	A
Farrington Hwy/ St. John's Rd	Westbound	C	C	C	C
	Northbound	B	B	A	A
	Southbound	A	A	A	A

For Phase II, under Year 2027 with project conditions, traffic operations in the project vicinity are generally expected to remain similar to Year 2015 with project conditions despite the anticipated increase in enrollment at LCC-W (see Table 3-3). At the intersection of Farrington Highway with St. John's Road, the northbound approach is anticipated to operate at LOS "B" during the PM peak period. The remaining

approaches at this intersection and the other study intersections are anticipated to continue operating at levels of service similar to Year 2015 with project conditions.

TABLE 3-3:
PROJECTED YEAR 2015 AND YEAR 2027 WITH PROJECT LOS TRAFFIC OPERATING CONDITIONS

Intersection	Approach	AM		PM	
		Year 2015 w/ Proj.	Year 2027 w/ Proj.	Year 2015 w/ Proj.	Year 2027 w/ Proj.
Farrington Hwy/ Mali'ona St	Westbound	C	C	C	C
	Northbound	A	A	A	A
	Southbound	A	A	A	A
Kula'aupuni St/ Mali'ona St	Eastbound	B	B	A	A
	Westbound	B	B	A	A
	Northbound	A	A	A	A
	Southbound	A	A	A	A
Kula'aupuni St/ St. John's Rd	Eastbound	A	A	A	A
	Westbound	A	A	-	-
	Northbound	C	C	B	B
	Southbound	B	B	A	A
Farrington Hwy/ St. John's Rd	Westbound	C	C	C	C
	Northbound	B	B	A	B
	Southbound	A	A	A	A

Based on the analysis of the traffic data, the following recommendations should be incorporated in the project design:

1. Maintain sufficient sight distance for motorists to safely enter and exit project driveways.
2. Provide adequate on-site loading and off-loading service areas and prohibit off-site loading operations.
3. Provide adequate turn-around area for service, delivery, and refuse collection vehicles to maneuver on the project site to avoid vehicle-reversing maneuvers onto public roadways.
4. Provide sufficient turning radii at all project driveways to avoid or minimize vehicle encroachments to oncoming traffic lanes.

5. During the design phase of the project, consider incorporation of complete streets concepts if possible.
6. Due to the narrow local roadways leading to and from the campus, additional transit routes are not anticipated to be added to the existing transit system to service the campus. As such, consult with the City and County of Honolulu Department of Transportation Services during the design phase to ensure that the campus would be able to accommodate any planned changes in the transit service or provision of additional facilities for alternative modes of transportation.

3.10 Visual Resources

According to the Wai'anae Sustainable Communities Plan (WSCP), visual resources in the Wai'anae District include coastal lands, steep ridges and pu'u near the coast, and the peaks of the Wai'anae Mountain Range. The property's location within the ahupua'a of Lualualei and its proximity to Pu'u Ma'ili'ili and Pu'u o Hulu provide for views from within the property of the ridgeline of the ahupua'a and the two landforms to the north and south of the property. Due to the site's low elevation, makai views of the ocean are blocked by existing development and vegetation.

Impacts and Mitigation Measures

No significant impacts to visual resources are anticipated as a result of the construction or operation of the proposed project. The project primarily involves interior renovations to the existing building and the visual appearance of the existing low-rise structure should not change significantly.

3.11 Socio-Economic Characteristics

The project site is located within the Mā'ili Census Tract (CT). However, data from the Kahe, Lualualei Transmitter, Wai'anae Kai, Lualualei – Camp Wai'anae, Lualualei: Halona Road Mākaha and Nānākuli CTs are also presented since these communities are an integral part of the Leeward coast of O'ahu. Demographic and other information was reviewed from the U.S. Census 2010 for the above listed CTs and the City and County of Honolulu and is shown on Table 3-3.

Based upon the data presented in the table, the communities along the Leeward coast of O'ahu have a slightly younger population than the City and County of Honolulu as a whole. The median age of the Leeward coast population was 30.75 versus 37.8 for the County.

By racial mix, the Leeward coast communities have higher percentages of Native Hawaiian and other Pacific Islander, and persons of two or more races than the City and County as a whole. Nānākuli has the highest concentration of Native Hawaiian and other Pacific Islander at 47.2 % followed by Lualualei Transmitter (33.4%) The City and County of Honolulu as a whole has a concentration of 9.6% of individuals identifying themselves as Native Hawaiian and other Pacific Islander. Persons of two or more races are fairly constant among the four communities ranging from 31.0% to 45.6%, contrasting with the City and County figure of 21.6%. Proportions of White, Black and Asian individuals are below the proportions for the City and County as a whole.

TABLE 3-4
DEMOGRAPHIC CHARACTERISTICS

CT	CT 86.11 Kahe		CT 96.03 Maili		CT 96.08 Lualualei Transmitter		CT 97.01 Waianae Kai		CT 97.03 Lualualei - Camp Waianae		CT 97.04 Lualualei: Halona Road		CT 98.02 Makaha		CT 9400.02 Nanakuli		City and County of Honolulu	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population	**84**	**100**	**10,289**	**100**	**5,682**	**100**	**6,635**	**100**	**6,227**	**100**	**3,066**	**100**	**6,386**	**100**	**7,400**	**100**	**953,207**	**100**
AGE																		
Under 5 years	6	7.1	971	9.4	486	8.6	710	10.7	559	9.0	261	8.5	616	9.6	677	9.1	61,261	6.4
5-19 years	12	14.3	2,741	26.7	1,495	26.3	1,735	26.1	1,578	25.4	719		1,628		2,002		174,309	18.3
20-64 years	64	76.2	5,773	56.1	3,162	55.6	3,647	55.0	3,496	56.1	1,711		3,598		4,087		579,147	60.8
65 years and over	2	2.4	804	7.8	539	9.5	543	8.2	594	9.5	375	12.2	546	8.5	634	8.6	138,490	14.5
Median age (years)	32.5	--	30.2	--	30.7	--	28.9	--	31.5	--	33.5	--	29.8	--	28.9	--	37.8	--
RACE																		
White	32	38.1	1,445	14	379	6.7	663	10.0	513	8.2	346	11.3	3,493	54.7	266	3.6	198,732	20.8
Black or African American	1	1.2	218	2.1	53	0.9	76	1.1	55	0.9	15	0.5	66	1.0	45	0.6	19,256	2
American Indian and Alaskan Native	0	0.0	24	0.2	11	0.2	23	0.3	7	0.1	4	0.1	22	0.3	18	0.2	2,438	0.3
Asian	22	26.2	1,924	18.7	914	16.1	831	12.5	1,051	16.9	650	21.2	855	13.4	333	4.5	418,410	43.9
Native Hawaiian and other Pacific Islander	3	3.6	2,214	21.5	1,899	33.4	1,959	29.5	1,832	24.9	784	25.6	1,641	25.7	3,491	47.2	90,878	9.5
Two or more races	26	31.0	4,378	42.6	2,393	42.1	3,024	45.6	2,722	43.7	1,257	41.0	2,893	45.3	3,219	43.5	213,036	22.3
Other	0	0.0	86	0.8	33	0.6	59	0.9	47	0.8	10	0.3	48	0.8	28	0.4	10,457	1.1
HOUSEHOLD (BY TYPE)																		
Total households	**29**	**100**	**2,443**	**100**	**1,286**	**100**	**1,703**	**100**	**1,422**	**100**	**690**	**100**	**1,592**	**100**	**1,483**	**100**	**311,047**	**100**
Family households (families)	23	79.3	2,022	82.8	1,080	84.0	1,224	71.9	1,235	86.8	586	84.9	1,282	80.5	1,289	86.9	328,953	70
Married-couple family	18	34.5	1,375	56.3	680	52.9	668	39.2	841	59.1	389	56.4	704	44.2	744	50.2	161,172	51.8
With own children under 18 years	7	24.1	660	27.0	294	22.9	298	17.5	370	26.0	149	21.6	297	18.7	321	21.6	65,995	21.2
Female householder, no husband present	4	13.8	420	17.2	269	20.9	411	24.1	246	17.3	116	16.8	416	26.1	392	26.4	39,435	12.7
With own children under 18 years	3	10.3	205	8.4	115	8.9	232	13.6	98	6.9	23	3.3	240	15.1	148	10.0	15,027	4.8
Nonfamily household	6	20.7	421	17.2	206	16.0	479	28.1	187	13.2	104	15.1	310	19.5	194	13.1	93,205	30
Average household size	2.9	--	3.99	--	4.35	--	3.61	--	4.36	--	4.16	--	3.91	--	4.98	--	2.95	--
HOUSING OCCUPANCY AND TENURE																		
Total housing Units	**38**	**100**	**2,691**	**100**	**1,427**	**100**	**1,948**	**100**	**1,574**	**100**	**737**	**100**	**1,878**	**100**	**1,558**	**100**	**336,889**	**100**
Occupied Units	29	76.3	2,443	90.8	1,286	90.1	1,703	87.4	1,422	90.3	690	93.6	1,592	84.8	1,483	95.2	311,047	92.3
By owner	12	41.4	1,522	62.3	759	59.0	695	40.8	1,110	78.1	489	70.9	754	47.4	1,104	74.4	174,387	56.1
By renter	17	58.6	921	37.7	527	41.0	1,008	59.2	312	21.9	201	29.1	838	52.6	379	25.6	136,660	43.9
Vacant Units	9	23.7	248	9.2	141	9.9	245	12.6	152	9.7	47	6.4	286	15.2	75	4.8	25,852	7.7

According to the 2010 Census, the Leeward coast has a slightly lower housing occupancy rate than the County. Housing units in this region are occupied slightly more by owners than renters. The County data is similar to the Leeward coast in that the proportion of housing units are occupied more by owners than renters.

The Highest Level of Educational Attainment data for the Leeward Coast area was reviewed from the 2007-2011 American Community Survey (ACS) 5-year estimates and the 2012 ACS 1-year estimates for the City and County of Honolulu (see Table 3-5). Based on the data, the majority of the highest level of education obtained for the Leeward Coast population over the age of 25 was the high school graduate level at an average of 47.5%. An average of 6.7% received their Bachelor's degree compared to the City and County average of 21.2%.

Impacts and Mitigation Measures

In the short- term, construction expenditures will provide positive benefits to the local economy. This would include creation of some construction and construction support jobs, and the purchase of materials from local suppliers, as well as indirect benefits to local retail businesses resulting from construction activities.

In the long-term, the proposed project will provide the opportunity for LCC-W to offer a variety of career and vocational educational certificates and degree programs to meet community workforce development training needs as well as expand their current programs and services in order to bring additional higher educational capacity and workforce development opportunities to the Wai'anae Coast.

3.12 Public Services and Facilities

3.12.1 Police Fire, and Medical Services

Police protection is provided by the City and County of Honolulu Police Department (HPD). The project area is a part of District 8 – Kapolei/Wai'anae, Sector 1, which covers the areas of Makua, Mākaha, Wai'anae, and Mā'ili. It is served by the Wai'anae Substation located at 85-939 Farrington Highway, approximately 2 miles to the northeast of the project site.

Fire protection is provided by the City and County of Honolulu Fire Department (HFD). The project area is a part of Battalion 4 and is served by the Wa'anae Fire Station (Engine 26), which is located at 85-645 Farrington Highway, approximately 2.5 miles northeast of the project site. The Nānākuli Fire Station (Engine 28), located approximately 3.4 miles to the southwest of the project site, provides back up support for the Wai'anae Station when required.

The closest medical facility to the project site is The Wai'anae Coast Comprehensive Health Center located at 86-260 Farrington Highway, approximately one mile northeast of the project site. The Wai'anae Coast Comprehensive Health Center offers a variety of services including general practice, family practice, pediatrics, internal medicine, behavioral health, preventative health, women's health, and emergency medicine.

TABLE 3-5
HIGHEST LEVEL OF EDUCATIONAL ATTAINMENT

	CT 86.11 Kahe	CT 96.03 Maili	CT 96.08 Lualualei Transmitter	CT 97.01 Waianae Kai	CT 97.03 Lualualei - Camp Waianae	CT 97.04 Lualualei: Halona Road	CT 98.02 Makaha	CT 9400.02 Nanakuli	City and County of Honolulu*
Population 25 years and over	**158**	**5,304**	**3,468**	**3,302**	**3,547**	**2,417**	**3,208**	**4,025**	**662,195**
High school graduate	61.4%	44.0%	47.9%	37.6%	44.5%	45.2%	44.0%	55.1%	26.7%
Some college, no degree	17.7%	25.5%	23.5%	30.3%	22.3%	20.3%	18.5%	16.6%	21.3%
Associate's Degree	0.0%	6.0%	4.4%	10.8%	8.4%	8.5%	9.3%	6.5%	10.3%
Bachelor's Degree	0.0%	8.1%	5.6%	7.7%	8.2%	6.3%	5.9%	4.6%	21.2%
Graduate or professional degree	20.9%	4.1%	1.7%	2.5%	2.4%	2.2%	3.6%	1.35%	11.0%

* Data for the City and County of Honolulu obtained from the 2012 ACS 1-year estimates

Emergency medical service is provided by the City's Emergency Services Department, Emergency Medical Services Division. The Department has 22 ambulance units under two districts. All ambulance units are designated as advanced life support units, meaning they are staffed by at least two people. The project area is served by District 1, which includes the western region of O'ahu.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts on police, fire, and medical services are anticipated.

In the long-term, the proposed project may require occasional police and fire protection, as well as medical services, however it would likely not represent a significant amount relative to the overall regional demand.

The proposed building renovations will comply with the applicable County fire code requirements.

3.12.2 Education

The project site is located within the State Department of Education's (DOE) Nānākuli-Wai'anae complex area which includes Leihoku Elementary School, Mā'ili Elementary School, Mākaha Elementary School, Nanaikapono Elementary School, Nānākuli Elementary School, Wai'anae Elementary School, Wai'anae Intermediate School, Nānākuli High and Intermediate School, and Wai'anae High School.

The closest education facility to the project site is Mā'ili Elementary School located adjacent to the project site. Mā'ili Elementary serves children from kindergarten to 6th grade. The other schools within the project vicinity are all located over one mile away from the project site.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts or increased demand on schools are anticipated. The proposed project will benefit both the Wai'anae Coast community as well as the current students and faculty of LCC-W as it will provide the needed additional classroom and support spaces. The proposed project is not anticipated to induce population growth and is, therefore, not expected to affect student enrollment at public school facilities in the area.

3.12.3 Recreational Facilities

The County has several parks located in the project vicinity. The nearest County recreational facility to the project site is the Mā'ili Community Park located adjacent to the project site. The park includes a multi-purpose building and an open field for sports and other outdoor activities. The community park provides a comprehensive recreational program for all ages including activities such as arts and crafts, Hawaiiana, games and sports, music, seasonal activities and crafts, and excursions.

Also located near the project site is the 40 acre Mā'ili Beach Park, located approximately 0.3-miles west of the project site, bordering Farrington Highway. Mā'ili Beach Park allows for

camping by permit only and offers 12 campsites to choose from. There are also two comfort stations and outdoor showers.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts or increased demand on recreational facilities in the project vicinity are anticipated. The proposed project is intended to support the existing and projected student and faculty population of LCC-W. Therefore, the project is not anticipated to induce population growth and associated demands on recreational facilities and parks.

3.12.4 Solid Waste Collection and Disposal

Residential solid waste collection and disposal service is provided by the City and County of Honolulu Department of Environmental Services. Commercial solid waste collection and disposal service is provided by private haulers. Solid waste collected in the Wai'anae area is hauled to the Campbell Industrial Park H-POWER Plant for eventual disposal at the Waimānalo Gulch Sanitary Landfill. Construction and demolition material is disposed of at the privately-owned PVT landfill in Nānākuli.

Impacts and Mitigation Measures

No short- or long-term significant impacts to municipal solid waste collection and disposal facilities are anticipated as a result of the construction and operation of the proposed project.

Construction of the proposed project will generate solid waste typical of building construction related activities over the short-term. The contractor will be required to remove all debris from the site, and properly dispose of it at the PVT landfill in conformance with County regulations.

Solid waste collection for the proposed campus will be provided by a private hauler under contract with LCC. The project is not anticipated to significantly affect the City's solid waste collection and disposal service.

3.13 Infrastructure and Utilities

3.13.1 Water System

Water service in the project area is provided by the City and County of Honolulu Board of Water Supply (BWS). There is an existing 8-inch waterline that runs under Kula'aupuni Street

Impacts and Mitigation Measures

In the short- and long- term, the project is not anticipated to result in significant increased demand on the water system in the area. LCC will work with the BWS on appropriate improvements which may be required as a result of the proposed project. In addition, as the proposed project is intended to support the existing and projected student and faculty population of LCC-W, the project is not anticipated to induce population growth and associated demand on water.

As the existing building has been vacant for an extended period of time, vandalism has occurred and many of the plumbing fixtures are missing or damaged, including existing copper piping within the walls. This will need to be repaired prior to occupancy of the building. If applicable, upgrades to the existing system may also be necessary.

3.13.2 Wastewater System

Wastewater service in the area is provided by the City and County of Honolulu Department of Environmental Services (ENV). Wastewater is conveyed from the project site via two existing 8-inch sewer lines, one at the front of the property that runs parallel to Kula'aupuni Street and one at the back of the property. Both lines connect to a 10-inch pipeline that runs parallel to St. John's Road that eventually connects to the main sewer line under Farrington Highway. From there, wastewater is conveyed to the Wai'anae Wastewater Treatment Plant (WWTP) for treatment and disposal.

Impacts and Mitigation Measures

No significant impacts are anticipated on the existing wastewater system as a result of the construction and operation of the proposed improvements. LCC-W will work with ENV on any appropriate improvements which may be required as a result of the project.

As the existing building has been vacant for an extended period of time, vandalism has occurred and many of the plumbing fixtures are missing or damaged. This will need to be repaired prior to occupancy of the building. If applicable, upgrades to the existing system may also be necessary.

3.13.3 Drainage System

There is no storm drain system on site. The original design for the building designated a retention ditch on all of the open areas adjacent to the hard surfaces within the site.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts are anticipated on the existing storm drainage system as a result of the construction and operation of the proposed project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking. LCC-W will coordinate with the City and County of Honolulu Department of Planning and Permitting on all applicable drainage requirements.

3.13.4 Electrical and Communications Systems

Electrical power on the island of O'ahu is provided by Hawaiian Electric Company (HECO). The electrical source for the project area is the Kahe Point Power Plant.

Telephone service in the Māi'li area, like the rest of the State, is provided by Hawaiian Telcom.

Oceanic Time Warner Cable of Hawai'i is the local CATV provider in the region.

Within the project site, there is an existing utility pole and telephone service duct located on the Kula'aupuni Street side of the building. There are two primary transformers located at the back of the building.

Impacts and Mitigation Measures

In the short- and long-term, the proposed project is not anticipated to significantly impact or increase demand on electrical and communication systems in the area.

As the existing building has been vacant for an extended period of time, vandalism has occurred and many of the electrical fixtures are missing or damaged. This will need to be repaired prior to occupancy of the building. If applicable, upgrades to the existing system may also be necessary

4. RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

This section discusses the State and City and County of Honolulu land use plans, policies and controls relating to the proposed project.

4.1 State Land Use Plans and Policies

4.1.1 Hawai'i State Plan

The Hawai'i State Plan, Chapter 226, HRS, provides goals, objectives, policies, and priorities for the State. The Hawai'i State Plan also provides a basis for determining priorities, allocating limited resources, and improving coordination of State and County Plans, policies, programs, projects, and regulatory activities. It establishes a set of themes, goals, objectives, and policies that are meant to guide the State's long-range growth and development activities. The proposed project is consistent with the following applicable objectives and policies:

Sec. 226-11 Objectives and policies for the physical environment – land-based, shoreline, and marine resources.

(a) Planning for the State's physical environment with regard to land-based shoreline, and marine resources shall be directed towards achievement of the following objectives:

(1) Prudent use of Hawai'i's land-based, shoreline, and marine resources.

(2) Effective protection of Hawai'i's unique and fragile environmental resources.

(b) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:

(3) Take into account the physical attributes of areas when planning and designing activities and facilities.

(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.

(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i.

(8) Pursue compatible relationships among activities, facilities, and natural resources.

Discussion: In the short- and long- term, no significant impacts on land-based, shoreline, and marine resources are anticipated during the construction or operation of the proposed

project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking. As deemed appropriate, planting of landscaping will be done as soon as possible on completed areas to help control erosion. If applicable, excavation and grading activities will be regulated by the County's grading ordinance.

Sec. 226-21 Objective and policies for socio-cultural advancement – education.

(a) Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement to the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.

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

(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs;

(5) Provide higher educational opportunities that enable Hawaii's people to adapt to changing employment demands;

(6) Emphasize equality in educational programs in Hawaii's institutions to promote academic excellence; and

(9) Support research programs and activities that enhance the education programs of the State.

Discussion: The proposed project will allow LCC to expand their existing services which will enhance higher education opportunities for those in the Wai'anae Coast area.

4.1.2 State Land Use District

The State Land Use Law, Chapter 205, HRS, is intended to preserve, protect and encourage the development of lands in the State for uses that are best suited to the public health and welfare of Hawai'i's people. Under Chapter 205, HRS all lands in the State of Hawai'i are classified by the State Land Use Commission (LUC) into four major categories referred to as State Land Use Districts. These districts are identified as the Urban District, Agricultural District, Conservation District, and Rural District.

The LUC's Land Use District Boundary map for the Island of O'ahu depicts the lands within the project area as being designated within the State Urban District (see Figure 4-1). Land uses in the Urban district throughout the State are, in most cases, administered by the respective Counties through their respective zoning ordinances.

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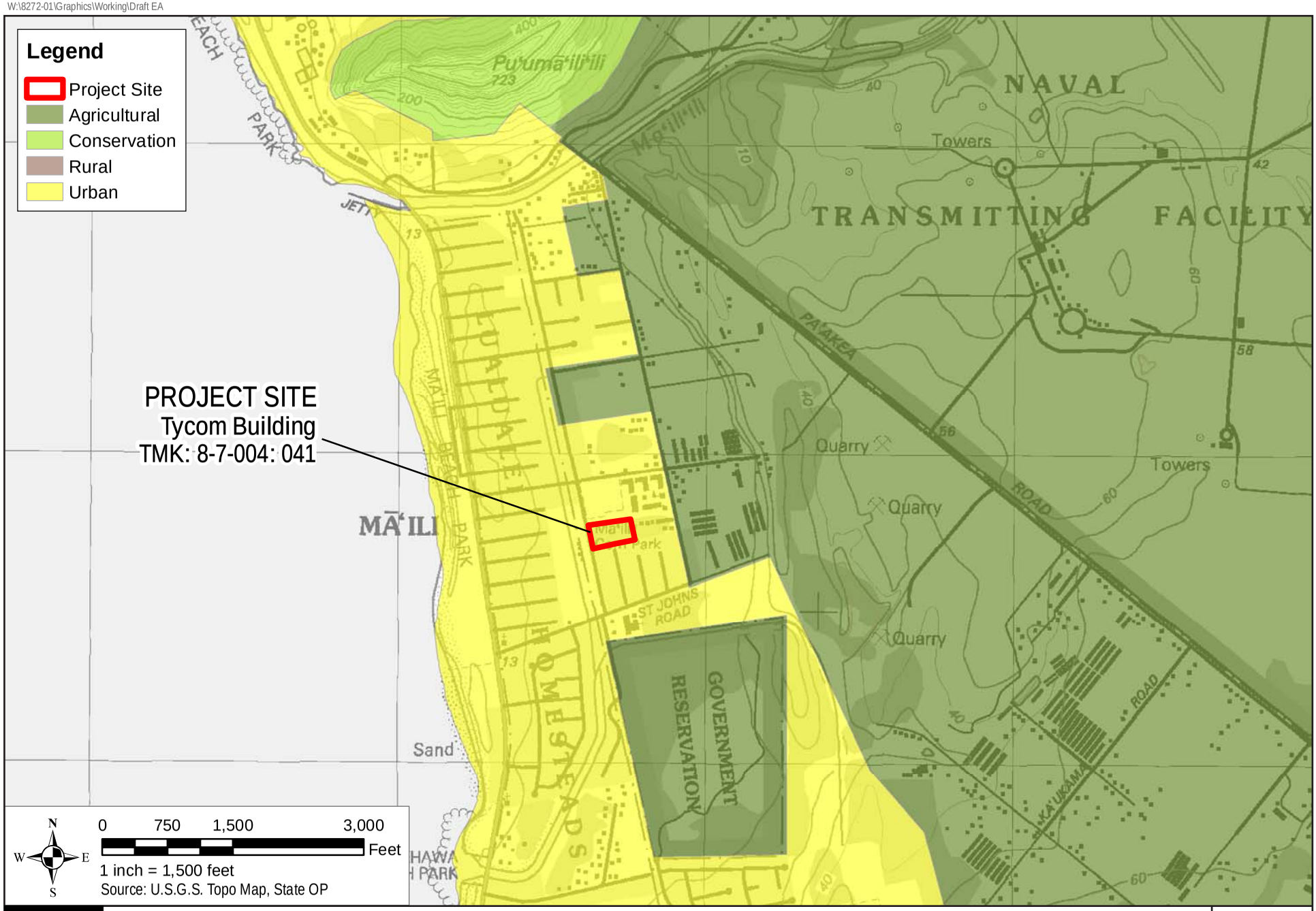

WAI'ANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

STATE LAND USE DISTRICTS MAP

FIGURE 4-1

4.1.3 Hawai'i Coastal Zone Management Program

The National Coastal Zone Management (CZM) Program was created through passage of the Coastal Zone Management Act of 1972. Hawai'i's CZM Program, adopted as Chapter 205A, HRS, provides a basis for protecting, restoring and responsibly developing coastal communities and resources. The Hawai'i CZM area includes all lands within the State and the areas seaward to the extent of the State's management jurisdiction. Hence, the proposed project site is located in the CZM area. A discussion of the project's consistency with the objectives and policies of the CZM Program is provided below.

(1) Recreational Resources

Objective:
Provide coastal recreational opportunities accessible to the public.

Policies:
(A) Improve coordination and funding of coastal recreational planning and management; and
- *(i) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by: Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*
- *(ii) Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;*
- *(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*
- *(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;*
- *(v) Ensuring public recreational use 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; Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters.*
- *(vi) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and*
- *(vii) 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.*

The proposed project, at its closest point, is located approximately 0.3-miles from Mā'ili Beach.

In the short- and long- term, no significant impacts on recreational resources are anticipated during the construction or operation of the proposed project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking. As deemed appropriate, planting of landscaping will be done as soon as possible on completed areas to help control erosion. If applicable, excavation and grading activities will be regulated by the County's grading ordinance.

(2) 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;
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and
(C) Support state goals for protection, restoration, interpretation, and display of historic resources.

The project site has been completely disturbed and developed during the original construction of the building. It is unlikely that there are any historic and archaeological resources within the project site.

In the short- and long-term, no significant impacts on historic and archaeological resources are anticipated as a result of the construction and operation of the proposed project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking.

In the unlikely event that any significant archeological, cultural, or historic resources are found during construction activities, all work will cease in the vicinity of the find and the State Historic Preservation Division (SHPD) will be notified immediately to determine appropriate mitigation measures.

(3) 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;
(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;
(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and
(D) Encourage those developments which are not coastal dependent to locate in inland areas.

No significant impacts to visual resources are anticipated as a result of the construction or operation of the proposed project. The project primarily involves interior renovations to the existing building and the visual appearance of the existing low-rise structure should not change significantly.

(4) 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;
(B) Improve the technical basis for natural resource management;
(C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;
(D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and
(E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

The proposed project, at its closest point, is located approximately 0.3-miles from Mā'ili Beach.

In the short- and long- term, no significant impacts on coastal ecosystems are anticipated during the construction or operation of the proposed project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to an existing building. Only minimal land disturbing activities

are planned such as clearing and grubbing for landscaping purposes, and possible utility repairs and upgrades. As deemed appropriate, planting of landscaping will be done as soon as possible on completed areas to help control erosion. If applicable, excavation and grading activities will be regulated by the County's grading ordinance.

(5) 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;
(B) Ensure that coastal dependent developments such as harbors and ports, and coastal related development such as visitor facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and
(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

(i) Use of presently designated locations is not feasible;
(ii) Adverse environmental effects are minimized; and
(iii) The development is important to the State's economy.

In the short-term, construction expenditures will provide positive benefits to the local economy. This would include creation of some construction and construction support jobs, and the purchase of materials from local suppliers, as well as indirect benefits to local retail businesses resulting from construction activities.

In the long-term, the proposed project will provide the opportunity for LCC-W to offer a variety of career and vocational educational certificates and degree programs to meet community workforce development training needs as well as expand their current programs and services in order to bring additional higher educational capacity and workforce development opportunities to the Wai'anae Coast.

(6) Coastal Hazards

Objectives:
(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;

(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint pollution hazards;
(B) Ensure that developments comply with requirements of the Federal Flood Insurance Program;
(C) Prevent coastal flooding from inland projects.

According to the Flood Insurance Rate Map (FIRM), (Community Panel Number 15003C0192H, Effective Date: January 19, 2013) prepared by FEMA, the project site is designated Zone D.

Zone D indicates unstudied areas where flood hazards are undetermined, but possible.

According to the Tsunami Evacuation Zone maps for O'ahu, the project site lies entirely within the tsunami evacuation zone.

In the short- and long-term, no significant impacts on flood hazards in the project area are anticipated as the proposed improvements are not anticipated to increase flood risks or cause any adverse flood-related impacts at the project site or lower elevation properties. Construction of the proposed project will not involve any major land disturbing activities as the proposed project involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking.

(7) Managing Development

Objective:
(A) Improve the development review process, communication, and public participation in the management of coastal resource and hazards.

Policies:
(A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;
(B) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and
(C) Communicate the potential short- and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

The Hawai'i State environmental review process, HRS 343, requires project review by government agencies and affords the public the opportunity to provide comments on the proposed project. Applicable State and County requirements will be adhered to in the design and construction phases of the proposed improvements.

(8) Public Participation

Objective:
(A) Stimulate public awareness, education, and participation in coastal management.

Policies:
(A) Promote public involvement in coastal zone management processes;
(B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and
(C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

The Hawai'i State environmental review process, Chapter 343, HRS, requires project review by government agencies and affords organizations and the general public the opportunity to provide comments on the proposed project.

(9) 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;
(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
(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

The proposed does not involve the construction of improvements in the shoreline setback nor require any shoreline erosion-protection structures.

(10) Marine Resources

Objective:
(A) Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Policies:
(D) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

(E) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;
(F) 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;
(G) 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
(H) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

In the short- and long- term, no significant impacts on marine resources are anticipated during the construction or operation of the proposed project. Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking. As deemed appropriate, planting of landscaping will be done as soon as possible on completed areas to help control erosion. If applicable, excavation and grading activities will be regulated by the County's grading ordinance.

4.2 City and County of Honolulu Land Use Plans and Policies

4.2.1 City and County of Honolulu General Plan

The City and County of Honolulu last updated its General Plan in October of 2002. The General Plan for the City and County of Honolulu is a written commitment by the City and County government to a future for the Island of O'ahu that it considers desirable and attainable. The Plan is a two-fold document: First, it is a statement of the long-range social, economic, environmental, and design objectives for the general welfare and prosperity of the people of O'ahu. These objectives contain both statements of desirable conditions to be sought over the long run and statements of desirable conditions which can be achieved within an approximately 20-year time horizon. Second, the General Plan is a statement of broad policies that facilitate the attainment of the objectives of the Plan.

The General Plan is a guide for all levels of government, private enterprise, neighborhood and citizen groups, organizations, and individual citizens in eleven areas of concern:

(1) Population;
(2) Economic activity;
(3) The natural environment;
(4) Housing,
(5) Transportation and utilities;
(6) Energy;
(7) Physical development and urban design;
(8) Public safety;

(9) Health and education;
(10) Culture and recreation; and
(11) Government operations and fiscal management.

The proposed project is relevant and consistent with the following applicable goals, objectives, policies, and actions of the *City and County of Honolulu General Plan*:

VII. Health and Education

Objective B
To provide a wide range of educational opportunities for the people of O'ahu

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

Policy 5
Facilitate the appropriate location of learning institutions from the preschool through the university levels.

Discussion: In the long-term, the proposed project will provide the opportunity for LCC-W to offer a variety of career and vocational educational certificates and degree programs to meet community workforce development training needs as well as expand their current programs and services in order to bring additional higher educational capacity and workforce development opportunities to the Wai'anae Coast.

4.2.2 Wai'anae Sustainable Communities Plan

The island of O'ahu is divided into eight Development/Sustainable Communities. These eight regional plans reflect each area's vision, and are intended to guide City land use approvals, infrastructure improvements and private sector investment decisions. The project site is located within the region encompassed by the Wai'anae Sustainable Communities Plan (WSCP). The Plan is designed to maintain and enhance the region's ability to sustain its unique character, current population, growing families, rural lifestyle, and economic livelihood, all of which contribute to the region's vitality and future potential.

The proposed project is consistent with the following applicable policies and guidelines of the WSCP:

4.7.2 General Policies Pertaining to Civic, Public Safety and Educational Facilities

4.7.2.2 Selection of Sites for New Schools

Even if future growth in the Waianae District is fairly slow, there will be an eventual need for one or more new elementary schools, and possibly another Intermediate School and High School by the Year 2020. The sites for these new schools should be selected through a careful study process. Public agency planners should coordinate with the community to ensure that the site selection process for new schools fully

considers the plans and policies that make up the Waianae Sustainable Communities Plan. Specifically, the site selection studies will need to focus on potential sites within the Rural Community areas, and eliminate from consideration any sites on Agricultural lands or sites makai of Farrington Highway. The construction of a school on Agricultural land would encourage urban and suburban development that is not compatible with the intent of this land use designation, and would potentially compromise the learning environment for students, teachers and staff due to odors, dust and vectors that often accompany agricultural land uses.

Discussion: While the intent of these policies and guidelines were meant to pertain to elementary, intermediate, and high schools, they should also be applicable to the proposed project. LCC-W is in compliance with the aforementioned policies and guidelines as the proposed project will be located in an existing building that is located within an area designated as Urban and is located mauka of Farrington Highway.

4.7.3 Planning Guidelines for Civic, Public Safety and Educational Facilities

4.7.3.1 General Design Standards

Public buildings, whether designed and constructed by federal, state, or city agencies or by other quasi-public entities, should be designed to be both functionally efficient and aesthetically pleasing. Too many public buildings on Oahu, including police stations, fire stations, and schools, have been designed with insufficient attention to sound design principles, which should include:

- *The use of building forms and materials that reflect Hawaii's diverse cultural and architectural heritage.*
- *The predominantly residential scale of the built environment of the Waianae District. Massive building forms would not be compatible with this residential scale.*
- *The hot, dry climate of the coastal plain zone of the Waianae District. Public buildings should therefore incorporate "natural" cooling devices including lanais, wide roof overhangs, natural air circulation, strategically placed shade trees, and cooler colors for exterior walls.*
- *Related open areas including front yard areas, parking lots, playgrounds, and garden spaces should be generously planted with colorful trees, shrubs, and ground covers. Drought-tolerant native plant species should be favored.*

Discussion: The project primarily involves interior renovations to an existing building. However, the building footprint and building height is not anticipated to increase. The building will continue to keep its characteristic of a low-rise structure that is compatible with the residential scale of the area. There is an outdoor seating/gathering area planned for the front area of the project site which will be landscaped appropriately.

4.2.3 City and County of Honolulu Zoning

The purpose and intent of the City and County of Honolulu Land Use Ordinance is to regulate land use in a manner that will encourage orderly development in accordance with adopted land use policies, including the Oʻahu General Plan and development plans, and to promote and protect the public health, safety, and welfare.

According to the City and County of Honolulu Department of Planning and Permitting (DPP), the project site is zoned Residential (R-5) (see Figure 4-2). DPP, in their pre-assessment consultation comment letter dated October 15, 2013, stated that for the purposes of the Land Use Ordinance, they have determined that the proposed project is a "public use and structure" which is a permitted use in the R-5 Residential District.

4.2.4 City and County of Honolulu Special Management Area

Pursuant to the Hawaiʻi CZM Program, Chapter 205A, HRS, the counties have enacted ordinances establishing Special Management Areas (SMA). Any "development" within the SMA requires either an SMA Use Permit - Minor or an SMA Use Permit - Major. The type of permit is generally determined by the valuation of the development. If the valuation of the development is less than $500,000.00, an SMA Use Permit - Minor is required. If the valuation is greater than $500,000.00, an SMA Use Permit - Major is required. The SMA Use Permits are administered by the City and County Department of Planning and Permitting. Through the SMA permit system, the County assesses and regulates developments proposed for areas located within the SMA and the proposed developments are evaluated for compliance with CZM objectives and policies and SMA guidelines set for the Chapter 205A, HRS. Figure 4-3 shows that the proposed project site is not located within the SMA and will, therefore, not require any type of SMA Use Permit.

4.3 Permits and Approvals

The following is a list of permits, approvals, and reviews that may be required prior to construction and operation of the proposed project.

<u>State of Hawaiʻi</u>

Department of Land and Natural Resources

- Chapter 6E, HRS, State Historic Preservation Law

<u>City and County of Honolulu</u>

Department of Planning and Permitting

- Building Permit
- Grading Permit

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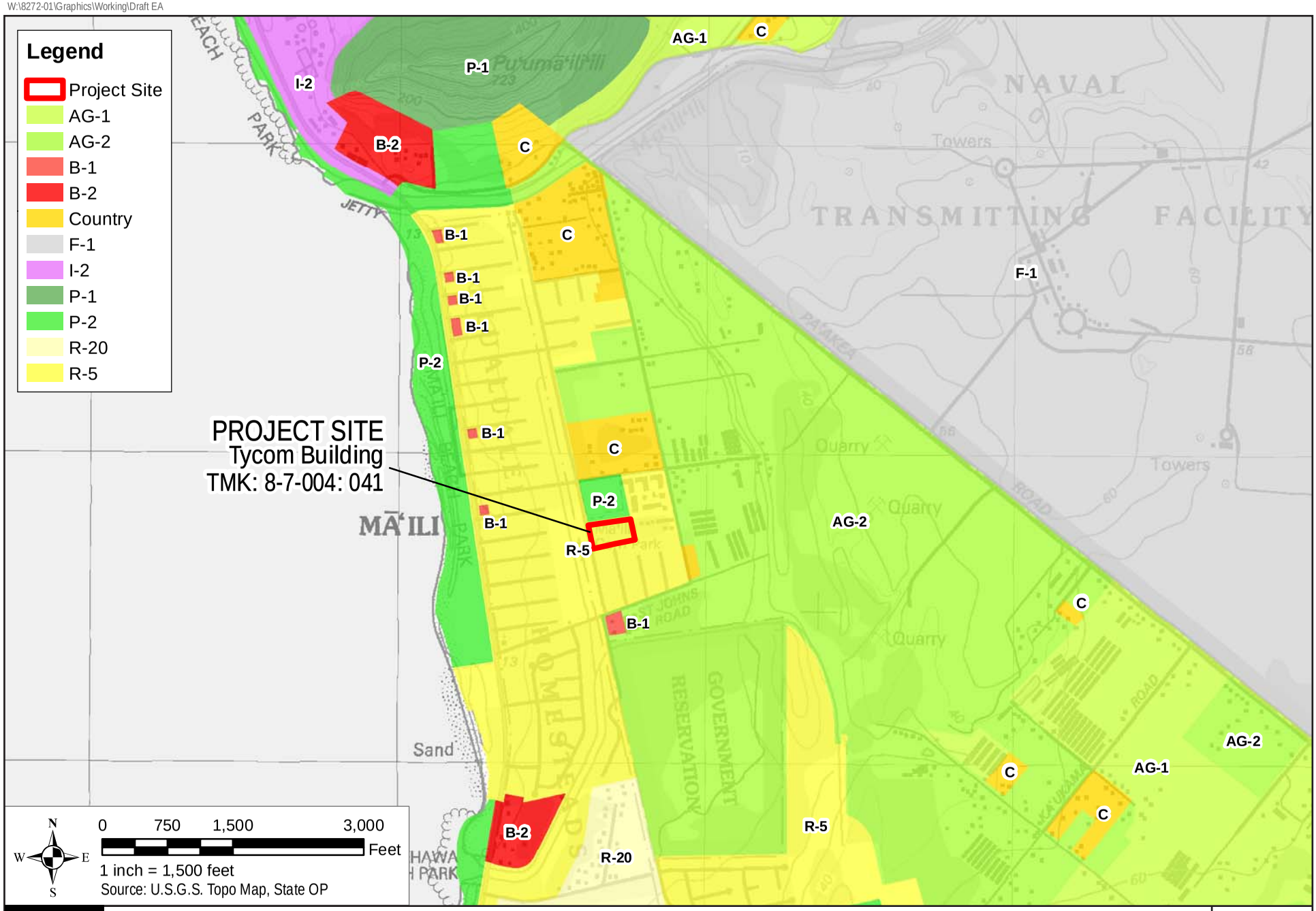

WAI'ANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

CITY AND COUNTY OF HONOLULU ZONING MAP

FIGURE 4-2

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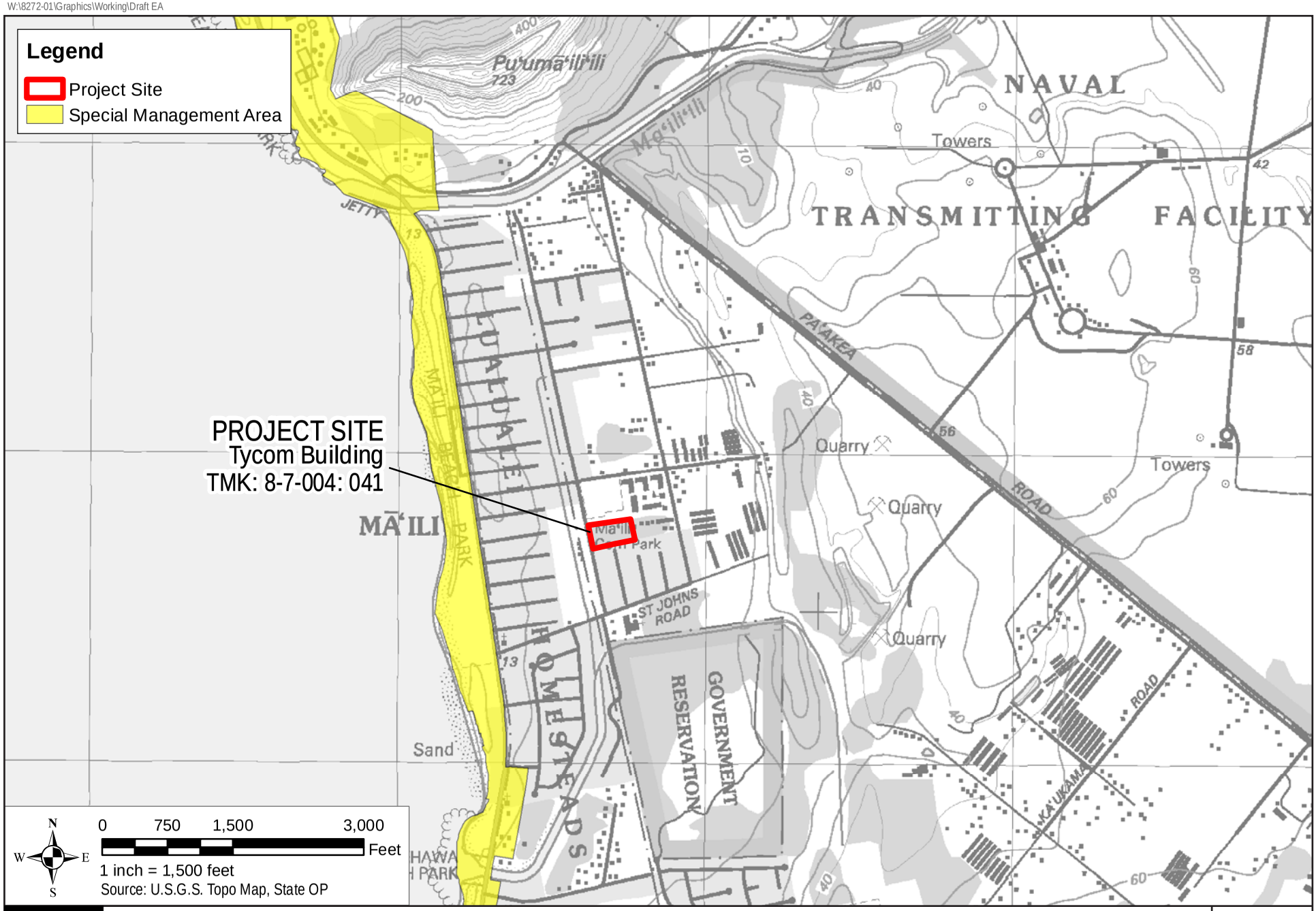

WAI'ANAE COAST CAMPUS, LEEWARD COMMUNITY COLLEGE

SPECIAL MANAGEMENT AREA MAP

FIGURE 4-3

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5. ALTERNATIVES

5.1 No Action Alternative

Under the no action alternative, the renovations to the existing former Tycom building would not be pursued. Environmental impacts would be avoided, construction costs spared, and the need for permits precluded. The former Tycom building would continue to be vacant and LCC-W would continue operating out of its current space. Overcrowding would continue to persist and the need for more space and the ability to expand on current services, including more vocational classes as well as technical courses, will remain unaddressed. The demand for higher education on the Waianae Coast would not be met, and students would need to travel to other parts of the island for higher education opportunities. In addition, there is a level of uncertainty regarding the length of time LCC-W could retain their lease for the current space. LCC-W, since its inception, has moved several times. Lease rent also generally increases over time causing the school to incur higher operating costs.

5.2 Purchase of the Current LCC-W Location

This alternative would involve LCC purchasing the current building they are located in. This would provide them with additional space without having to move to a new location. In assessing this alternative, it was found that while the location and access to the site were advantageous, the building and lot configurations included many challenges and issues. Primary issues included:

1. The size of the building would restrain future campus growth as it provides only 14,000 square feet of space.
2. Limited parking availability.
3. The property includes the two-story office building, a restaurant and a convenience store/gas station. To purchase only the office building, it would require subdivision of the parcel and establishment of legal access to Farrington Highway. This would exceed funding resources available.
4. Purchase of the entire parcel, including the restaurant and the convenience store/gas station, would exceed funding resources available.

In addition to these issues, should LCC-W purchase the building or the entire property, they would gain the responsibility of managing the other tenants on the property. In addition, should LCC-W decide they would like to expand the campus, they may also face the difficulty of having to displace the current tenants.

5.3 Alternative Site Along Farrington Highway

This alternative would involve LCC purchasing a site at 86-080 Farrington Highway. This property includes a two-story warehouse-style building of approximately 18,000 square feet located on a lot slightly more than 1-acre in size. In assessing this alternative, it was found that while the location, amount of parking available, and overall access to the site were ideal, there were several issues with the building that made this site unfeasible. There are multiple problems associated with the existing metal-frame structure and compliance with the current building code requirements would far exceed the renovation funding resources available. In

addition, the size of the building would impede future program growth and required the displacement of all current tenants in the facility.

6. ANTICIPATED DETERMINATION OF FONSI

The proposed project involves the following improvements:

Potential impacts of the proposed improvements have been evaluated in accordance with the significance criteria of Section 11-200-12 of the Department of Health's Administrative Rules. Discussion of the project's conformance to the criteria is presented as follows:

(1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;

As the project primarily involves interior renovations to an existing structure on a developed lot, no significant impacts on any natural or cultural resources are anticipated as a result of the construction and operation of the proposed project.

There should be no destruction or loss of any significant, endangered, or threatened botanical, faunal, geological, or other natural resources. There are no federally delineated Critical Habitat within or close to the project site, thus construction and operation of the proposed project will not result in any impacts to federally designated Critical Habitats.

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

The proposed project will not curtail the beneficial uses of the environment as the project site is currently developed and primarily involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking.

(3) Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;

The proposed project does not conflict with long-term environmental policies, goals, and guidelines of the State of Hawai'i. As presented in this EA, the project's potential temporary adverse impacts are associated primarily with short-term construction-related activities and can be mitigated through adherence to standard construction mitigation practices.

(4) Substantially affects the economic or social welfare of the community or state;

In the short-term, construction expenditures will provide positive benefits to the local economy. This would include creation of some construction and construction support jobs, and the purchase of materials from local suppliers, as well as indirect benefits to local retail businesses resulting from construction activities.

In the long-term, the proposed project will provide the opportunity for LCC-W to offer a variety of career and vocational educational certificates and degree programs to meet community workforce development training needs as well as expand their current programs and services in order to bring additional higher educational capacity and workforce development opportunities to the Wai'anae Coast.

(5) Substantially affects public health;

No significant adverse short- or long-term impacts on public-health are anticipated as a result of the proposed project as the proposed project primarily involves interior renovations to an existing building with only minimal land disturbing activities planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking.

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

No secondary effects are anticipated with the construction or operation of the proposed project. The improvements, in and of themselves, are not anticipated to affect the population of the greater Wai'anae area. Rather, the proposed project will benefit current and future LCC-W students and faculty as it will provide additional classroom space and educational options. The proposed project is not anticipated to induce population growth and is, therefore, not expected to have an effect on public facilities.

(7) Involves a substantial degradation of environmental quality;

The proposed project is not anticipated to involve a substantial degradation of environmental quality. Construction of the proposed project will not involve any major land disturbing activities as the proposed project involves interior renovations to an existing building with only minimal land disturbing activities planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking.

Construction activities associated with the proposed improvements will create some adverse short-term impacts such as unavoidable noise impacts. Unavoidable construction noise impacts on nearby land uses in the immediate vicinity of the proposed project will be mitigated to some degree by complying with the provisions of the State DOH Administrative Rules, Title 11, Chapter 46, Community Noise Control.

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

No cumulative effects are anticipated, inasmuch as the proposed project involves interior renovations to an existing building in an already developed setting.

(9) Substantially affects a rare, threatened, or endangered species, or its habitat;

There will be no destruction or loss of any significant, endangered, or threatened botanical, faunal, geological, or other natural resources. There are no federally delineated Critical Habitat within or close to the project corridor, thus construction and operation of the proposed project will not result in any impacts to federally designated Critical Habitats.

(10) Detrimentally affects air or water quality or ambient noise levels;

No long-term significant impacts to air quality, water quality, or noise levels within the project site are anticipated as a result of the construction and operation of the proposed project.

Construction of the proposed project will not involve any major land disturbing activities as the proposed project primarily involves interior renovations to existing buildings with only minimal land disturbing activities planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking.

In the short-term, noise from construction activities such as demolition, clearing and paving will be unavoidable. The increase in noise level will vary according to the particular phase of construction. Noise may also increase as a result of operating power equipment during the construction period.

Construction noise impacts will be mitigated by compliance with provisions of the State DOH Administrative Rules, Title 11, Chapter 46, "Community Noise Control" regulations. These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels stated in the DOH Administrative Rules. It shall be the contractor's responsibility to minimize noise by properly maintaining noise mufflers and other noise-attenuating equipment, and to maintain noise levels within regulatory limits.

In the long-term, no significant noise impacts are anticipated once the construction of the proposed project has been completed. Since the project is not expected to significantly increase roadway capacity or travel demand, ambient noise levels in the vicinity should not change significantly.

(11) Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

No short- or long-term significant impacts are anticipated as the project site is not located within an environmentally sensitive area.

According to the FIRM, (Community Panel Number 15003C0192H, Effective Date: January 19, 2013) prepared by FEMA, the project site is designated Zone D.

Zone D indicates unstudied areas where flood hazards are undetermined, but possible.

According to the Tsunami Evacuation Zone maps for O'ahu, the project site lies entirely within the tsunami evacuation zone.

(12) Substantially affects scenic vistas and viewplanes identified in county or state plans or studies; or,

According to the Wai'anae Sustainable Communities Plan (WSCP), visual resources in the Wai'anae District include coastal lands, steep ridges and pu'u near the coast, and the peaks of the Wai'anae Mountain Range. The property's location within the ahupua'a of Lualualei and its proximity to Pu'u Ma'ili'ili and Pu'u o Hulu provide for views from within the property of the ridgeline of the ahupua'a and the two landforms to the north and south of the property. Due to the site's low elevation, makai views of the ocean are blocked by existing development and vegetation.

In the short- and long-term, no significant impacts on scenic and open space resources are anticipated as a result of the construction and operation of the proposed project. The proposed project primarily involves interior renovations to an existing building and the visual appearance of the existing low-rise structure should not change significantly.

(13) Requires substantial energy consumption.

Operation of the proposed project will not result in a significant increase in energy consumption.

7. CONSULTATION

7.1 Pre-Assessment Consultation

The following agencies and organization were consulted during the preparation of the Draft EA. Of the 27 parties that formally replied during the pre-assessment period, some had no comments while others provided substantive comments as indicated by the ✓ and ✓✓, respectively. All written comments are reproduced in Appendix B.

Federal Agencies
U.S. Army Corps of Engineers (COE)

State Agencies
- ✓ Department of Accounting and General Services
- Department of Business, Economic Development & Tourism (DBEDT)
- ✓✓ DBEDT, Office of Planning
- DBEDT, Strategic Industries Division
- ✓✓ Department of Education
- Department of Health (DOH)
- ✓✓ DOH, Environmental Planning Office
- DOH, Office of Environmental Quality Control
- Department of Land and Natural Resources (DLNR)
- ✓✓ DLNR, Commission on Water Resource Management
- ✓✓ DLNR, Engineering Division
- ✓ DLNR, Land Division
- DLNR, State Historic Preservation Division
- ✓✓ Department of Transportation
- Office of Hawaiian Affairs

City and County of Honolulu Agencies
- ✓✓ Board of Water Supply
- ✓✓ Department of Design and Construction
- Department of Environmental Services
- ✓✓ Department of Parks and Recreation
- ✓✓ Department of Planning and Permitting
- ✓✓ Department of Transportation Services
- Facility Maintenance Department
- ✓✓ Fire Department
- ✓✓ Police Department

Utility Companies
- ✓✓ Hawai'i Gas
- ✓✓ Hawaiian Electric Company
- Oceanic Time Warner Cable

Other Interested Parties and Individuals

Nānākuli-Māʻili Neighborhood Board
Waiʻanae Coast Neighborhood Board

7.1.1. Neighborhood Board Meetings

As a part of the pre-assessment consultation effort, presentations were given at the November 19, 2013 Nānākuli-Māʻili Neighborhood Board meeting and the December 3, 2013 Waiʻanae Coast Neighborhood Board meeting. The purpose of the presentations was to apprise the Boards and the community of UH's intent to prepare a Draft EA for the proposed project. A brief summary of the meeting is included in Appendix C.

7.2 Draft Environmental Assessment Consultation

The following agencies and organizations will be consulted during the public review period of the Draft EA:

State Agencies

Department of Accounting and General Services
Department of Business, Economic Development & Tourism (DBEDT)
DBEDT, Office of Planning
DBEDT, Strategic Industries Division
Department of Education
Department of Health (DOH)
DOH, Environmental Planning Office
DOH, Office of Environmental Quality Control
Department of Land and Natural Resources (DLNR)
DLNR, Commission on Water Resource Management
DLNR, Engineering Division
DLNR, Land Division
DLNR, State Historic Preservation Division
Department of Transportation
Office of Hawaiian Affairs

City and County of Honolulu Agencies

Board of Water Supply
Department of Design and Construction
Department of Environmental Services
Department of Parks and Recreation
Department of Planning and Permitting
Department of Transportation Services
Facility Maintenance Department
Fire Department
Police Department

Utility Companies

Hawaiʻi Gas
Hawaiian Electric Company
Oceanic Time Warner Cable

Other Interested Parties and Individuals

Nānākuli-Māʻili Neighborhood Board
Waiʻanae Coast Neighborhood Board

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8. REFERENCES

Federal Emergency Management Agency, *Flood Insurance Rate Map Panel No. 15003C0192H*, effective date January 19, 2013.

General Plan, Objectives and Policies. City and County of Honolulu. Amended October 3, 2002.

Waiʻanae Sustainable Communities Plan. City and County of Honolulu, Department of Planning and Permitting. February 2012.

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APPENDIX A

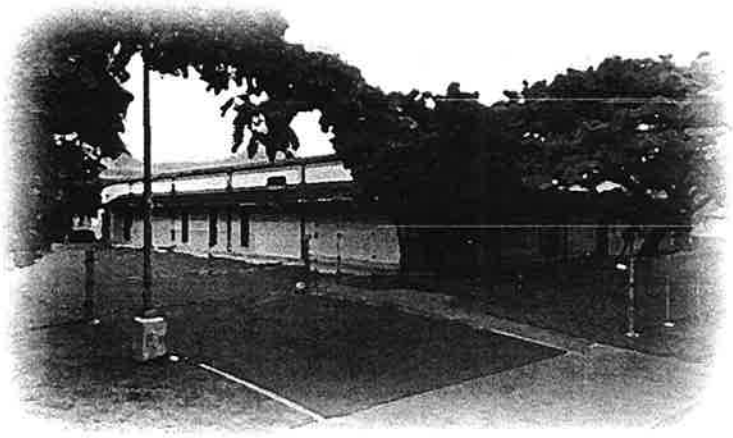
Traffic Impact Report

Wilson Okamoto Corporation

December 2013

Traffic Impact Report

Waianae Coast Campus
Leeward Community College



Prepared for:
University of Hawaii

Prepared by:
Wilson Okamoto Corporation

December 2013

TRAFFIC IMPACT REPORT

FOR

WAIANAE COAST CAMPUS

LEEWARD COMMUNITY COLLEGE

Prepared for:

University of Hawaii
Office of Capital Improvements
1960 East-West Road, Biomedical Sciences, B-102
Honolulu, HI 96822

Prepared by:

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826
WOC Ref #8272-02

December 2013

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I. INTRODUCTION

A. Purpose of Study

The purpose of this study is to identify and assess the traffic impacts resulting from Leeward Community College's (LCC) Waianae Coast Campus located in Maili on the island of Oahu. The proposed project entails the relocation and expansion of the existing campus in Waianae to a new facility in Maili.

B. Scope of Study

This report presents the findings and conclusions of the traffic study, the scope of which includes:

1. Description of the proposed project.
2. Evaluation of existing roadway and traffic operations in the vicinity.
3. Analysis of future roadway and traffic conditions without the proposed project.
4. Analysis and development of trip generation characteristics for the proposed project.
5. Superimposing site-generated traffic over future traffic conditions.
6. The identification and analysis of traffic impacts resulting from the proposed project.
7. Recommendations of improvements, if appropriate, that would mitigate the traffic impacts resulting from the proposed project.

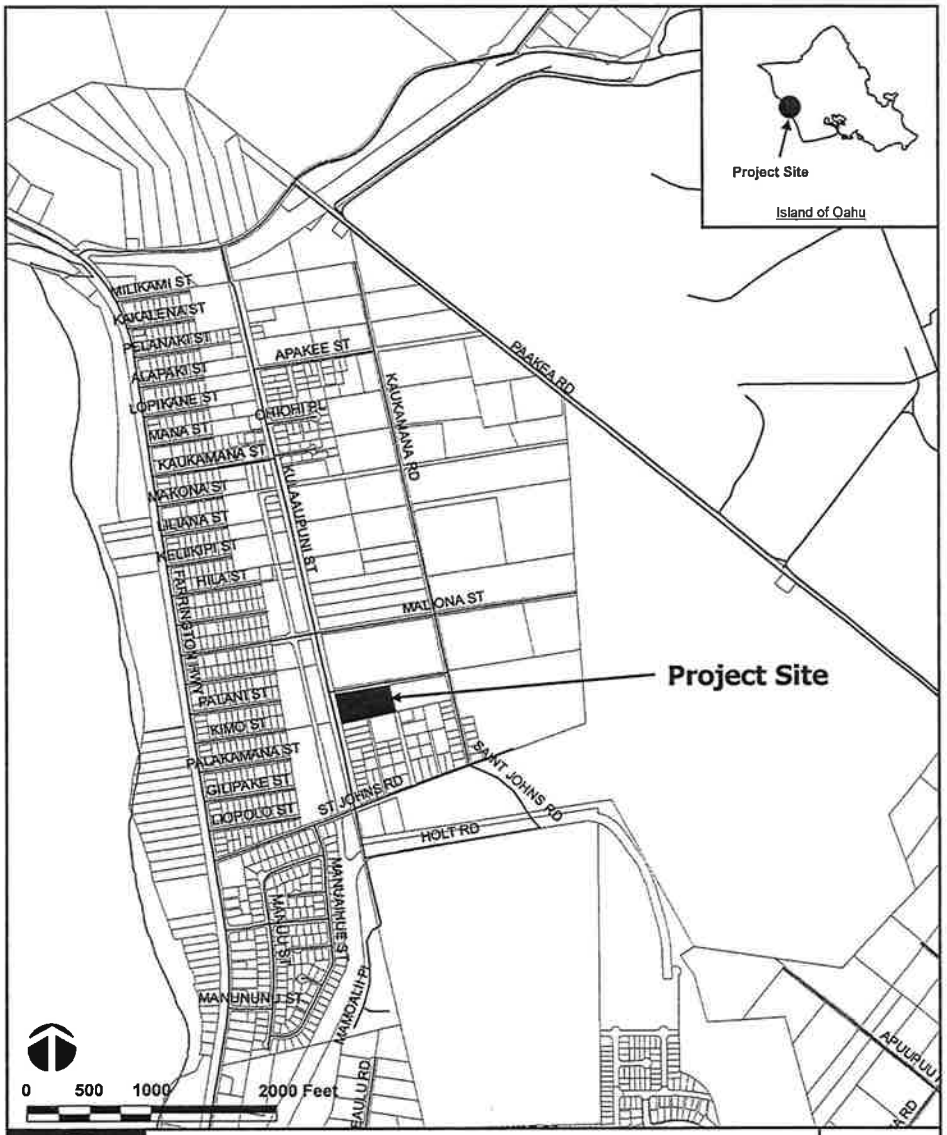
II. PROJECT DESCRIPTION

A. Location

The proposed project site is located at adjacent to Kulaaupuni Street between Maliona Street and St. Johns Road in Maili on the island of Oahu (see Figure 1). The project site is further identified as Tax Map Keys (TMKs): 8-7-004: por. 041. Access to the proposed campus will be provided via driveways off Kulaaupuni Street.

B. Project Characteristics

Leeward Community College currently has a Waianae Coast Campus located in Waianae near the Waianae Mall. The campus currently provides first and second year college credit classes in liberal arts, education, and business for approximately 247 full-time equivalent (FTE) students. The proposed project entails the relocation of the existing campus to a new site in Maili that currently houses a vacant single-



story building. The existing building (~38,600 square feet) will be renovated in two phases with the first phase anticipated to be completed by the Year 2015. Phase 1 will convert approximately 14,000 square feet of the building to construct classrooms, labs, a testing center, and administrative offices and support spaces. Student enrollment upon completion of Phase 1 is expected to increase slightly to 272 FTE students. Phase 2 of the project is expected to be completed by the Year 2027 and include additional classrooms, offices, and support spaces. By the completion of Phase 2, the campus is expected to reach the full enrollment of 400 FTE students. Figure 2 shows the proposed project site plan.

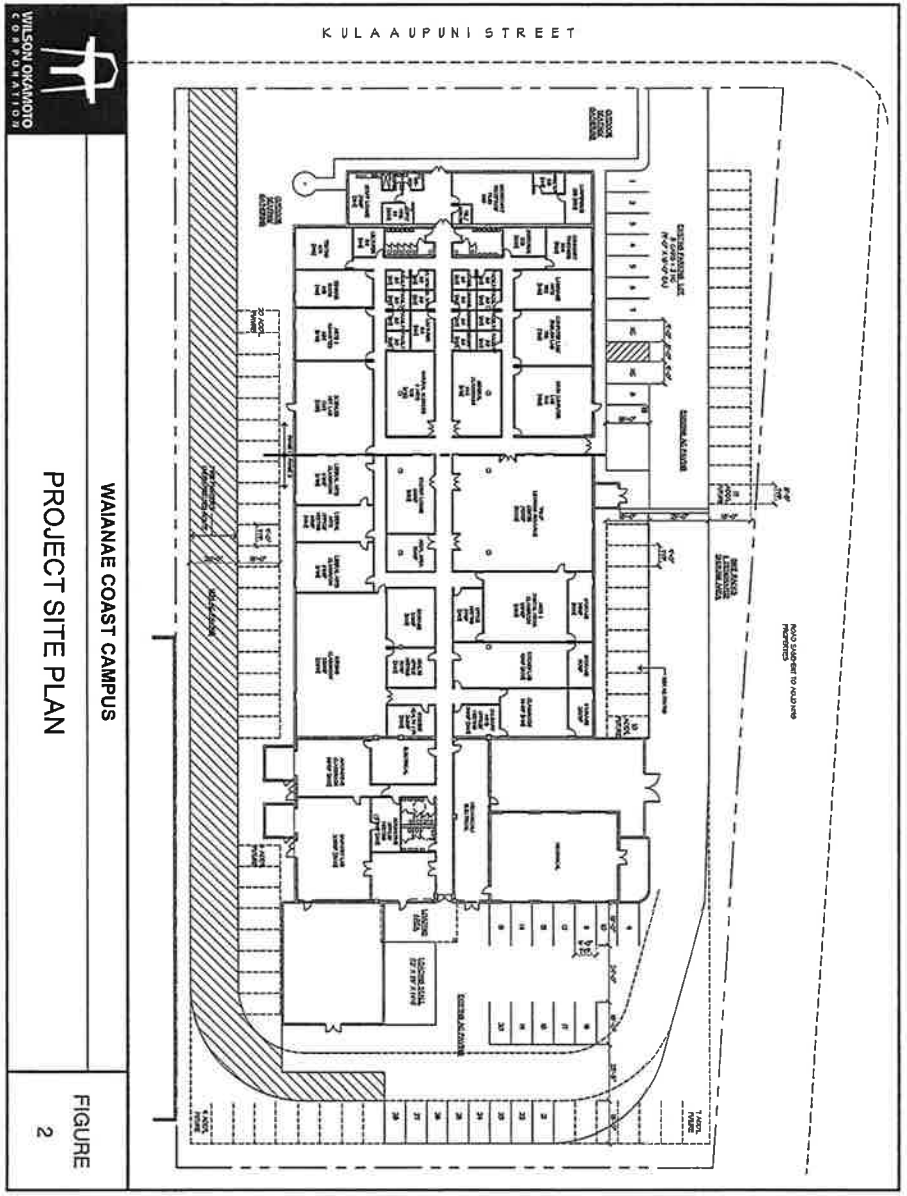
III. EXISTING TRAFFIC CONDITIONS

A. Area Roadway System

The proposed project site is located east of Farrington Highway. In the vicinity of the project, Farrington Highway is a predominantly five-lane, two-way roadway generally oriented in a north-south direction that serves as the primary access road along the western coastline. Northwest of the project site, Farrington Highway intersects Maliona Street. At this signalized T-intersection, the northbound approach of Farrington Highway has two lanes that serve through and right-turn traffic movements while the southbound approach has an exclusive left-turn lane and two through lanes. Maliona Street is a two-lane, two-way roadway generally oriented in the east-west direction. At the intersection with Farrington Highway, the Maliona Street approach has one lane that serves left-turn and right-turn traffic movements.

East of the intersection with Farrington Highway, Maliona Street intersects Kulaaupuni Street. At this unsignalized intersection, both approaches of Maliona Street have one stop-controlled lane that serves all traffic movements. Kulaaupuni Street is a two-lane, two-way roadway generally oriented in the north-south direction. At the intersection with Maliona Street, both approaches of Kulaaupuni Street have one lane that serves all traffic movements.

South of the intersection with Maliona Street, Kulaaupuni Street intersects St. Johns Road. At this unsignalized intersection, both approaches of Kulaaupuni Street have one stop-controlled lane that serves all traffic movements. St. Johns Road is a two-lane, two-way roadway generally oriented in the east-west direction. At the



intersection with Kulaaupuni Street, the St. Johns Road approaches have one lane that serves all traffic movements.

West of the intersection with Kulaaupuni Street, St. Johns Road intersects Farrington Highway. At this signalized T-intersection, the St. Johns Road approach has one lane that serves left-turn and right-turn traffic movements. The northbound approach of Farrington Highway has two lanes that serve through and right-turn traffic movements while the southbound approach has two through lanes and an exclusive left-turn lane.

B. Traffic Volumes and Conditions

1. General

a. Field Investigation

Field investigations were conducted in October 2013. These investigations consisted of manual turning movement count surveys during the morning peak hours between 6:00 AM and 9:00 AM, and the afternoon peak hours between 3:00 PM and 6:00 PM at the following intersections:

- Farrington Highway and Maliona Street
- Kulaaupuni Street and Maliona Street
- Kulaaupuni Street and St. Johns Road
- Farrington Highway and St. Johns Road

Appendix A includes the existing traffic count data.

b. Capacity Analysis Methodology

The highway capacity analysis performed in this study is based upon procedures presented in the "Highway Capacity Manual", Transportation Research Board, 2000, and the "Synchro" software, developed by Trafficware. The analysis is based on the concept of Level of Service (LOS) to identify the traffic impacts associated with traffic demands during the peak periods of traffic.

LOS is a quantitative and qualitative assessment of traffic operations. Levels of Service are defined by LOS "A" through "F"; LOS "A" representing ideal or free-flow traffic operating conditions

and LOS "F" unacceptable or potentially congested traffic operating conditions.

"Volume-to-Capacity" (v/c) ratio is another measure indicating the relative traffic demand to the road carrying capacity. A v/c ratio of one (1.00) indicates that the roadway is operating at or near capacity. A v/c ratio of greater than 1.00 indicates that the traffic demand exceeds the road's carrying capacity. The LOS definitions are included in Appendix B.

2. Existing Peak Hour Traffic

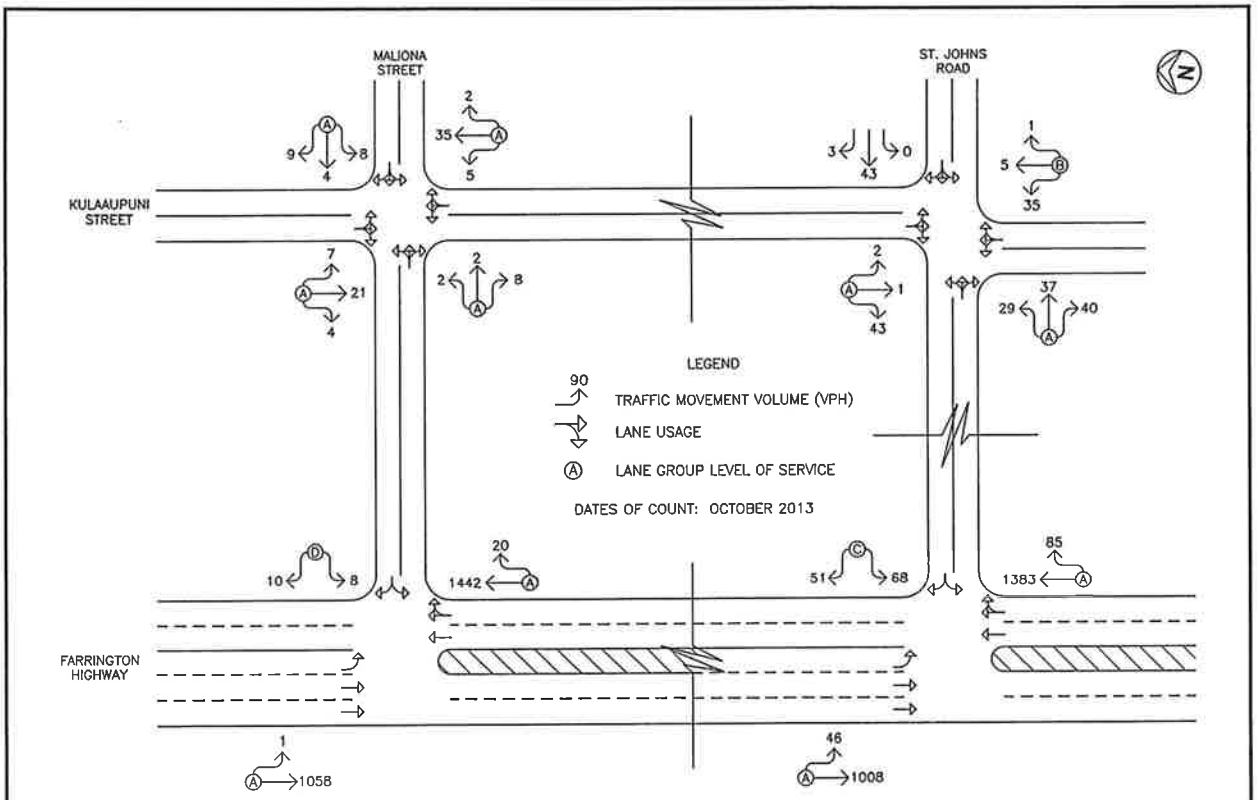
a. General

Figures 3 and 4 show the existing AM and PM peak period traffic volumes and operating conditions. The AM peak hour of traffic generally occurs between 6:45 AM and 7:45 AM. The PM peak hour of traffic generally occurs between the hours of 3:15 PM and 4:15 PM. The analysis is based on these peak hour time periods for each intersection to identify the traffic impacts resulting from the proposed project. LOS calculations are included in Appendix C.

b. Farrington Highway and Maliona Street

At the intersection with Maliona Street, Farrington Highway carries 1,072 vehicles northbound and 1,063 vehicles southbound during the AM peak period. During the PM peak period, the overall traffic volume is slightly higher with the Farrington Highway approaches carrying 1,462 vehicles northbound and 1,059 vehicles southbound. Both approaches of Farrington Highway operate at LOS "A" during both peak periods.

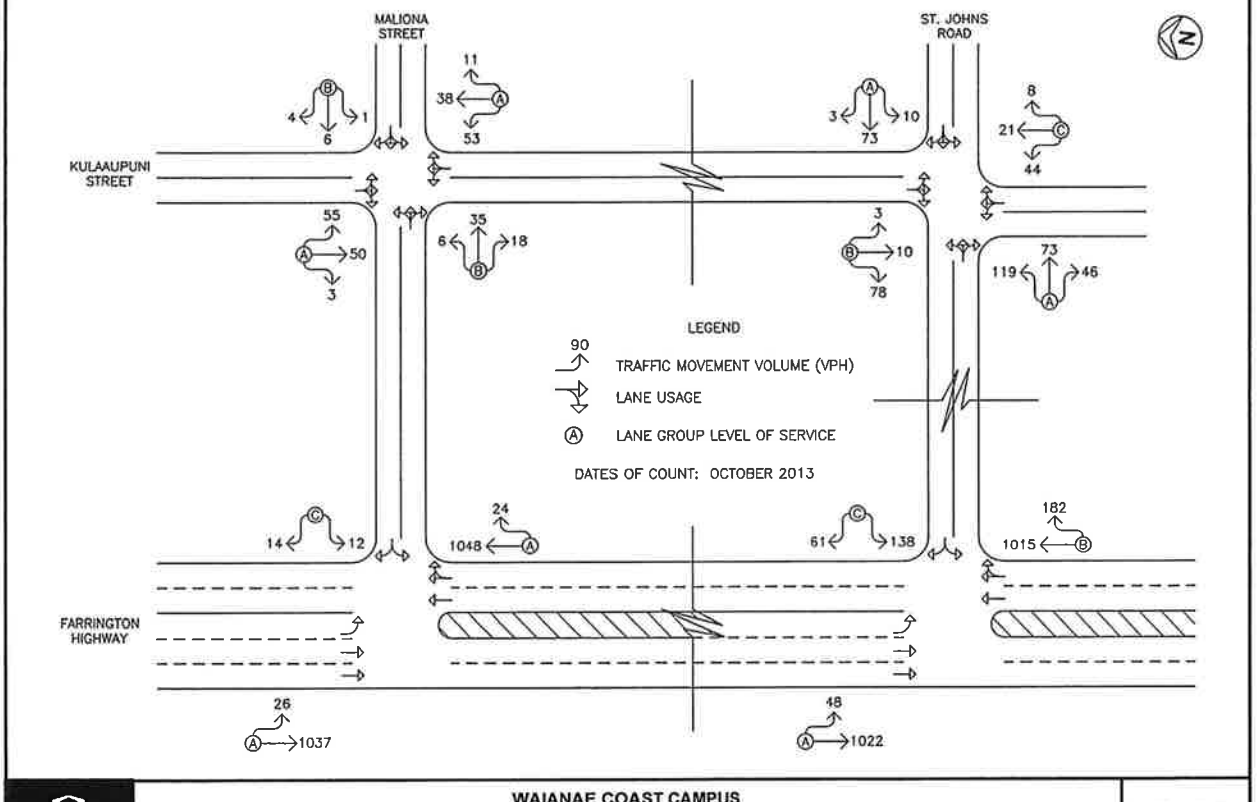
Maliona Street carries 26 vehicles westbound during the AM peak period and 18 vehicles westbound during the PM peak period. This approach operates at LOS "C" and LOS "D" during the AM and PM peak periods, respectively.



WAIANAE COAST CAMPUS

EXISTING PM PEAK HOUR OF TRAFFIC

FIGURE 4



WAIANAE COAST CAMPUS

EXISTING AM PEAK HOUR OF TRAFFIC

FIGURE 3

c. Kulaaupuni Street and Maliona Street

At the intersection with Maliona Street, Kulaaupuni Street carries 102 vehicles northbound and 108 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are less with 42 vehicles traveling northbound and 32 vehicles traveling southbound. Both approaches of Kulaaupuni Street operate at LOS "A" during both peak periods.

Maliona Street carries 11 vehicles westbound and 59 vehicles eastbound during the AM peak period. During the PM peak period, the overall traffic volume is less with 21 vehicles traveling westbound and 12 vehicles traveling eastbound. Both approaches of Maliona Street operate at LOS "B" and LOS "A" during the AM and PM peak periods, respectively.

d. Kulaaupuni Street and St. Johns Road

At the intersection with St. Johns Road, Kulaaupuni Street carries 73 vehicles northbound and 91 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are less with 41 vehicles traveling northbound and 46 vehicles traveling southbound. The northbound approach of Kulaaupuni Street operates at LOS "C" and LOS "B" during the AM and PM peak periods, respectively, while the southbound approach operates at LOS "B" and LOS "A" during the AM and PM peak periods, respectively.

St. Johns Road carries 238 vehicles eastbound and 86 vehicles westbound during the AM peak period. During the PM peak period, traffic volumes are less with 106 vehicles traveling eastbound and 46 vehicles traveling westbound. Both approaches of St. Johns Road operate at LOS "A" during both peak periods.

e. Farrington Highway and St. Johns Road

At the intersection with St. Johns Road, Farrington Highway carries 1,197 vehicles northbound and 1,070 vehicles southbound during the AM peak period. During the PM peak period, the overall

traffic volume is higher with 1,468 vehicles traveling northbound and 1,054 vehicles traveling southbound. The northbound approach of Farrington Highway operates at LOS "B" and LOS "A" during the AM and PM peak periods, respectively, while the southbound approach operates at LOS "A" during both peak periods.

St. John's Road carries 199 vehicles westbound during the AM peak period and 119 vehicles during the PM peak period. This approach operates at LOS "C" during both peak periods.

IV. PROJECTED TRAFFIC CONDITIONS

A. Site-Generated Traffic

1. Trip Generation Methodology

The trip generation methodology used in this study is based upon generally accepted techniques developed by the Institute of Transportation Engineers (ITE) and published in "Trip Generation, 9th Edition," 2012. The ITE trip generation rates are developed empirically by correlating the vehicle trip generation data with various land use characteristics such as the number of vehicle trips generated per FTE student. For the purpose of this report, all trips were conservatively assumed to be new trips along Farrington Highway. Table 1 summarizes the project site trip generation characteristics applied to the AM and PM peak periods of traffic.

Table 1: Peak Hour Trip Generation

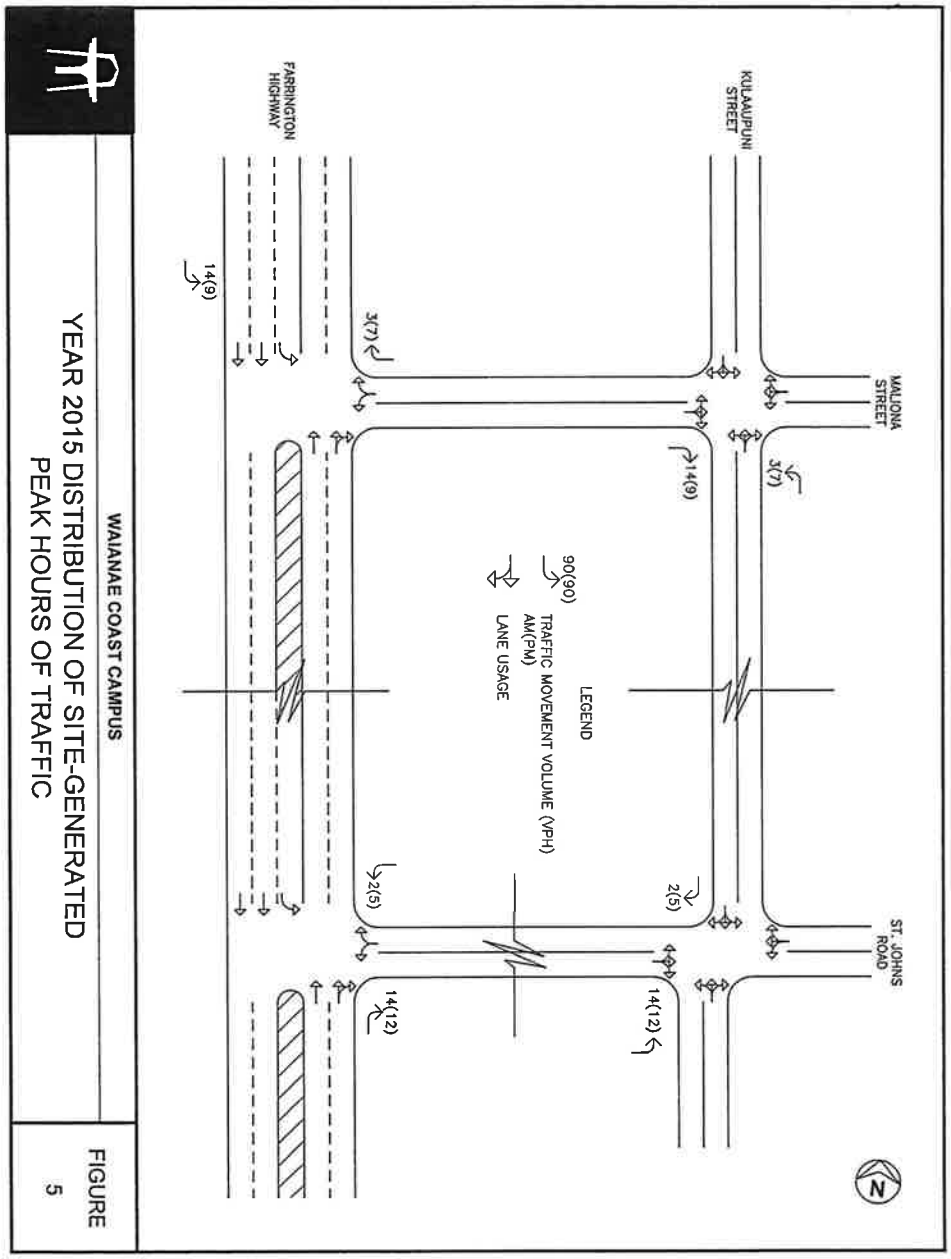
YEAR 2015		
JUNIOR/COMMUNITY COLLEGE INDEPENDENT VARIABLE: # of students = 272 (FTE)		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	28
	EXIT	5
	TOTAL	33
PM PEAK	ENTER	21
	EXIT	12
	TOTAL	33

Table 1: Peak Hour Trip Generation (Cont'd)

YEAR 2027 (FROM YEAR 2015)		
JUNIOR/COMMUNITY COLLEGE INDEPENDENT VARIABLE: # of additional students = 128		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	12
	EXIT	3
	TOTAL	15
PM PEAK	ENTER	9
	EXIT	6
	TOTAL	15
TOTALS		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	40
	EXIT	8
	TOTAL	48
PM PEAK	ENTER	30
	EXIT	18
	TOTAL	48

2. Trip Distribution

Figures 5 and 6 show the distribution of site-generated vehicular trips at the study intersections during the Year 2015 and Year 2027 peak periods. Access to Leeward Community College's Waianae Coast Campus will be provided via driveways off Kulaaupuni Street between St. Johns Road and Maliona Street. The directional distribution of vehicles was based on the existing distribution of vehicles along Farrington Highway. As such, 50.1% of the trips were assumed to be headed northbound and 49.9% were assumed to be headed southbound during the AM peak period. During the PM peak period, 57.6% were assumed to be headed northbound and 42.4% were assumed to be headed southbound. Site-generated traffic was distributed at along the surrounding roadways based upon their assumed origin/destination and the relative convenience of the available routes to and from the project site.



B. Through Traffic Forecasting Methodology

The travel forecast is based upon historical traffic count data obtained from the State DOT, Highways Division at survey stations located along Farrington Highway in the vicinity of the project site. The historical data indicates a stable or declining growth in traffic and, as such, an annual traffic growth rate of approximately 0.5% was conservatively assumed in the project vicinity. As such, using 2013 as the Base Year, growth rate factors of 1.01 and 1.07 were applied to the existing through traffic demands along the highway to achieve the projected Year 2015 and Year 2027 traffic demands, respectively.

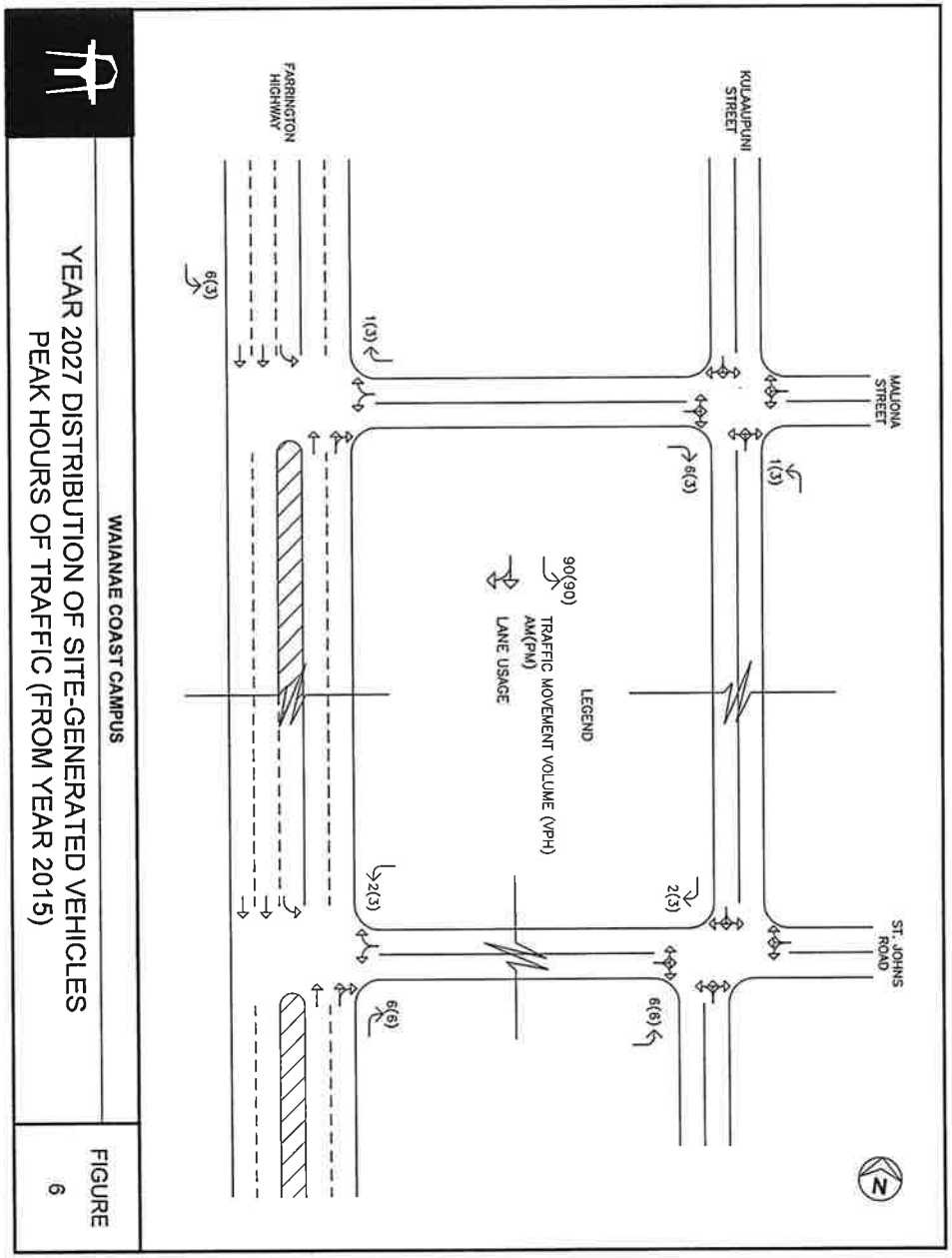
C. Year 2015 Total Traffic Volumes

1. Without Project

The projected Year 2015 AM and PM peak period traffic volumes and operating conditions without the proposed Waianae Coast Campus are shown in Figures 7 and 8, and summarized in Table 2. The existing levels of service are provided for comparison purposes. LOS calculations are included in Appendix D.

Table 2: Existing and Projected Year 2015 (Without Project) LOS Traffic Operating Conditions

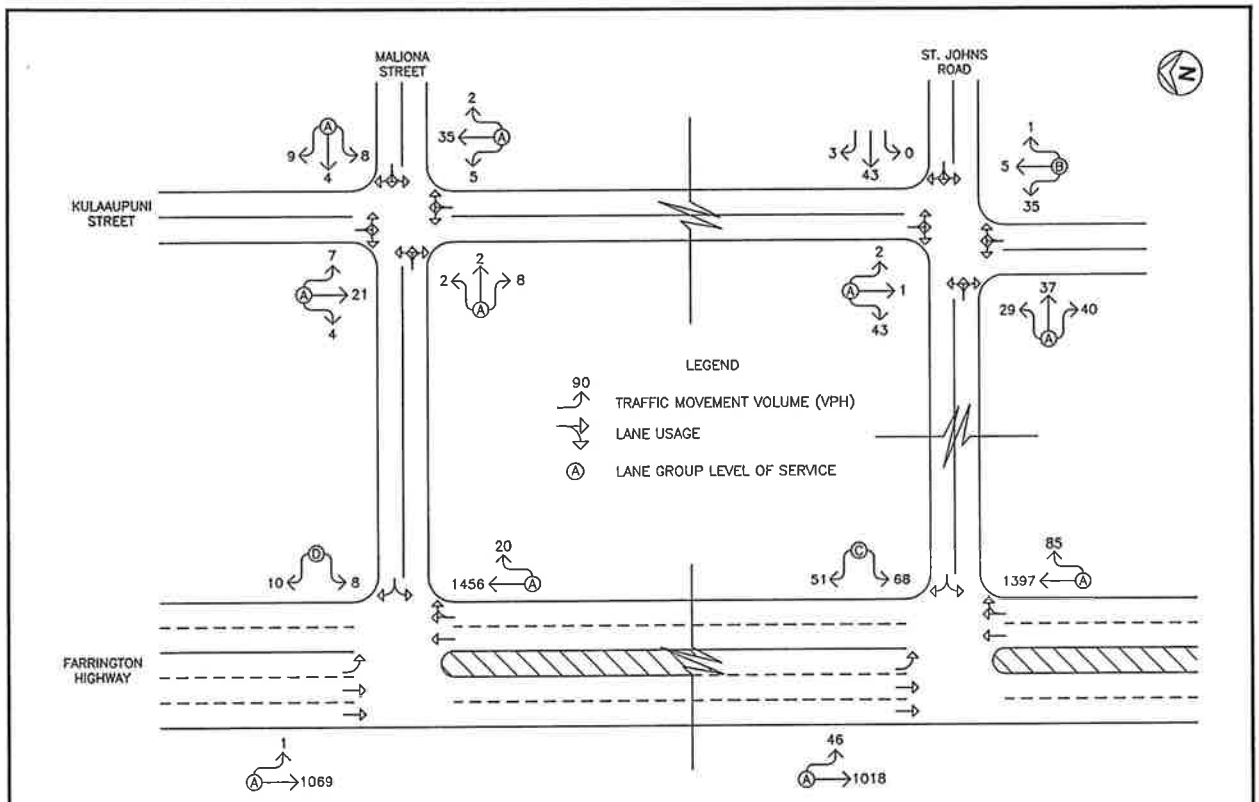
Intersection	Approach	AM		PM	
		Exist	Year 2015 w/out Proj	Exist	Year 2015 w/out Proj
Farrington Hwy/ Maliona St	Westbound	C	C	D	D
	Northbound	A	A	A	A
	Southbound	A	A	A	A
Kulaaupuni St/ Maliona St	Eastbound	B	B	A	A
	Westbound	B	B	A	A
	Northbound	A	A	A	A
	Southbound	A	A	A	A
Kulaaupuni St/ St. Johns Rd	Eastbound	A	A	A	A
	Westbound	A	A	-	-
	Northbound	C	C	B	B
	Southbound	B	B	A	A



WAIANAE COAST CAMPUS

YEAR 2027 DISTRIBUTION OF SITE-GENERATED VEHICLES
PEAK HOURS OF TRAFFIC (FROM YEAR 2015)

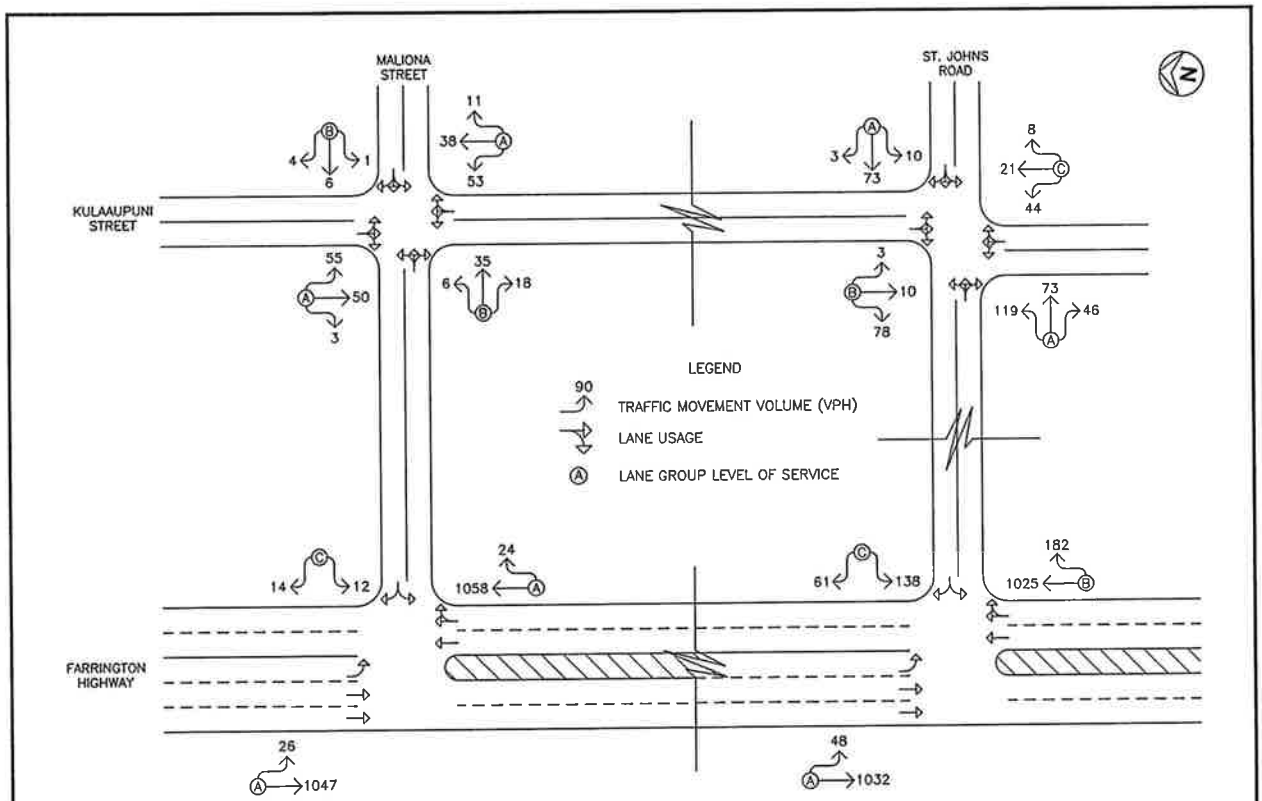
FIGURE 6



WAIANAE COAST CAMPUS

YEAR 2015 PM PEAK HOUR OF TRAFFIC
WITHOUT PROJECT

FIGURE 8



WAIANAE COAST CAMPUS

YEAR 2015 AM PEAK HOUR OF TRAFFIC
WITHOUT PROJECT

FIGURE 7

Table 2: Existing and Projected Year 2015 (Without Project) LOS Traffic Operating Conditions (Cont'd)

Intersection	Approach	AM		PM	
		Exist	Year 2015 w/out Proj	Exist	Year 2015 w/out Proj
Farrington Hwy/ St. Johns Rd	Westbound	C	C	C	C
	Northbound	B	B	A	A
	Southbound	A	A	A	A

Under Year 2015 without project conditions, traffic operations are expected to remain similar to existing conditions. Along Farrington Highway, traffic operations at the study intersections are expected to continue operating at LOS "C" or better during both peak periods with the exception of the intersection with Maliona Street during the PM peak period which is expected to continue operating at LOS "D" or better. Along Kulaaupuni Street, traffic operations at the study intersection are expected to continue operating at LOS "B" or better with the exception of the intersection with St. Johns Road during the AM peak period which is expected to continue operating at LOS "C" or better.

2. With Project

Figures 9 and 10 show the Year 2015 cumulative AM and PM peak hour traffic conditions resulting from the projected external traffic and the Leeward Community College's Waianae Coast Campus. The cumulative volumes consist of site-generated traffic superimposed over Year 2015 projected traffic demands. The projected Year 2015 (Without Project) operating conditions are provided for comparison purposes. LOS calculations are included in Appendix E.

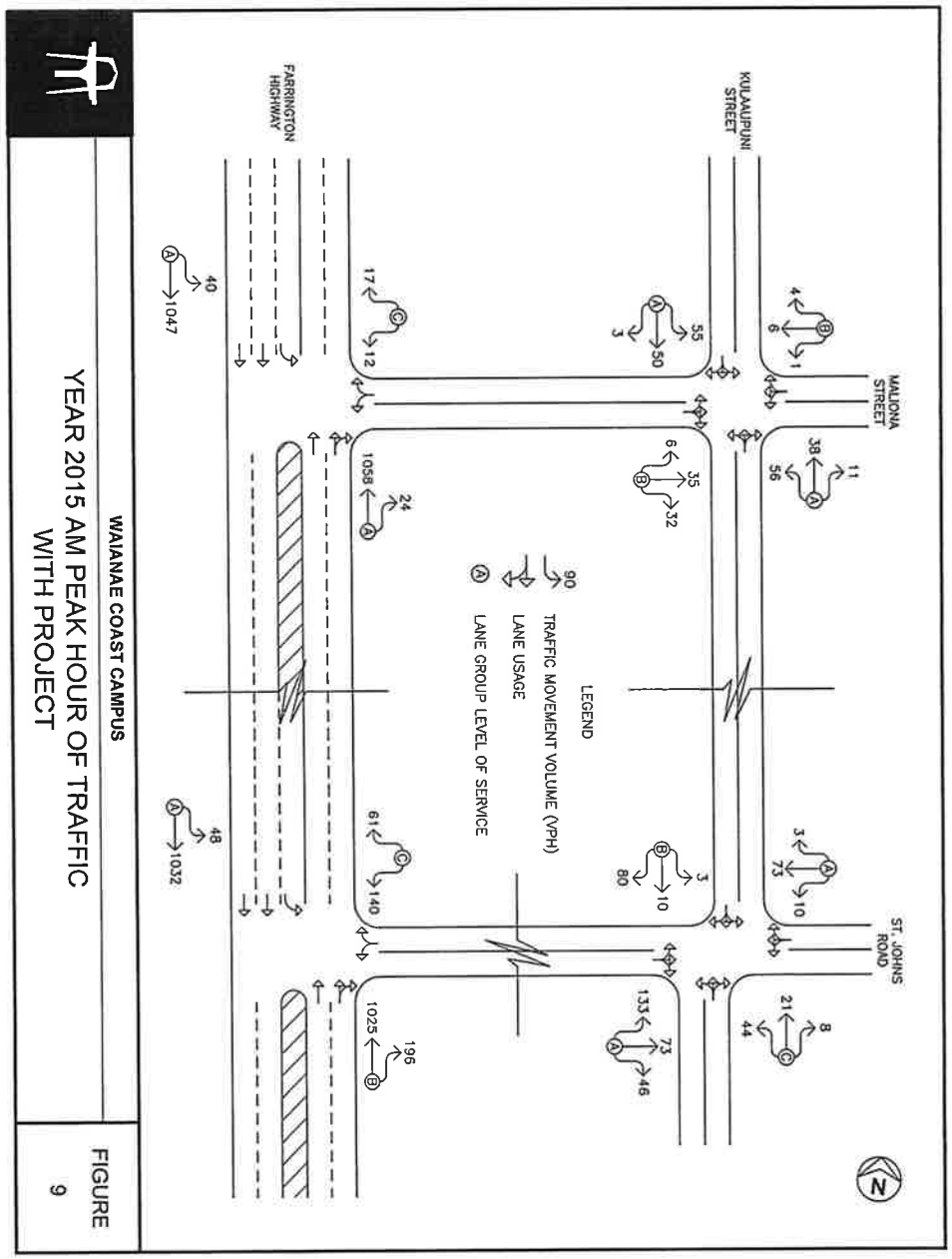


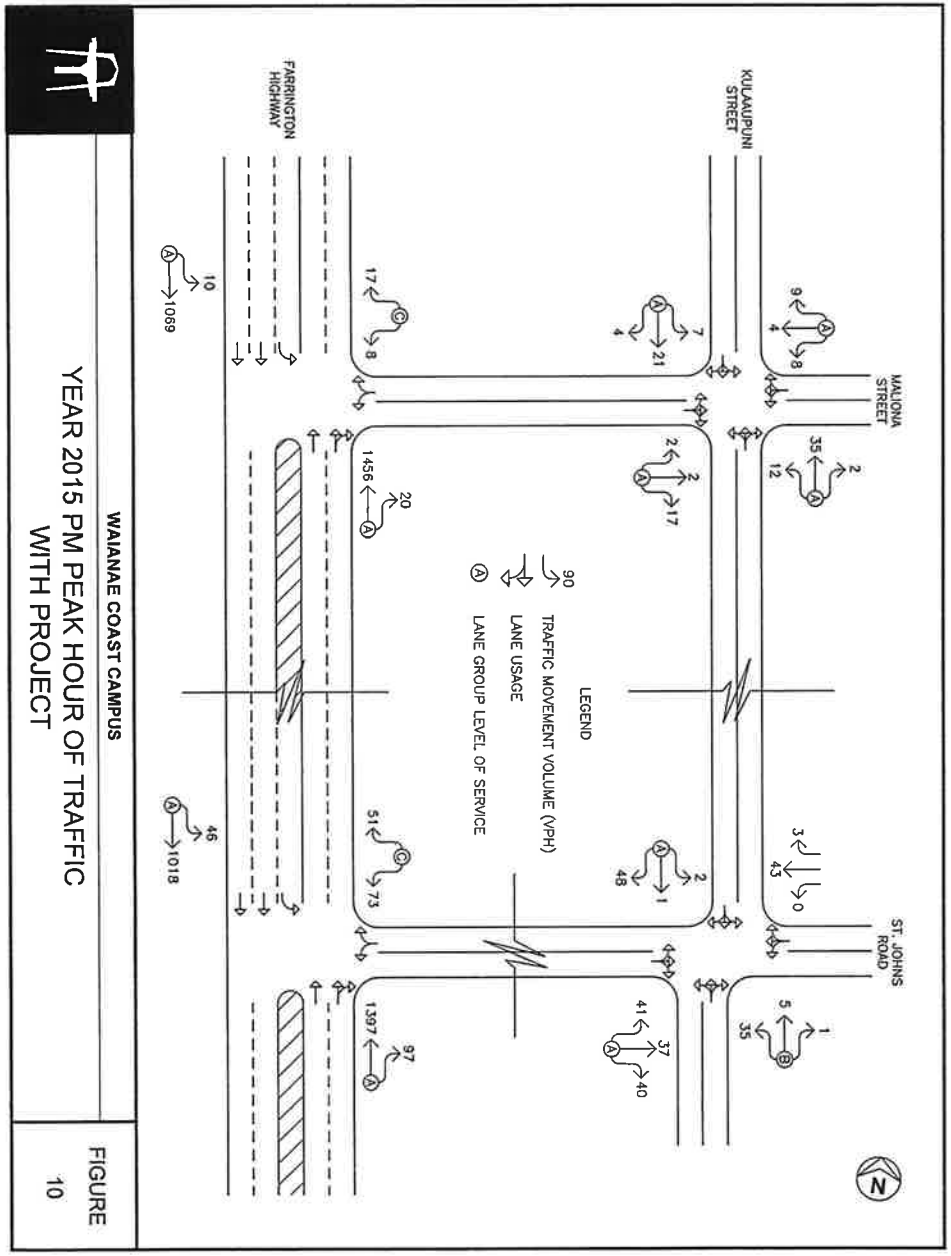
Table 3: Projected Year 2015 (Without and With Project) LOS Traffic Operating Conditions

Intersection	Approach	AM		PM	
		Year 2015 w/out Proj	Year 2015 w/ Proj	Year 2015 w/out Proj	Year 2015 w/ Proj
Farrington Hwy/ Maliona St	Westbound	C	C	D	C
	Northbound	A	A	A	A
	Southbound	A	A	A	A
Kulaaupuni St/ Maliona St	Eastbound	B	B	A	A
	Westbound	B	B	A	A
	Northbound	A	A	A	A
	Southbound	A	A	A	A
Kulaaupuni St/ St. Johns Rd	Eastbound	A	A	A	A
	Westbound	A	A	-	-
	Northbound	C	C	B	B
	Southbound	B	B	A	A
Farrington Hwy/ St. Johns Rd	Westbound	C	C	C	C
	Northbound	B	B	A	A
	Southbound	A	A	A	A

Under Year 2015 with project conditions, traffic operations in the project vicinity are generally expected to remain similar to without project conditions despite the addition of site-generated vehicles to the surrounding roadways. Traffic operations at the study intersections along Farrington Highway are expected to operate at LOS "C" or better during both peak periods. Along Kulaaupuni Street, traffic operations at the intersection with Maliona Street are expected to operate at LOS "B" or better during both peak periods while those at the intersection with St. Johns Road are expected to operate at LOS "C' or better during both peak periods.

D. Year 2027 Total Traffic Volumes

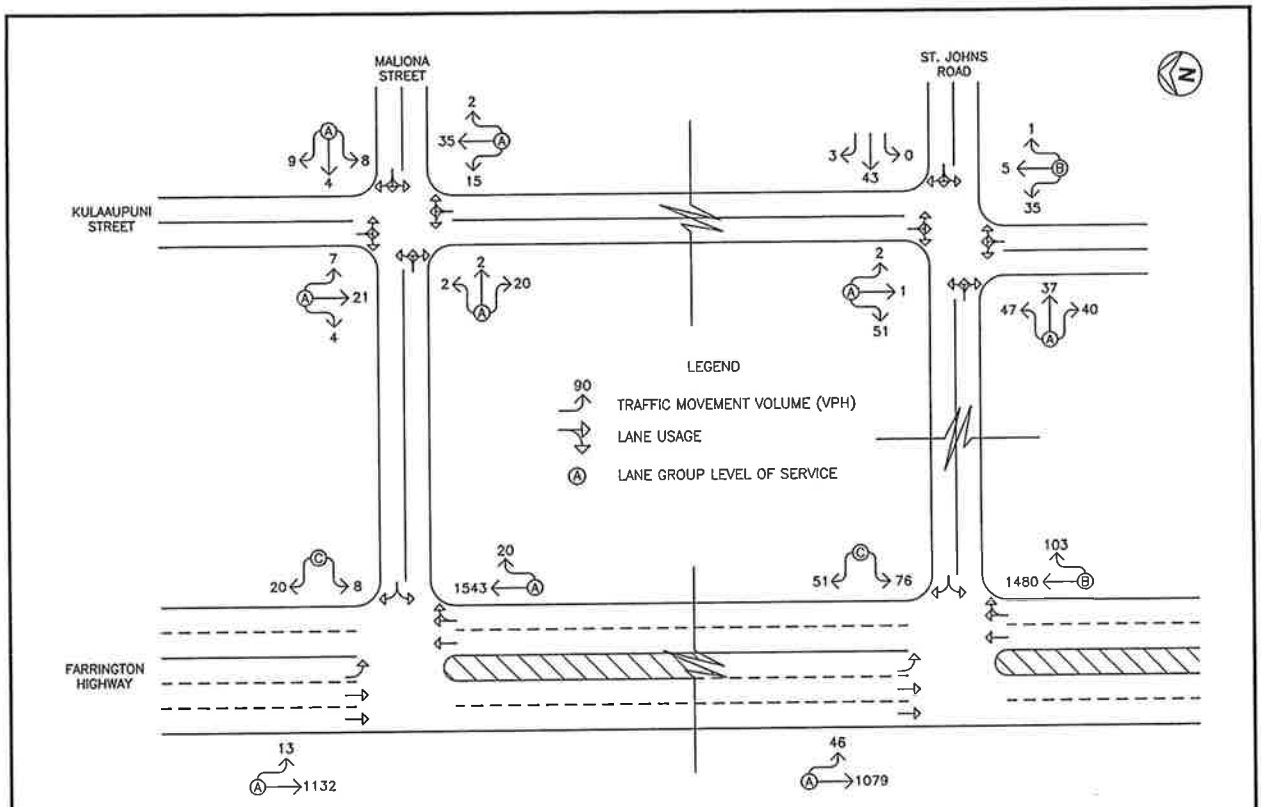
The Year 2027 cumulative peak hour traffic conditions with the proposed Waianae Coast Campus are shown in Figures 11 and 12, and summarized in Table 4. The cumulative volumes consist of site-generated traffic superimposed over Year



WAIANAE COAST CAMPUS

YEAR 2015 PM PEAK HOUR OF TRAFFIC WITH PROJECT

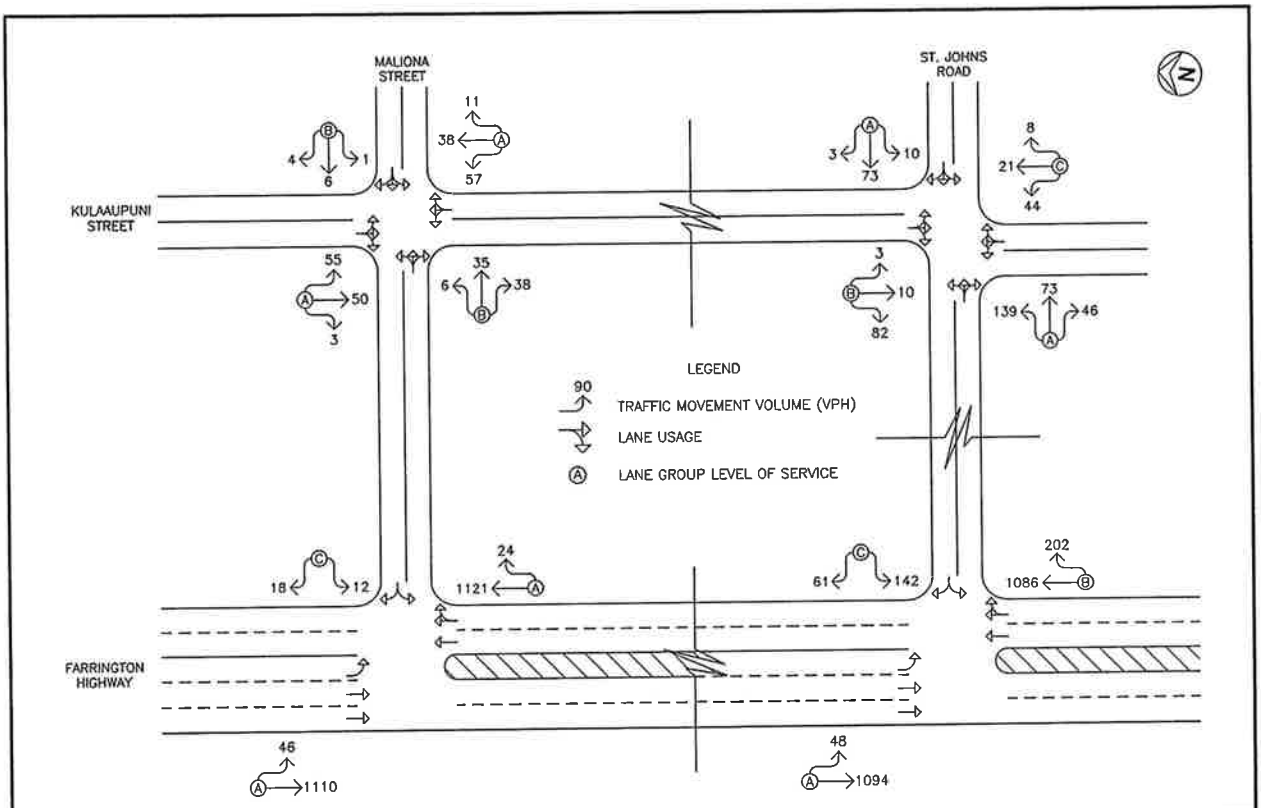
FIGURE 10



WAIANAE COAST CAMPUS

YEAR 2027 PM PEAK HOUR OF TRAFFIC
WITH PROJECT

FIGURE 12



WAIANAE COAST CAMPUS

YEAR 2027 AM PEAK HOUR OF TRAFFIC
WITH PROJECT

FIGURE 11

2027 projected traffic demands. The projected Year 2015 (with project) operating conditions are provided for comparison purposes. LOS calculations are included in Appendix F.

Table 4: Projected Year 2015 and Year 2027 With Project LOS Traffic Operating Conditions

Intersection	Approach	AM		PM	
		Year 2015 w/ Proj	Year 2027 w/ Proj	Year 2015 w/ Proj	Year 2027 w/ Proj
Farrington Hwy/ Maliona St	Westbound	C	C	C	C
	Northbound	A	A	A	A
	Southbound	A	A	A	A
Kulaaupuni St/ Maliona St	Eastbound	B	B	A	A
	Westbound	B	B	A	A
	Northbound	A	A	A	A
	Southbound	A	A	A	A
Kulaaupuni St/ St. Johns Rd	Eastbound	A	A	A	A
	Westbound	A	A	-	-
	Northbound	C	C	B	B
	Southbound	B	B	A	A
Farrington Hwy/ St. Johns Rd	Westbound	C	C	C	C
	Northbound	B	B	A	B
	Southbound	A	A	A	A

Under Year 2027 with project conditions, traffic operations in the project vicinity are generally expected to remain similar to Year 2015 with project conditions despite the anticipated increase in enrollment at Leeward Community College's Waianae Coast Campus. At the intersection of Farrington Highway with St. Johns Road, the northbound approach is anticipated to operate at LOS "B" during the PM peak period. The remaining approaches at this intersection and the other study intersections are anticipated to continue operating at levels of service similar to Year 2015 with project conditions.

V. RECOMMENDATIONS

Based on the analysis of the traffic data, the following are the recommendations of this study to be incorporated in the project design.

1. Maintain sufficient sight distance for motorists to safely enter and exit all project driveways.

2. Provide adequate on-site loading and off-loading service areas and prohibit off-site loading operations.

3. Provide adequate turn-around area for service, delivery, and refuse collection vehicles to maneuver on the project site to avoid vehicle-reversing maneuvers onto public roadways.

4. Provide sufficient turning radii at all project driveways to avoid or minimize vehicle encroachments to oncoming traffic lanes.

5. During the design phase of the project, consider the incorporation of complete streets concepts if possible.

6. Due to the narrow local roadways leading to and from the campus, additional transit routes are not anticipated to be added to the existing transit system to service the campus. As such, consult with the City and County of Honolulu Department of Transportation Services during the design phase to ensure that the campus would be able to accommodate any planned changes in the transit service or provision of additional facilities for alternative modes of transportation.

VI. CONCLUSION

Leeward Community College currently has a Waianae Coast Campus located in Waianae near the Waianae Mall. The proposed project entails the relocation of the existing campus to a new site in Maili and future expansion to accommodate anticipated increases in enrollment. With the implementation of the aforementioned recommendations, traffic operations in the vicinity of the new campus are expected to remain similar to existing and without project conditions with the development of the new campus. As such, Leeward Community College's Waianae Coast Campus is not expected to have a significant impact on traffic operations in the vicinity.

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY, BL
Counter:D4-3889, D4-3890
Weather:Clear

File Name : FarrMal AM
Site Code : 00000001
Start Date : 10/29/2013
Page No : 1

Groups Printed- Unshifted

	Farrington Highway Southbound					Maliona Street Westbound					Farrington Highway Northbound					Eastbound	
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	App. Total	Int. Total
06:00 AM	0	219	0	0	219	4	0	0	0	4	0	100	2	0	102	0	325
06:15 AM	0	309	0	1	310	2	0	0	2	4	0	100	1	0	101	0	415
06:30 AM	2	273	0	2	277	6	0	3	8	17	0	167	2	0	169	0	463
06:45 AM	2	283	0	0	285	3	0	2	4	9	0	228	1	0	229	0	523
Total	4	1084	0	3	1091	15	0	5	14	34	0	595	6	0	601	0	1726
07:00 AM	4	235	0	2	241	2	0	4	0	6	0	250	6	0	256	0	503
07:15 AM	10	286	0	0	296	5	0	4	4	13	0	274	6	0	280	0	589
07:30 AM	10	233	0	2	245	2	0	4	3	9	0	296	11	0	307	0	561
07:45 AM	9	240	0	1	250	4	0	6	5	15	0	251	7	0	258	0	523
Total	33	994	0	5	1032	13	0	18	12	43	0	1071	30	0	1101	0	2176
08:00 AM	1	272	0	0	273	7	0	6	3	16	0	197	6	0	203	0	492
08:15 AM	5	234	0	1	240	5	0	6	2	13	0	235	4	0	239	0	492
08:30 AM	1	222	0	0	223	4	0	7	4	15	0	196	4	0	200	0	438
08:45 AM	2	219	0	0	221	3	0	6	2	11	0	188	3	0	191	0	423
Total	9	947	0	1	957	19	0	25	11	55	0	816	17	0	833	0	1845
Grand Total	46	3025	0	9	3080	47	0	48	37	132	0	2482	53	0	2535	0	5747
Apprch %	1.5	98.2	0	0.3		35.6	0	36.4	28		0	97.9	2.1	0			
Total %	0.8	52.6	0	0.2	53.6	0.8	0	0.8	0.6	2.3	0	43.2	0.9	0	44.1	0	

	Farrington Highway Southbound				Maliona Street Westbound				Farrington Highway Northbound				Eastbound	
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 06:45 AM														
06:45 AM	2	283	0	285	3	0	2	5	0	228	1	229	0	519
07:00 AM	4	235	0	239	2	0	4	6	0	250	6	256	0	501
07:15 AM	10	286	0	296	5	0	4	9	0	274	6	280	0	585
07:30 AM	10	233	0	243	2	0	4	6	0	296	11	307	0	556
Total Volume	26	1037	0	1063	12	0	14	26	0	1048	24	1072	0	2161
% App. Total	2.4	97.6	0		46.2	0	53.8		0	97.8	2.2			
PHF	.650	.906	.000	.898	.000	.000	.875	.722	.000	.885	.545	.873	.000	.924

APPENDIX A

EXISTING TRAFFIC COUNT DATA

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:GC, BL
Counter:TU-0651, D4-5675
Weather:Clear

File Name : MalKul AM
Site Code : 00000001
Start Date : 10/30/2013
Page No : 1

Groups Printed- Unshifted

	Kulaaupuni Street Southbound					Maliona Street Westbound					Kulaaupuni Street Northbound					Maliona Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	4	4	1	2	11	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	13
06:15 AM	1	6	0	0	7	0	0	1	0	1	1	2	1	0	4	0	1	0	0	1	13
06:30 AM	4	6	1	5	16	0	1	1	0	2	2	5	5	12	24	0	1	0	1	2	44
06:45 AM	5	11	0	4	20	0	3	1	1	5	1	5	3	9	18	2	3	0	1	6	49
Total	14	27	2	11	54	0	4	3	1	8	4	13	9	21	47	2	6	0	2	10	119
07:00 AM	12	15	1	12	40	0	0	1	1	2	6	11	15	26	58	1	7	5	9	22	122
07:15 AM	12	12	0	19	43	0	2	0	2	4	1	14	17	22	54	0	14	4	1	19	120
07:30 AM	26	12	2	10	50	1	1	2	3	7	3	8	18	20	49	3	11	9	1	24	130
07:45 AM	6	5	3	2	16	3	8	1	4	16	6	10	6	9	31	0	11	7	0	18	81
Total	56	44	6	43	149	4	11	4	10	29	16	43	56	77	192	4	43	25	11	83	453
08:00 AM	3	1	5	2	11	1	1	0	1	3	3	7	0	2	12	3	7	2	2	14	40
08:15 AM	1	5	0	0	6	0	3	1	0	4	1	5	0	0	6	2	1	4	2	9	25
08:30 AM	0	3	1	0	4	1	1	0	0	2	3	2	1	0	6	0	1	2	0	3	15
08:45 AM	1	7	0	0	8	0	0	1	0	1	5	4	1	0	10	1	0	2	0	3	22
Total	5	16	6	2	29	2	5	2	1	10	12	18	2	2	34	6	9	10	4	29	102
Grand Total	75	87	14	56	232	6	20	9	12	47	32	74	67	100	273	12	58	35	17	122	674
Apprch %	32.3	37.5	6	24.1		12.8	42.6	19.1	25.5		11.7	27.1	24.5	36.6		9.8	47.5	28.7	13.9		
Total %	11.1	12.9	2.1	8.3	34.4	0.9	3	1.3	1.8	7	4.7	11	9.9	14.8	40.5	1.8	8.6	5.2	2.5	18.1	

	Kulaaupuni Street Southbound				Maliona Street Westbound				Kulaaupuni Street Northbound				Maliona Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	12	15	1	28	0	0	1	1	6	11	15	32	1	7	5	13	74
07:15 AM	12	12	0	24	0	2	0	2	1	14	17	32	0	14	4	18	76
07:30 AM	26	12	2	40	1	1	2	4	3	8	18	29	3	11	9	23	96
07:45 AM	6	5	3	14	3	8	1	12	6	10	6	22	0	11	7	18	66
Total Volume	56	44	6	106	4	11	4	19	16	43	56	115	4	43	25	72	312
% App. Total	52.8	41.5	5.7		21.1	57.9	21.1		13.9	37.4	48.7		5.6	59.7	34.7		
PHF	.538	.733	.500	.663	.333	.344	.500	.396	.667	.768	.778	.898	.333	.768	.694	.783	.813

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY, BL
Counter:D4-3889, D4-3890
Weather:Clear

File Name : FarrMal PM
Site Code : 00000001
Start Date : 10/29/2013
Page No : 1

Groups Printed- Unshifted

	Farrington Highway Southbound					Maliona Street Westbound					Farrington Highway Northbound					Eastbound	
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	App. Total	Int. Total
03:00 PM	0	253	0	1	254	1	0	2	2	5	0	311	4	0	315	0	574
03:15 PM	0	250	0	0	250	2	0	3	2	7	0	344	5	0	349	0	606
03:30 PM	1	267	0	0	268	0	0	4	1	5	0	382	6	0	388	0	661
03:45 PM	0	262	0	0	262	4	0	2	4	10	0	364	1	0	365	0	637
Total	1	1032	0	1	1034	7	0	11	9	27	0	1401	16	0	1417	0	2478
04:00 PM	0	279	0	0	279	2	0	1	2	5	0	352	8	0	360	0	644
04:15 PM	1	242	0	2	245	2	0	4	0	6	0	336	2	0	338	0	589
04:30 PM	1	239	0	0	240	6	0	2	8	16	0	356	7	0	363	0	619
04:45 PM	0	186	0	1	187	4	0	5	4	13	0	371	2	0	373	0	573
Total	2	946	0	3	951	14	0	12	14	40	0	1415	19	0	1434	0	2425
05:00 PM	0	187	0	1	188	4	0	1	6	11	0	329	4	0	333	0	532
05:15 PM	0	230	0	0	230	1	0	3	3	7	0	343	3	0	346	0	583
05:30 PM	1	205	0	0	206	2	0	2	0	4	0	336	3	0	339	0	549
05:45 PM	0	210	0	1	211	0	0	5	7	12	0	307	2	0	309	0	532
Total	1	832	0	2	835	7	0	11	16	34	0	1315	12	0	1327	0	2196
Grand Total	4	2810	0	6	2820	28	0	34	39	101	0	4131	47	0	4178	0	7099
Apprch %	0.1	99.6	0	0.2		27.7	0	33.7	38.6		0	98.9	1.1	0			
Total %	0.1	39.6	0	0.1	39.7	0.4	0	0.5	0.5	1.4	0	58.2	0.7	0	58.9	0	

	Farrington Highway Southbound				Maliona Street Westbound				Farrington Highway Northbound				Eastbound	
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 03:15 PM														
03:15 PM	0	250	0	250	2	0	3	5	0	344	5	349	0	604
03:30 PM	1	267	0	268	0	0	4	4	0	382	6	388	0	660
03:45 PM	0	262	0	262	4	0	2	6	0	364	1	365	0	633
04:00 PM	0	279	0	279	2	0	1	3	0	352	8	360	0	642
Total Volume	1	1058	0	1059	8	0	10	18	0	1442	20	1462	0	2539
% App. Total	0.1	99.9	0		44.4	0	55.6		0	98.6	1.4			
PHF	.250	.948	.000	.949	.500	.000	.625	.750	.000	.944	.625	.942	.000	.962

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY, PA
Counter:TU-0652, TU-0650
Weather:Clear

File Name : StJohnsKul AM
Site Code : 00000002
Start Date : 10/30/2013
Page No : 1

Groups Printed- Unshifted

	Kulaaupuni Street Southbound					St. John's Street Westbound					Kulaaupuni Street Northbound					St. John's Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	0	0	4	0	4	0	5	1	0	6	3	1	0	3	7	4	3	2	2	11	28
06:15 AM	0	0	9	7	16	0	6	0	0	6	12	0	0	0	12	5	5	6	0	16	50
06:30 AM	1	1	5	5	12	0	8	1	0	9	6	2	0	8	16	15	7	5	1	28	65
06:45 AM	0	0	11	4	15	0	11	1	0	12	14	4	1	0	19	16	7	7	5	35	81
Total	1	1	29	16	47	0	30	3	0	33	35	7	1	11	54	40	22	20	8	90	224
07:00 AM	0	1	17	0	18	1	15	0	0	16	13	3	1	4	21	38	10	11	18	77	132
07:15 AM	1	3	20	0	24	2	18	1	1	22	6	6	1	3	16	36	19	12	7	74	136
07:30 AM	2	6	30	2	40	7	29	1	0	37	11	8	5	0	24	29	37	16	0	82	183
07:45 AM	0	2	13	0	15	3	42	0	0	45	14	7	1	1	23	11	16	7	2	36	119
Total	3	12	80	2	97	13	104	2	1	120	44	24	8	8	84	114	82	46	27	269	570
08:00 AM	1	1	4	0	6	0	13	0	0	13	8	5	0	0	13	4	5	6	0	15	47
08:15 AM	0	1	4	0	5	0	6	0	0	6	9	2	0	2	13	5	2	10	2	19	43
08:30 AM	0	2	7	0	9	0	4	1	0	5	5	1	0	0	6	6	7	7	0	20	40
08:45 AM	1	3	3	0	7	0	4	0	0	4	7	3	0	0	10	7	9	8	0	24	45
Total	2	7	18	0	27	0	27	1	0	28	29	11	0	2	42	22	23	31	2	78	175
Grand Total	6	20	127	18	171	13	161	6	1	181	108	42	9	21	180	176	127	97	37	437	969
Apprch %	3.5	11.7	74.3	10.5		7.2	89	3.3	0.6		60	23.3	5	11.7		40.3	29.1	22.2	8.5		
Total %	0.6	2.1	13.1	1.9	17.6	1.3	16.6	0.6	0.1	18.7	11.1	4.3	0.9	2.2	18.6	18.2	13.1	10	3.8	45.1	

	Kulaaupuni Street Southbound				St. John's Street Westbound				Kulaaupuni Street Northbound				St. John's Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	1	17	18	1	15	0	16	13	3	1	17	38	10	11	59	110
07:15 AM	1	3	20	24	2	18	1	21	6	6	1	13	36	19	12	67	125
07:30 AM	2	6	30	38	7	29	1	37	11	8	5	24	29	37	16	82	181
07:45 AM	0	2	13	15	3	42	0	45	14	7	1	22	11	16	7	34	116
Total Volume	3	12	80	95	13	104	2	119	44	24	8	76	114	82	46	242	532
% App. Total	3.2	12.6	84.2		10.9	87.4	1.7		57.9	31.6	10.5		47.1	33.9	19		
PHF	.375	.500	.667	.625	.464	.619	.500	.661	.786	.750	.400	.792	.750	.554	.719	.738	.735

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:GC, BL
Counter:TU-0651, D4-5675
Weather:Clear

File Name : MalKul PM
Site Code : 00000001
Start Date : 10/30/2013
Page No : 1

Groups Printed- Unshifted

	Kulaaupuni Street Southbound					Maliona Street Westbound					Kulaaupuni Street Northbound					Maliona Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	2	5	2	5	14	0	2	4	0	6	2	7	1	0	10	3	1	5	0	9	39
03:15 PM	1	8	1	10	20	5	1	3	0	9	1	3	1	0	5	0	0	2	0	2	36
03:30 PM	1	4	1	0	6	2	0	3	0	5	1	15	0	1	17	1	0	2	1	4	32
03:45 PM	3	6	0	1	10	0	2	3	0	5	1	11	0	0	12	1	0	0	0	1	28
Total	7	23	4	16	50	7	5	13	0	25	5	36	2	1	44	5	1	9	1	16	135
04:00 PM	2	3	2	0	7	1	1	0	0	2	2	6	1	7	16	0	2	4	0	6	31
04:15 PM	1	3	1	0	5	0	0	0	0	0	0	10	1	2	13	0	2	1	0	3	21
04:30 PM	0	9	0	0	9	0	0	3	7	10	2	6	1	1	10	0	0	1	0	1	30
04:45 PM	0	7	0	0	7	1	2	3	0	6	1	12	1	0	14	0	0	3	0	3	30
Total	3	22	3	0	28	2	3	6	7	18	5	34	4	10	53	0	4	9	0	13	112
05:00 PM	2	2	1	0	5	2	1	1	0	4	1	6	0	1	8	0	2	1	0	3	20
05:15 PM	0	10	2	4	16	0	0	1	0	1	3	14	0	8	25	3	1	1	1	6	48
05:30 PM	2	7	2	0	11	0	1	0	5	6	3	10	0	6	19	3	0	3	0	6	42
05:45 PM	1	6	1	0	8	3	0	2	0	5	1	7	2	0	10	1	0	2	0	3	26
Total	5	25	6	4	40	5	2	4	5	16	8	37	2	15	62	7	3	7	1	18	136
Grand Total	15	70	13	20	118	14	10	23	12	59	18	107	8	26	159	12	8	25	2	47	383
Apprch %	12.7	59.3	11	16.9		23.7	16.9	39	20.3		11.3	67.3	5	16.4		25.5	17	53.2	4.3		
Total %	3.9	18.3	3.4	5.2	30.8	3.7	2.6	6	3.1	15.4	4.7	27.9	2.1	6.8	41.5	3.1	2.1	6.5	0.5	12.3	

	Kulaaupuni Street Southbound				Maliona Street Westbound				Kulaaupuni Street Northbound				Maliona Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	2	5	2	9	0	2	4	6	2	7	1	10	3	1	5	9	34
03:15 PM	1	8	1	10	5	1	3	9	1	3	1	5	0	0	2	2	26
03:30 PM	1	4	1	6	2	0	3	5	1	15	0	16	1	0	2	3	30
03:45 PM	3	6	0	9	0	2	3	5	1	11	0	12	1	0	0	1	27
Total Volume	7	23	4	34	7	5	13	25	5	36	2	43	5	1	9	15	117
% App. Total	20.6	67.6	11.8		28	20	52		11.6	83.7	4.7		33.3	6.7	60		
PHF	.583	.719	.500	.850	.350	.625	.813	.694	.625	.600	.500	.672	.417	.250	.450	.417	.860

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:GC, PA
Counter:D4-5673, D4-5674
Weather:Clear

File Name : FarStJohns AM
Site Code : 00000002
Start Date : 10/29/2013
Page No : 1

Groups Printed- Unshifted

	Farrington Highway Southbound					St. John's Road Westbound					Farrington Highway Northbound					Eastbound	
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	App. Total	Int. Total
06:00 AM	1	236	0	2	239	16	0	3	1	20	0	98	11	0	109	0	368
06:15 AM	1	293	0	6	300	21	0	5	7	33	0	105	14	0	119	0	452
06:30 AM	3	288	0	9	300	22	0	1	3	26	0	157	20	0	177	0	503
06:45 AM	4	300	0	8	312	31	0	9	2	42	0	232	26	0	258	0	612
Total	9	1117	0	25	1151	90	0	18	13	121	0	592	71	0	663	0	1935
07:00 AM	6	223	0	2	231	30	0	11	2	43	0	238	50	0	288	0	562
07:15 AM	19	274	0	1	294	35	0	19	1	55	0	256	41	0	297	0	646
07:30 AM	19	225	0	2	246	42	0	22	3	67	0	289	65	0	354	0	667
07:45 AM	11	241	0	5	257	53	0	16	1	70	0	226	21	0	247	0	574
Total	55	963	0	10	1028	160	0	68	7	235	0	1009	177	0	1186	0	2449
08:00 AM	16	256	0	4	276	24	0	10	7	41	0	191	12	0	203	0	520
08:15 AM	8	226	0	5	239	13	0	11	1	25	0	205	7	0	212	0	476
08:30 AM	11	234	0	3	248	10	0	4	3	17	0	205	8	0	213	0	478
08:45 AM	6	213	0	2	221	11	0	9	2	22	0	169	12	0	181	0	424
Total	41	929	0	14	984	58	0	34	13	105	0	770	39	0	809	0	1898
Grand Total	105	3009	0	49	3163	308	0	120	33	461	0	2371	287	0	2658	0	6282
Apprch %	3.3	95.1	0	1.5		66.8	0	26	7.2		0	89.2	10.8	0			
Total %	1.7	47.9	0	0.8	50.4	4.9	0	1.9	0.5	7.3	0	37.7	4.6	0	42.3	0	

	Farrington Highway Southbound				St. John's Road Westbound				Farrington Highway Northbound				Eastbound	
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 06:45 AM														
06:45 AM	4	300	0	304	31	0	9	40	0	232	26	258	0	602
07:00 AM	6	223	0	229	30	0	11	41	0	238	50	288	0	558
07:15 AM	19	274	0	293	35	0	19	54	0	256	41	297	0	644
07:30 AM	19	225	0	244	42	0	22	64	0	289	65	354	0	662
Total Volume	48	1022	0	1070	138	0	61	199	0	1015	182	1197	0	2466
% App. Total	4.5	95.5	0		69.3	0	30.7		0	84.8	15.2			
PHF	.632	.852	.000	.880	.821	.000	.693	.777	.000	.878	.700	.845	.000	.931

Wilson Okamoto Corporation

1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:DY, PA
Counter:TU-0652, TU-0650
Weather:Clear

File Name : StJohnsKul PM
Site Code : 00000002
Start Date : 10/30/2013
Page No : 1

Groups Printed- Unshifted

	Kulaaupuni Street Southbound					St. John's Street Westbound					Kulaaupuni Street Northbound					St. John's Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	0	1	9	2	12	0	1	0	0	1	5	0	0	0	5	6	6	6	0	18	36
03:15 PM	0	1	17	0	18	0	11	2	0	13	9	0	1	0	10	6	5	9	0	20	61
03:30 PM	0	1	13	1	15	0	12	0	0	12	10	1	0	0	11	5	16	14	0	35	73
03:45 PM	1	0	3	1	5	0	8	1	4	13	7	2	0	0	9	10	6	7	0	23	50
Total	1	3	42	4	50	0	32	3	4	39	31	3	1	0	35	27	33	36	0	96	220
04:00 PM	1	1	10	1	13	0	12	0	0	12	9	2	0	0	11	8	10	10	0	28	64
04:15 PM	0	0	6	1	7	0	7	2	1	10	10	1	0	0	11	10	9	12	2	33	61
04:30 PM	1	2	8	3	14	0	3	1	0	4	4	1	0	0	5	8	10	9	0	27	50
04:45 PM	2	1	5	0	8	0	5	2	0	7	5	1	0	0	6	7	3	6	1	17	38
Total	4	4	29	5	42	0	27	5	1	33	28	5	0	0	33	33	32	37	3	105	213
05:00 PM	0	0	9	0	9	0	3	0	0	3	3	3	0	1	7	16	7	6	1	30	49
05:15 PM	1	2	9	0	12	0	12	1	0	13	9	3	1	0	13	14	14	12	1	41	79
05:30 PM	1	2	10	0	13	0	12	1	0	13	8	0	0	0	8	13	11	6	0	30	64
05:45 PM	1	4	4	0	9	0	1	0	0	1	2	2	1	0	5	4	13	11	0	28	43
Total	3	8	32	0	43	0	28	2	0	30	22	8	2	1	33	47	45	35	2	129	235
Grand Total	8	15	103	9	135	0	87	10	5	102	81	16	3	1	101	107	110	108	5	330	668
Apprch %	5.9	11.1	76.3	6.7		0	85.3	9.8	4.9		80.2	15.8	3	1		32.4	33.3	32.7	1.5		
Total %	1.2	2.2	15.4	1.3	20.2	0	13	1.5	0.7	15.3	12.1	2.4	0.4	0.1	15.1	16	16.5	16.2	0.7	49.4	

	Kulaaupuni Street Southbound				St. John's Street Westbound				Kulaaupuni Street Northbound				St. John's Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:15 PM																	
03:15 PM	0	1	17	18	0	11	2	13	9	0	1	10	6	5	9	20	61
03:30 PM	0	1	13	14	0	12	0	12	10	1	0	11	5	16	14	35	72
03:45 PM	1	0	3	4	0	8	1	9	7	2	0	9	10	6	7	23	45
04:00 PM	1	1	10	12	0	12	0	12	9	2	0	11	8	10	10	28	63
Total Volume	2	3	43	48	0	43	3	46	35	5	1	41	29	37	40	106	241
% App. Total	4.2	6.2	89.6		0	93.5	6.5		85.4	12.2	2.4		27.4	34.9	37.7		
PHF	.500	.750	.632	.667	.000	.896	.375	.885	.875	.625	.250	.932	.725	.578	.714	.757	.837

APPENDIX B

LEVEL OF SERVICE DEFINITIONS

Wilson Okamoto Corporation
1907 S. Beretania Street Suite 400
Honolulu, HI 96826

Counted By:GC, PA
Counter:D4-5673, D4-5674
Weather:Clear

File Name : FarStJohns PM
Site Code : 00000002
Start Date : 10/29/2013
Page No : 1

Groups Printed- Unshifted

	Farrington Highway Southbound					St. John's Road Westbound					Farrington Highway Northbound					Eastbound	
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	App. Total	Int. Total
03:00 PM	9	225	0	4	238	15	0	10	1	26	0	315	19	0	334	0	598
03:15 PM	14	250	0	5	269	22	0	12	2	36	0	337	21	0	358	0	663
03:30 PM	8	235	0	8	251	11	0	15	1	27	0	369	21	0	390	0	668
03:45 PM	14	263	0	1	278	24	0	14	3	41	0	351	21	0	372	0	691
Total	45	973	0	18	1036	72	0	51	7	130	0	1372	82	0	1454	0	2620
04:00 PM	10	260	0	5	275	11	0	10	0	21	0	326	22	0	348	0	644
04:15 PM	4	263	0	7	274	21	0	9	3	33	0	324	17	0	341	0	648
04:30 PM	10	222	0	10	242	18	0	7	3	28	0	355	19	0	374	0	644
04:45 PM	6	222	0	11	239	19	0	9	3	31	0	370	17	0	387	0	657
Total	30	967	0	33	1030	69	0	35	9	113	0	1375	75	0	1450	0	2593
05:00 PM	11	215	0	1	227	12	0	13	1	26	0	346	19	0	365	0	618
05:15 PM	9	220	0	5	234	19	0	12	0	31	0	295	19	0	314	0	579
05:30 PM	11	181	0	0	192	12	0	11	1	24	0	334	20	0	354	0	570
05:45 PM	11	186	0	2	199	14	0	11	4	29	0	303	22	0	325	0	553
Total	42	802	0	8	852	57	0	47	6	110	0	1278	80	0	1358	0	2320
Grand Total	117	2742	0	59	2918	198	0	133	22	353	0	4025	237	0	4262	0	7533
Apprch %	4	94	0	2		56.1	0	37.7	6.2		0	94.4	5.6	0			
Total %	1.6	36.4	0	0.8	38.7	2.6	0	1.8	0.3	4.7	0	53.4	3.1	0	56.6	0	

	Farrington Highway Southbound				St. John's Road Westbound				Farrington Highway Northbound				Eastbound	
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 03:15 PM														
03:15 PM	14	250	0	264	22	0	12	34	0	337	21	358	0	656
03:30 PM	8	235	0	243	11	0	15	26	0	369	21	390	0	659
03:45 PM	14	263	0	277	24	0	14	38	0	351	21	372	0	687
04:00 PM	10	260	0	270	11	0	10	21	0	326	22	348	0	639
Total Volume	46	1008	0	1054	68	0	51	119	0	1383	85	1468	0	2641
% App. Total	4.4	95.6	0		57.1	0	42.9		0	94.2	5.8			
PHF	.821	.958	.000	.951	.708	.000	.850	.783	.000	.937	.966	.941	.000	.961

LEVEL OF SERVICE DEFINITIONS

LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average control delay per vehicle, typically a 15-min analysis period. The criteria are given in the following table.

Table 1: Level-of-Service Criteria for Signalized Intersections

Level of Service	Control Delay per Vehicle (sec/veh)
A	≤10.0
B	>10.0 and ≤20.0
C	>20.0 and ≤35.0
D	>35.0 and ≤55.0
E	>55.0 and ≤80.0
F	>80.0

Delay is a complex measure and 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 describes operations with low control delay, up to 10 sec per vehicle. This level of service 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 describes operations with control delay greater than 10 and up to 20 sec per vehicle. 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 describes operations with control delay greater than 20 and up to 35 sec per vehicle. 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 describes operations with control delay greater than 35 and up to 55 sec per vehicle. At level of service D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

Level of Service E describes operation with control delay greater than 55 and up to 80 sec per vehicle. 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 describes operations with control delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity 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.

"Highway Capacity Manual," Transportation Research Board, 2000.

LEVEL OF SERVICE DEFINITIONS

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level of Service (LOS) criteria are given in Table 1. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue to the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue.

The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. If the degree of saturation is greater than about 0.9, average control delay is significantly affected by the length of the analysis period.

Table 1: Level-of-Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (Sec/Veh)
A	≤10.0
B	>10.0 and ≤15.0
C	>15.0 and ≤25.0
D	>25.0 and ≤35.0
E	>35.0 and ≤50.0
F	>50.0

"Highway Capacity Manual," Transportation Research Board, 2000.

APPENDIX C

CAPACITY ANALYSIS CALCULATIONS
EXISTING PEAK PERIOD TRAFFIC ANALYSIS

HCM Signalized Intersection Capacity Analysis
3: Farrington Hwy & Maliona St

12/2/2013

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	12	14	1048	24	26	1037
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.99		1.00		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.93		1.00		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1675		3524		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1675		3524		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	15	1139	26	28	1127
RTOR Reduction (vph)	14	0	1	0	0	0
Lane Group Flow (vph)	14	0	1164	0	28	1127
Confl. Peds. (#/hr)		4		11		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	3.4		38.9		1.6	45.5
Effective Green, g (s)	3.4		38.9		1.6	45.5
Actuated g/C Ratio	0.06		0.66		0.03	0.77
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	96		2327		48	2733
v/s Ratio Prot	c0.01		c0.33		0.02	c0.32
v/s Ratio Perm						
v/c Ratio	0.14		0.50		0.58	0.41
Uniform Delay, d1	26.4		5.1		28.3	2.2
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	0.7		0.2		16.8	0.1
Delay (s)	27.1		5.2		45.1	2.3
Level of Service	C		A		D	A
Approach Delay (s)	27.1		5.2			3.4
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	4.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	58.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
3: Farrington Hwy & Maliona St

12/2/2013

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	8	10	1442	20	1	1058
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	1.00		1.00		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.93		1.00		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1686		3530		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1686		3530		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	8	10	1502	21	1	1102
RTOR Reduction (vph)	10	0	1	0	0	0
Lane Group Flow (vph)	8	0	1522	0	1	1102
Confl. Peds. (#/hr)				9		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	0.9		44.6		0.5	50.1
Effective Green, g (s)	0.9		44.6		0.5	50.1
Actuated g/C Ratio	0.01		0.73		0.01	0.82
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	24		2580		14	2906
v/s Ratio Prot	c0.00		c0.43		0.00	c0.31
v/s Ratio Perm						
v/c Ratio	0.34		0.59		0.07	0.38
Uniform Delay, d1	29.8		3.9		30.0	1.4
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	8.3		0.4		2.2	0.1
Delay (s)	38.0		4.2		32.2	1.5
Level of Service	D		A		C	A
Approach Delay (s)	38.0		4.2			1.5
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	3.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	61.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
7: Kulaaupuni St & Maliona St

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	6	35	18	1	6	4	53	38	11	55	50	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	8	48	25	1	8	5	73	52	15	75	68	4
Pedestrians		7			11			77			45	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			6			4	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	488	452	155	563	446	116	80			78		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	488	452	155	563	446	116	80			78		
tC, single (s)	*6.1	*5.5	*5.2	*6.1	*5.5	*5.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	91	97	100	98	99	95			95		
cM capacity (veh/h)	485	510	866	393	513	923	1510			1506		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	81	15	140	148
Volume Left	8	1	73	75
Volume Right	25	5	15	4
cSH	579	592	1510	1506
Volume to Capacity	0.14	0.03	0.05	0.05
Queue Length 95th (ft)	12	2	4	4
Control Delay (s)	12.2	11.2	4.1	4.0
Lane LOS	B	B	A	A
Approach Delay (s)	12.2	11.2	4.1	4.0
Approach LOS	B	B		

Intersection Summary				
Average Delay	6.1			
Intersection Capacity Utilization	28.5%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
7: Kulaaupuni St & Maliona St

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	2	2	8	8	4	9	5	35	2	7	21	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	2	2	9	9	4	10	6	39	2	8	24	4
Pedestrians		1						8			11	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	118	95	35	111	97	51	29			42		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	118	95	35	111	97	51	29			42		
tC, single (s)	*6.1	*5.5	*5.2	*6.1	*5.5	*5.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	99	99	99	100			99		
cM capacity (veh/h)	860	809	1041	872	808	1022	1583			1568		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	13	24	47	36
Volume Left	2	9	6	8
Volume Right	9	10	2	4
cSH	961	916	1583	1568
Volume to Capacity	0.01	0.03	0.00	0.01
Queue Length 95th (ft)	1	2	0	0
Control Delay (s)	8.8	9.0	0.9	1.6
Lane LOS	A	A	A	A
Approach Delay (s)	8.8	9.0	0.9	1.6
Approach LOS	A	A		

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	16.7%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
16: Kulaaupuni St & St. John's Rd

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	119	73	46	10	73	3	44	21	8	3	10	78
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	178	109	69	15	109	4	66	31	12	4	15	116
Pedestrians		30			1			7			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		3			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1254										
pX, platoon unblocked												
vC, conflicting volume	119			185			800	655	151	674	687	147
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	119			185			800	655	151	674	687	147
tC, single (s)	4.1			4.1			*6.1	*5.5	*5.2	*6.1	*5.5	*5.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	88			99			76	92	99	99	96	87
cM capacity (veh/h)	1461			1382			278	399	928	367	386	910

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	355	128	109	136
Volume Left	178	15	66	4
Volume Right	69	4	12	116
cSH	1461	1382	333	760
Volume to Capacity	0.12	0.01	0.33	0.18
Queue Length 95th (ft)	10	1	35	16
Control Delay (s)	4.4	1.0	21.0	10.8
Lane LOS	A	A	C	B
Approach Delay (s)	4.4	1.0	21.0	10.8
Approach LOS			C	B

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
16: Kulaaupuni St & St. John's Rd

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	29	37	40	0	43	3	35	5	1	2	1	43
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	35	44	48	0	51	4	42	6	1	2	1	51
Pedestrians					4						3	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1236										
pX, platoon unblocked												
vC, conflicting volume	58			92			242	195	72	201	217	56
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	58			92			242	195	72	201	217	56
tC, single (s)	4.1			4.1			*6.1	*5.5	*5.2	*6.1	*5.5	*5.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			94	99	100	100	100	95
cM capacity (veh/h)	1543			1503			710	722	1007	776	706	1024

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	126	55	49	55
Volume Left	35	0	42	2
Volume Right	48	4	1	51
cSH	1543	1503	717	1000
Volume to Capacity	0.02	0.00	0.07	0.05
Queue Length 95th (ft)	2	0	5	4
Control Delay (s)	2.1	0.0	10.4	8.8
Lane LOS	A		B	A
Approach Delay (s)	2.1	0.0	10.4	8.8
Approach LOS			B	A

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	138	61	1015	182	48	1022
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.99		0.99		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.96		0.98		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	1712		3439		1770	3539
Flt Permitted	0.97		1.00		0.95	1.00
Satd. Flow (perm)	1712		3439		1770	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	148	66	1091	196	52	1099
RTOR Reduction (vph)	19	0	16	0	0	0
Lane Group Flow (vph)	195	0	1271	0	52	1099
Confl. Peds. (#/hr)		13		8		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	13.7		38.2		3.6	46.8
Effective Green, g (s)	13.7		38.2		3.6	46.8
Actuated g/C Ratio	0.19		0.54		0.05	0.66
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	332		1863		90	2349
v/s Ratio Prot	c0.11		c0.37		0.03	c0.31
v/s Ratio Perm						
v/c Ratio	0.59		0.68		0.58	0.47
Uniform Delay, d1	25.8		11.7		32.7	5.8
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	2.7		1.0		8.7	0.1
Delay (s)	28.5		12.8		41.4	5.9
Level of Service	C		B		D	A
Approach Delay (s)	28.5		12.8			7.5
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	70.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	68	51	1383	85	46	1008
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.99		1.00		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.94		0.99		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	1684		3502		1770	3539
Flt Permitted	0.97		1.00		0.95	1.00
Satd. Flow (perm)	1684		3502		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	71	53	1441	89	48	1050
RTOR Reduction (vph)	34	0	4	0	0	0
Lane Group Flow (vph)	90	0	1526	0	48	1050
Confl. Peds. (#/hr)		19		6		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	8.6		45.0		3.0	53.0
Effective Green, g (s)	8.6		45.0		3.0	53.0
Actuated g/C Ratio	0.12		0.63		0.04	0.74
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	202		2200		74	2619
v/s Ratio Prot	c0.05		c0.44		0.03	c0.30
v/s Ratio Perm						
v/c Ratio	0.44		0.69		0.65	0.40
Uniform Delay, d1	29.3		8.8		33.8	3.4
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	1.6		1.0		17.9	0.1
Delay (s)	30.8		9.7		51.7	3.5
Level of Service	C		A		D	A
Approach Delay (s)	30.8		9.7			5.6
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	71.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX D

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2015 PEAK PERIOD TRAFFIC
ANALYSIS WITHOUT PROJECT

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	12	14	1059	24	26	1047
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.99		1.00		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.93		1.00		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1675		3524		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1675		3524		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	15	1151	26	28	1138
RTOR Reduction (vph)	14	0	1	0	0	0
Lane Group Flow (vph)	14	0	1176	0	28	1138
Confl. Peds. (#/hr)		4		11		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	3.5		39.5		1.6	46.1
Effective Green, g (s)	3.5		39.5		1.6	46.1
Actuated g/C Ratio	0.06		0.66		0.03	0.77
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	98		2335		47	2737
v/s Ratio Prot	c0.01		c0.33		0.02	c0.32
v/s Ratio Perm						
v/c Ratio	0.14		0.50		0.60	0.42
Uniform Delay, d1	26.6		5.1		28.7	2.3
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	0.7		0.2		18.6	0.1
Delay (s)	27.3		5.3		47.3	2.4
Level of Service	C		A		D	A
Approach Delay (s)	27.3		5.3			3.4
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	4.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	59.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
3: Farrington Hwy & Maliona St

12/2/2013

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	8	10	1456	20	1	1069
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	1.00		1.00		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.93		1.00		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1686		3530		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1686		3530		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	8	10	1517	21	1	1114
RTOR Reduction (vph)	10	0	1	0	0	0
Lane Group Flow (vph)	8	0	1537	0	1	1114
Confl. Peds. (#/hr)				9		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	0.9		44.7		0.5	50.2
Effective Green, g (s)	0.9		44.7		0.5	50.2
Actuated g/C Ratio	0.01		0.73		0.01	0.82
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	24		2582		14	2907
v/s Ratio Prot	c0.00		c0.44		0.00	c0.31
v/s Ratio Perm						
v/c Ratio	0.34		0.60		0.07	0.38
Uniform Delay, d1	29.8		3.9		30.1	1.4
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	8.3		0.4		2.2	0.1
Delay (s)	38.1		4.3		32.2	1.5
Level of Service	D		A		C	A
Approach Delay (s)	38.1		4.3			1.5
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	3.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	61.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
7: Kulaaupuni St & Maliona St

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	35	18	1	6	4	53	38	11	55	50	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	8	48	25	1	8	5	73	52	15	75	68	4
Pedestrians		7			11			77			45	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			6			4	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	488	452	155	563	446	116	80			78		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	488	452	155	563	446	116	80			78		
tC, single (s)	*6.1	*5.5	*5.2	*6.1	*5.5	*5.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	91	97	100	98	99	95			95		
cM capacity (veh/h)	485	510	866	393	513	923	1510			1506		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	81	15	140	148
Volume Left	8	1	73	75
Volume Right	25	5	15	4
cSH	579	592	1510	1506
Volume to Capacity	0.14	0.03	0.05	0.05
Queue Length 95th (ft)	12	2	4	4
Control Delay (s)	12.2	11.2	4.1	4.0
Lane LOS	B	B	A	A
Approach Delay (s)	12.2	11.2	4.1	4.0
Approach LOS	B	B		

Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	28.5%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
7: Kulaaupuni St & Maliona St

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	2	2	8	8	4	9	5	35	2	7	21	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	2	2	9	9	4	10	6	39	2	8	24	4
Pedestrians		1						8			11	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	118	95	35	111	97	51	29			42		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	118	95	35	111	97	51	29			42		
tC, single (s)	*6.1	*5.5	*5.2	*6.1	*5.5	*5.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	99	99	99	100			99		
cM capacity (veh/h)	860	809	1041	872	808	1022	1583			1568		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	13	24	47	36
Volume Left	2	9	6	8
Volume Right	9	10	2	4
cSH	961	916	1583	1568
Volume to Capacity	0.01	0.03	0.00	0.01
Queue Length 95th (ft)	1	2	0	0
Control Delay (s)	8.8	9.0	0.9	1.6
Lane LOS	A	A	A	A
Approach Delay (s)	8.8	9.0	0.9	1.6
Approach LOS	A	A		

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
16: Kulaaupuni St & St. John's Rd

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	119	73	46	10	73	3	44	21	8	3	10	78
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	178	109	69	15	109	4	66	31	12	4	15	116
Pedestrians		30			1			7			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		3			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1254										
pX, platoon unblocked												
vC, conflicting volume	119			185			800	655	151	674	687	147
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	119			185			800	655	151	674	687	147
tC, single (s)	4.1			4.1			*6.1	*5.5	*5.2	*6.1	*5.5	*5.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	88			99			76	92	99	99	96	87
cM capacity (veh/h)	1461			1382			278	399	928	367	386	910

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	355	128	109	136
Volume Left	178	15	66	4
Volume Right	69	4	12	116
cSH	1461	1382	333	760
Volume to Capacity	0.12	0.01	0.33	0.18
Queue Length 95th (ft)	10	1	35	16
Control Delay (s)	4.4	1.0	21.0	10.8
Lane LOS	A	A	C	B
Approach Delay (s)	4.4	1.0	21.0	10.8
Approach LOS			C	B

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
16: Kulaaupuni St & St. John's Rd

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	29	37	40	0	43	3	35	5	1	2	1	43
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	35	44	48	0	51	4	42	6	1	2	1	51
Pedestrians					4						3	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1236										
pX, platoon unblocked												
vC, conflicting volume	58			92			242	195	72	201	217	56
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	58			92			242	195	72	201	217	56
tC, single (s)	4.1			4.1			*6.1	*5.5	*5.2	*6.1	*5.5	*5.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			94	99	100	100	100	95
cM capacity (veh/h)	1543			1503			710	722	1007	776	706	1024

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	126	55	49	55
Volume Left	35	0	42	2
Volume Right	48	4	1	51
cSH	1543	1503	717	1000
Volume to Capacity	0.02	0.00	0.07	0.05
Queue Length 95th (ft)	2	0	5	4
Control Delay (s)	2.1	0.0	10.4	8.8
Lane LOS	A		B	A
Approach Delay (s)	2.1	0.0	10.4	8.8
Approach LOS			B	A

Intersection Summary				
Average Delay	4.4			
Intersection Capacity Utilization	28.8%	ICU Level of Service		A
Analysis Period (min)	15			

* User Entered Value

HCM Signalized Intersection Capacity Analysis
10: Farrington Hwy & St. John's Rd

12/2/2013

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	138	61	1025	182	48	1032
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.99		0.99		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.96		0.98		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	1712		3439		1770	3539
Flt Permitted	0.97		1.00		0.95	1.00
Satd. Flow (perm)	1712		3439		1770	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	148	66	1102	196	52	1110
RTOR Reduction (vph)	19	0	15	0	0	0
Lane Group Flow (vph)	195	0	1283	0	52	1110
Confl. Peds. (#/hr)		13		8		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	13.8		38.8		3.6	47.4
Effective Green, g (s)	13.8		38.8		3.6	47.4
Actuated g/C Ratio	0.19		0.54		0.05	0.67
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	331		1874		89	2356
v/s Ratio Prot	c0.11		c0.37		0.03	c0.31
v/s Ratio Perm						
v/c Ratio	0.59		0.68		0.58	0.47
Uniform Delay, d1	26.1		11.8		33.1	5.8
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	2.8		1.1		9.4	0.1
Delay (s)	28.9		12.8		42.5	5.9
Level of Service	C		B		D	A
Approach Delay (s)	28.9		12.8			7.6
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	71.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	68	51	1397	85	46	1018
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.99		1.00		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.94		0.99		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	1684		3502		1770	3539
Flt Permitted	0.97		1.00		0.95	1.00
Satd. Flow (perm)	1684		3502		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	71	53	1455	89	48	1060
RTOR Reduction (vph)	34	0	4	0	0	0
Lane Group Flow (vph)	90	0	1540	0	48	1060
Confl. Peds. (#/hr)		19		6		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	8.6		45.1		3.0	53.1
Effective Green, g (s)	8.6		45.1		3.0	53.1
Actuated g/C Ratio	0.12		0.63		0.04	0.74
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	201		2202		74	2620
v/s Ratio Prot	c0.05		c0.44		0.03	c0.30
v/s Ratio Perm						
v/c Ratio	0.45		0.70		0.65	0.40
Uniform Delay, d1	29.3		8.8		33.8	3.4
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	1.6		1.0		17.9	0.1
Delay (s)	30.9		9.8		51.7	3.5
Level of Service	C		A		D	A
Approach Delay (s)	30.9		9.8			5.6
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	71.7	Sum of lost time (s)	15.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX E

**CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2015 PEAK PERIOD TRAFFIC
ANALYSIS WITH PROJECT**

HCM Signalized Intersection Capacity Analysis
3: Farrington Hwy & Maliona St

12/2/2013

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	12	17	1059	24	40	1047
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.99		1.00		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.92		1.00		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1666		3524		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1666		3524		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	18	1151	26	43	1138
RTOR Reduction (vph)	17	0	1	0	0	0
Lane Group Flow (vph)	14	0	1176	0	43	1138
Confl. Peds. (#/hr)		4		11		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	3.7		38.6		3.0	46.6
Effective Green, g (s)	3.7		38.6		3.0	46.6
Actuated g/C Ratio	0.06		0.64		0.05	0.77
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	102		2255		88	2734
v/s Ratio Prot	c0.01		c0.33		0.02	c0.32
v/s Ratio Perm						
v/c Ratio	0.14		0.52		0.49	0.42
Uniform Delay, d1	26.8		5.9		27.9	2.3
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	0.6		0.2		4.2	0.1
Delay (s)	27.4		6.1		32.1	2.4
Level of Service	C		A		C	A
Approach Delay (s)	27.4		6.1			3.5
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Farrington Hwy & Maliona St

12/2/2013

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	8	17	1456	20	10	1069
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	1.00		1.00		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.91		1.00		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1663		3530		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1663		3530		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	8	18	1517	21	10	1114
RTOR Reduction (vph)	17	0	1	0	0	0
Lane Group Flow (vph)	9	0	1537	0	10	1114
Confl. Peds. (#/hr)				9		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	2.1		45.2		0.7	50.9
Effective Green, g (s)	2.1		45.2		0.7	50.9
Actuated g/C Ratio	0.03		0.72		0.01	0.81
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	55		2532		19	2859
v/s Ratio Prot	c0.01		c0.44		0.01	c0.31
v/s Ratio Perm						
v/c Ratio	0.16		0.61		0.53	0.39
Uniform Delay, d1	29.6		4.5		31.0	1.7
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	1.3		0.4		23.9	0.1
Delay (s)	30.9		4.9		54.8	1.8
Level of Service	C		A		D	A
Approach Delay (s)	30.9		4.9			2.3
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	4.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	63.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
7: Kulaaupuni St & Maliona St

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	6	35	32	1	6	4	56	38	11	55	50	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	8	48	44	1	8	5	77	52	15	75	68	4
Pedestrians		7			11			77			45	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			6			4	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	496	460	155	590	454	116	80			78		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	496	460	155	590	454	116	80			78		
tC, single (s)	*6.1	*5.5	*5.2	*6.1	*5.5	*5.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	90	95	100	98	99	95			95		
cM capacity (veh/h)	479	504	866	370	507	923	1510			1506		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	100	15	144	148
Volume Left	8	1	77	75
Volume Right	44	5	15	4
cSH	614	583	1510	1506
Volume to Capacity	0.16	0.03	0.05	0.05
Queue Length 95th (ft)	14	2	4	4
Control Delay (s)	12.0	11.3	4.2	4.0
Lane LOS	B	B	A	A
Approach Delay (s)	12.0	11.3	4.2	4.0
Approach LOS	B	B		

Intersection Summary				
Average Delay	6.3			
Intersection Capacity Utilization	28.8%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
7: Kulaaupuni St & Maliona St

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	2	2	18	8	4	9	12	35	2	7	21	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	2	2	20	9	4	10	13	39	2	8	24	4
Pedestrians		1						8			11	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	133	111	35	138	112	51	29			42		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	133	111	35	138	112	51	29			42		
tC, single (s)	*6.1	*5.5	*5.2	*6.1	*5.5	*5.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	98	99	99	99	99			99		
cM capacity (veh/h)	840	792	1041	832	792	1022	1583			1568		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	25	24	55	36
Volume Left	2	9	13	8
Volume Right	20	10	2	4
cSH	991	895	1583	1568
Volume to Capacity	0.02	0.03	0.01	0.01
Queue Length 95th (ft)	2	2	1	0
Control Delay (s)	8.7	9.1	1.8	1.6
Lane LOS	A	A	A	A
Approach Delay (s)	8.7	9.1	1.8	1.6
Approach LOS	A	A		

Intersection Summary				
Average Delay	4.2			
Intersection Capacity Utilization	17.0%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
16: Kulaaupuni St & St. John's Rd

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	133	73	46	10	73	3	44	21	8	3	10	80
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	199	109	69	15	109	4	66	31	12	4	15	119
Pedestrians		30			1			7			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		3			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1254										
pX, platoon unblocked												
vC, conflicting volume	119			185			845	697	151	716	729	147
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	119			185			845	697	151	716	729	147
tC, single (s)	4.1			4.1			*6.1	*5.5	*5.2	*6.1	*5.5	*5.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	86			99			75	92	99	99	96	87
cM capacity (veh/h)	1461			1382			258	376	928	343	364	910

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	376	128	109	139
Volume Left	199	15	66	4
Volume Right	69	4	12	119
cSH	1461	1382	311	749
Volume to Capacity	0.14	0.01	0.35	0.19
Queue Length 95th (ft)	12	1	38	17
Control Delay (s)	4.7	1.0	22.7	10.9
Lane LOS	A	A	C	B
Approach Delay (s)	4.7	1.0	22.7	10.9
Approach LOS			C	B

Intersection Summary				
Average Delay	7.8			
Intersection Capacity Utilization	38.8%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
16: Kulaaupuni St & St. John's Rd

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	41	37	40	0	43	3	35	5	1	2	1	48
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	49	44	48	0	51	4	42	6	1	2	1	57
Pedestrians					4						3	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1254										
pX, platoon unblocked												
vC, conflicting volume	58			92			276	223	72	230	245	56
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	58			92			276	223	72	230	245	56
tC, single (s)	4.1			4.1			*6.1	*5.5	*5.2	*6.1	*5.5	*5.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			94	99	100	100	100	94
cM capacity (veh/h)	1543			1503			672	695	1007	744	680	1024

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	140	55	49	61
Volume Left	49	0	42	2
Volume Right	48	4	1	57
cSH	1543	1503	680	1000
Volume to Capacity	0.03	0.00	0.07	0.06
Queue Length 95th (ft)	2	0	6	5
Control Delay (s)	2.7	0.0	10.7	8.8
Lane LOS	A		B	A
Approach Delay (s)	2.7	0.0	10.7	8.8
Approach LOS			B	A

Intersection Summary				
Average Delay	4.7			
Intersection Capacity Utilization	29.5%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

HCM Signalized Intersection Capacity Analysis
10: Farrington Hwy & St. John's Rd

12/2/2013

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	61	1025	196	48	1032
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.99		0.99		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.96		0.98		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	1713		3433		1770	3539
Flt Permitted	0.97		1.00		0.95	1.00
Satd. Flow (perm)	1713		3433		1770	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	151	66	1102	211	52	1110
RTOR Reduction (vph)	19	0	17	0	0	0
Lane Group Flow (vph)	198	0	1296	0	52	1110
Confl. Peds. (#/hr)		13		8		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	14.0		39.5		3.6	48.1
Effective Green, g (s)	14.0		39.5		3.6	48.1
Actuated g/C Ratio	0.19		0.55		0.05	0.67
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	332		1880		88	2360
v/s Ratio Prot	c0.12		c0.38		0.03	c0.31
v/s Ratio Perm						
v/c Ratio	0.60		0.69		0.59	0.47
Uniform Delay, d1	26.5		11.8		33.5	5.8
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	2.9		1.1		10.2	0.1
Delay (s)	29.4		12.9		43.7	6.0
Level of Service	C		B		D	A
Approach Delay (s)	29.4		12.9			7.7
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	72.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
10: Farrington Hwy & St. John's Rd

12/2/2013

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	73	51	1397	97	46	1018
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.99		1.00		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.94		0.99		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	1687		3497		1770	3539
Flt Permitted	0.97		1.00		0.95	1.00
Satd. Flow (perm)	1687		3497		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	76	53	1455	101	48	1060
RTOR Reduction (vph)	32	0	4	0	0	0
Lane Group Flow (vph)	97	0	1552	0	48	1060
Confl. Peds. (#/hr)		19		6		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	8.9		46.3		3.1	54.4
Effective Green, g (s)	8.9		46.3		3.1	54.4
Actuated g/C Ratio	0.12		0.63		0.04	0.74
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	204		2208		74	2626
v/s Ratio Prot	c0.06		c0.44		0.03	c0.30
v/s Ratio Perm						
v/c Ratio	0.48		0.70		0.65	0.40
Uniform Delay, d1	30.0		8.9		34.6	3.5
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	1.8		1.0		17.9	0.1
Delay (s)	31.8		10.0		52.5	3.6
Level of Service	C		A		D	A
Approach Delay (s)	31.8		10.0			5.7
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX F

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2027 PEAK PERIOD TRAFFIC
ANALYSIS WITH PROJECT

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	12	18	1121	24	46	1110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.99		1.00		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.92		1.00		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1661		3525		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1661		3525		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	20	1218	26	50	1207
RTOR Reduction (vph)	18	0	1	0	0	0
Lane Group Flow (vph)	15	0	1243	0	50	1207
Confl. Peds. (#/hr)		4		11		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	5.0		40.9		2.8	48.7
Effective Green, g (s)	5.0		40.9		2.8	48.7
Actuated g/C Ratio	0.08		0.64		0.04	0.76
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	130		2263		77	2705
v/s Ratio Prot	c0.01		c0.35		0.03	c0.34
v/s Ratio Perm						
v/c Ratio	0.11		0.55		0.65	0.45
Uniform Delay, d1	27.3		6.3		30.0	2.7
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	0.4		0.3		17.3	0.1
Delay (s)	27.7		6.6		47.3	2.8
Level of Service	C		A		D	A
Approach Delay (s)	27.7		6.6			4.6
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	63.7	Sum of lost time (s)	15.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
3: Farrington Hwy & Maliona St

12/2/2013

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	8	20	1543	20	13	1132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	1.00		1.00		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.90		1.00		1.00	1.00
Flt Protected	0.99		1.00		0.95	1.00
Satd. Flow (prot)	1658		3531		1770	3539
Flt Permitted	0.99		1.00		0.95	1.00
Satd. Flow (perm)	1658		3531		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	8	21	1607	21	14	1179
RTOR Reduction (vph)	20	0	1	0	0	0
Lane Group Flow (vph)	9	0	1627	0	14	1179
Confl. Peds. (#/hr)				9		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	2.2		47.4		1.0	53.4
Effective Green, g (s)	2.2		47.4		1.0	53.4
Actuated g/C Ratio	0.03		0.72		0.02	0.81
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	55		2551		26	2880
v/s Ratio Prot	c0.01		c0.46		0.01	c0.33
v/s Ratio Perm						
v/c Ratio	0.16		0.64		0.54	0.41
Uniform Delay, d1	30.8		4.7		32.1	1.7
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	1.3		0.5		19.8	0.1
Delay (s)	32.1		5.2		51.8	1.8
Level of Service	C		A		D	A
Approach Delay (s)	32.1		5.2			2.4
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	4.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	65.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
7: Kulaaupuni St & Maliona St

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	35	38	1	6	4	57	38	11	55	50	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	8	48	52	1	8	5	78	52	15	75	68	4
Pedestrians		7			11			77			45	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			6			4	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	499	463	155	601	457	116	80			78		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	499	463	155	601	457	116	80			78		
tC, single (s)	*6.1	*5.5	*5.2	*6.1	*5.5	*5.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	90	94	100	98	99	95			95		
cM capacity (veh/h)	477	502	866	361	505	923	1510			1506		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	108	15	145	148
Volume Left	8	1	78	75
Volume Right	52	5	15	4
cSH	626	579	1510	1506
Volume to Capacity	0.17	0.03	0.05	0.05
Queue Length 95th (ft)	16	2	4	4
Control Delay (s)	11.9	11.4	4.2	4.0
Lane LOS	B	B	A	A
Approach Delay (s)	11.9	11.4	4.2	4.0
Approach LOS	B	B		

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	28.9%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
7: Kulaaupuni St & Maliona St

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	2	2	20	8	4	9	15	35	2	7	21	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	2	2	22	9	4	10	17	39	2	8	24	4
Pedestrians		1						8			11	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	140	118	35	147	119	51	29			42		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	140	118	35	147	119	51	29			42		
tC, single (s)	*6.1	*5.5	*5.2	*6.1	*5.5	*5.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	98	99	99	99	99			99		
cM capacity (veh/h)	832	786	1041	820	785	1022	1583			1568		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	27	24	58	36
Volume Left	2	9	17	8
Volume Right	22	10	2	4
cSH	993	887	1583	1568
Volume to Capacity	0.03	0.03	0.01	0.01
Queue Length 95th (ft)	2	2	1	0
Control Delay (s)	8.7	9.2	2.2	1.6
Lane LOS	A	A	A	A
Approach Delay (s)	8.7	9.2	2.2	1.6
Approach LOS	A	A		

Intersection Summary				
Average Delay	4.4			
Intersection Capacity Utilization	17.6%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
16: Kulaaupuni St & St. John's Rd

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	139	73	46	10	73	3	44	21	8	3	10	82
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	207	109	69	15	109	4	66	31	12	4	15	122
Pedestrians		30			1			7			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		3			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1254										
pX, platoon unblocked												
vC, conflicting volume	119			185			866	714	151	734	747	147
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	119			185			866	714	151	734	747	147
tC, single (s)	4.1			4.1			*6.1	*5.5	*5.2	*6.1	*5.5	*5.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	86			99			74	91	99	99	96	87
cM capacity (veh/h)	1461			1382			249	366	928	333	354	910

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	385	128	109	142
Volume Left	207	15	66	4
Volume Right	69	4	12	122
cSH	1461	1382	301	746
Volume to Capacity	0.14	0.01	0.36	0.19
Queue Length 95th (ft)	12	1	40	17
Control Delay (s)	4.8	1.0	23.6	11.0
Lane LOS	A	A	C	B
Approach Delay (s)	4.8	1.0	23.6	11.0
Approach LOS			C	B

Intersection Summary				
Average Delay	8.0			
Intersection Capacity Utilization	39.2%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
16: Kulaaupuni St & St. John's Rd

12/2/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	47	37	40	0	43	3	35	5	1	2	1	51
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	56	44	48	0	51	4	42	6	1	2	1	61
Pedestrians					4						3	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1254										
pX, platoon unblocked												
vC, conflicting volume	58			92			294	238	72	244	260	56
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	58			92			294	238	72	244	260	56
tC, single (s)	4.1			4.1			*6.1	*5.5	*5.2	*6.1	*5.5	*5.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			94	99	100	100	100	94
cM capacity (veh/h)	1543			1503			652	682	1007	728	667	1024

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	148	55	49	64
Volume Left	56	0	42	2
Volume Right	48	4	1	61
cSH	1543	1503	661	999
Volume to Capacity	0.04	0.00	0.07	0.06
Queue Length 95th (ft)	3	0	6	5
Control Delay (s)	3.0	0.0	10.9	8.9
Lane LOS	A		B	A
Approach Delay (s)	3.0	0.0	10.9	8.9
Approach LOS			B	A

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

HCM Signalized Intersection Capacity Analysis
10: Farrington Hwy & St. John's Rd

12/2/2013

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	142	61	1086	202	48	1094
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.99		0.99		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.96		0.98		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	1713		3435		1770	3539
Flt Permitted	0.97		1.00		0.95	1.00
Satd. Flow (perm)	1713		3435		1770	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	153	66	1168	217	52	1176
RTOR Reduction (vph)	19	0	16	0	0	0
Lane Group Flow (vph)	200	0	1369	0	52	1176
Confl. Peds. (#/hr)		13		8		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	14.2		41.1		3.6	49.7
Effective Green, g (s)	14.2		41.1		3.6	49.7
Actuated g/C Ratio	0.19		0.56		0.05	0.67
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	329		1910		86	2380
v/s Ratio Prot	c0.12		c0.40		0.03	c0.33
v/s Ratio Perm						
v/c Ratio	0.61		0.72		0.60	0.49
Uniform Delay, d1	27.3		12.1		34.5	5.9
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	3.2		1.3		11.4	0.2
Delay (s)	30.5		13.4		45.9	6.1
Level of Service	C		B		D	A
Approach Delay (s)	30.5		13.4			7.8
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	73.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	76	51	1480	103	46	1079
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.99		1.00		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.95		0.99		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	1688		3497		1770	3539
Flt Permitted	0.97		1.00		0.95	1.00
Satd. Flow (perm)	1688		3497		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	79	53	1542	107	48	1124
RTOR Reduction (vph)	30	0	5	0	0	0
Lane Group Flow (vph)	102	0	1644	0	48	1124
Confl. Peds. (#/hr)		19		6		
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	10.8		47.3		3.2	55.5
Effective Green, g (s)	10.8		47.3		3.2	55.5
Actuated g/C Ratio	0.14		0.62		0.04	0.73
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	238		2167		74	2574
v/s Ratio Prot	c0.06		c0.47		0.03	c0.32
v/s Ratio Perm						
v/c Ratio	0.43		0.76		0.65	0.44
Uniform Delay, d1	29.9		10.4		36.0	4.2
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	1.2		1.6		17.9	0.1
Delay (s)	31.2		12.0		53.9	4.3
Level of Service	C		B		D	A
Approach Delay (s)	31.2		12.0			6.3
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	76.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX B

Pre-Assessment Consultation Comment and Response Letters

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HONOLULU DISTRICT
FORT SHAFTER, HAWAII 96858-5440

November 14 2013

Regulatory Branch

File No. **POH-2013-00195**

Wilson Okamoto Corporation
Attn: Milton Arakawa
1907 South Beretania Street, Suite 400
Honolulu, HI 96826

NO PERMIT REQUIRED

Dear Mr. Arakawa:

This is in response to your October 7, 2013 request for the Department of the Army to review and comment on the proposed Waianae Coast Campus LCC Project at TMK: (1) 8-7-004: 041, Maili, Island of O'ahu, Hawai'i. We have assigned the project the reference number **POH-2013-001958**. Please cite this reference number in any correspondence with us concerning this project. We have completed our review of the submitted document and have the following comments:

Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires that a Department of the Army (DA) permit be obtained from the U.S. Army Corps of Engineers (Corps) prior to undertaking any construction, dredging, and other activities occurring in, over, or under navigable waters of the U.S. Section 404 of the Clean Water Act (Section 404) of 1972 (33 U.S.C. 1344) requires that a DA permit be obtained for the discharge, or placement, of dredge and/or fill material into waters of the U.S., including wetlands.

Based on our review of the submitted document, it appears that the proposed project would be constructed entirely in uplands and no navigable waters of the U.S. are present. As such, authorization under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act do not appear to be required for the proposed project.

If the project design should change and work is to be proposed in wetlands, streams, the Pacific Ocean, or other aquatic resources (whether or not water is present in that resource during project construction), please contact our office to request a jurisdictional determination. We can then determine if any regulatory requirements apply to work that may impact those resources.

Thank you for contacting us regarding this project. We look forward to working with you on this project as well as any future projects. Should you have any questions, please contact Kaitlyn Seberger, at (808) 835-4300 or via email at Kaitlyn.R.Seberger@usace.army.mil.

Sincerely,

George P. Young, P. E.
Chief, Regulatory

WILSON OKAMOTO CORPORATION
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

8272-01
December 20, 2013

Mr. George P. Young, P.E., Chief
Regulatory Branch
Department of the Army
U.S. Army Corps of Engineers, Honolulu District
Fort Shafter, Hawai'i 96858-5440

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Mr. Young:

Thank you for your letter dated November 14, 2013 (POH-2013-00195) regarding the subject Draft EA pre-assessment consultation. We appreciate your confirmation that no authorizations under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act appear to be required for the proposed project.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawaii

NEIL ABERCROMBIE
GOVERNOR

Dean H. Seki
Comptroller

Maria E. Zielinski
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

OCT 15 2013

(P)1234.3

Mr. Milton Arakawa, AICP
Project Manager
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

Subject: Environmental Assessment for the Waianae Coast Campus
Leeward Community College
TMK: (1) 8-7-004:041
Maili, Oahu, Hawaii

Thank you for the opportunity to provide comments for the subject project. This project does not impact any of the Department of Accounting and General Services' projects or existing facilities in this area and we have no comments to offer at this time.

If you have any questions, please call me at 586-0400 or your staff may call Mr. Alva Nakamura of the Public Works Division at 586-0488.

Sincerely,

DEAN H. SEKI
Comptroller

c: Mr. Bruce Teramoto, University of Hawaii

WILSON OKAMOTO CORPORATION
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Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
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8272-01
December 20, 2013

Mr. Dean H. Seki, Comptoller
State of Hawaii
Department of Accounting and General Services
P.O. Box 119
Honolulu, Hawai'i 96810-0119

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Mr. Seki:

Thank you for your letter dated October 15, 2013 ((P)1234.3) regarding the subject Draft EA pre-assessment consultation. We appreciate your confirmation that the project does not impact any of the Department of Accounting and General Services' projects or existing facilities in the area and we acknowledge that you have no comments to offer at this time.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawaii

OFFICE OF PLANNING
STATE OF HAWAII

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

NEIL ABERCROMBIE
GOVERNOR

JESSE K. SOUKI
DIRECTOR
OFFICE OF PLANNING

Telephone: (808) 587-2845
Fax: (808) 587-2824
Web: http://planning.hawaii.gov/

Ref. No. P-14162

November 5, 2013

Mr. Milton Arakawa, AICP
Wilson Okamoto Corporation
Artesian Plaza, Suite 400
1907 S. Beretania Street
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

Subject: Pre-Assessment Consultation for the Preparation of an Environmental Assessment (EA) for the Waianae Coast Campus Leeward Community College, Tax Map Key: (1) 8-7-004:041, Maili, Oahu, Hawaii

Thank you for the opportunity to provide comments on the Waianae Coast Campus Leeward Community College project.

We have reviewed the documents you submitted to us by letter dated October 8, 2013, and have the following comments to offer.

1. The entire state is defined to be within the Coastal Zone Management Area, pursuant to Hawaii Revised Statutes (HRS) §205A-1 (definition of "coastal zone management area"). The Draft Environmental Assessment (Draft EA) should include a discussion of the proposed project's ability to meet the objectives and policies set forth in HRS §205A-2.

2. This site development activity may have nonpoint pollution impacts on coastal waters. The applicant should review the Hawaii Watershed Guidance, which provides a summary and links to management measures that may be implemented to minimize coastal nonpoint pollution impact. Specifically, please examine the sections on: "Hawaii's Management Measures, Urban Areas," (page 109). The Watershed Guidance can be viewed or downloaded from the Office of Planning website at http://files.hawaii.gov/dbedt/op/czm/initiative/nonpoint/HI Watershed Guidance Final.pdf.

If you have any questions regarding this comment letter, please contact Josh Hekekia of our Hawaii CZM Program at 587-2845.

Sincerely,

Jesse K. Souki
Director

WILSON OKAMOTO CORPORATION
ENGINEERS · PLANNERS · CONSULTANTS

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Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
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8272-01
December 20, 2013

Mr. Jesse K. Souki, Director
State of Hawai'i
Office of Planning
235 South Beretania Street, 6th Floor
Honolulu, Hawai'i 96813

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Mr. Souki:

Thank you for your letter dated November 5, 2013 (Ref. No. P-14162) regarding the subject Draft EA pre-assessment consultation. We offer you the following response in the order of your comments:

1. The Draft EA shall include a discussion of the proposed project's ability to meet the objectives and policies set forth in HRS Chapter 205A-2.

2. Construction of the proposed project is not anticipated to increase impacts to coastal waters as the proposed project primarily involves interior renovations to an existing building and some exterior renovations and rehabilitation to existing. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, possible utility repairs and upgrades, and portions of additional parking. In the long-term, additional parking areas will need to be constructed. LCC-W will coordinate with the City and County of Honolulu Department of Planning and Permitting on all applicable drainage requirements.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawai'i

NEIL ABERCROMBIE
GOVERNOR

KATHRYN S. MATAYOSHI
SUPERINTENDENT

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

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

October 24, 2013

Mr. Milton Arakawa, AICP, Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

The Department of Education (DOE) is responding to your request for pre-assessment consultation for a Wai`anae Coast Campus Leeward Community College (LCC) in Ma`ili, Oahu.

The DOE would like the Draft Environmental Assessment (DEA) to sufficiently describe the current level of activity at the present Wai`anae Coast Campus LCC. We would like to know how many students are at the campus on most days and how many full and part time staff members are there. That would provide some basis for the DEA estimates of the number of people expected on the proposed LCC campus on a daily basis. The description of current operations should also provide an estimate of the number of cars on site due to campus activities.

The DOE's major concern with the proposed plan is the amount of vehicular traffic that could be brought to the site. The concern is the safety of Ma`ili Elementary students and the impact the proposed activities would have on parking.

Your project summary mentions that classes would not be scheduled to start or end during peak traffic times at Ma`ili Elementary. Some coordination of schedules will reduce traffic congestion, but employees of the campus would most likely have to begin their work day at roughly the same time as the school.

The 28 stalls to be provided in Phase I do not seem sufficient for the variety of daily activities expected on the site. The summary mentions an additional 71 parking stalls in Phase II, but the site plan seems to indicate that's really an additional 17 stalls. Because we are only guessing at the number of people expected on site, that is really difficult to comment on their adequacy. It does seem prudent, however, to provide all of the parking on site in Phase I.

It should also be noted that Ma`ili Elementary does not have sufficient parking for its own activities. Any overflow of LCC traffic cannot be accommodated on the Ma`ili campus.

Ma`ili Elementary School welcomes its new neighbor. The Ma`ili Principal thinks there are many areas for possible collaboration between the schools.

It would be prudent to establish lines of communication between Ma`ili and in the planning phase of your project so that construction traffic, noise and dust considerations can be coordinated when possible around the school calendar.

If you have any further questions, please contact Heidi Meeker of the DOE's Facilities Development Branch at 377-8301.

Respectfully,

Kenneth G. Masden II
Public Works Manager
Planning Section

KGM:jmb

c: Kathryn Matayoshi, Superintendent
Raymond L'Heureux, Assistant Superintendent, OSFSS
Duane Kashiwai, Public Works Administrator, FDB
Ann Mahi, CAS, Nanakuli/Waianae Complex Areas
Disa Hauge, Principal, Ma`ili Elementary

WILSON OKAMOTO CORPORATION
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

8272-01
December 20, 2013

Mr. Kenneth G. Masden II, Public Works Manager
Planning Section
State of Hawai'i
Department of Education
Office of School Facilities and Support Services
P.O. Box 2360
Honolulu, Hawai'i 96804

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Mr. Masden:

Thank you for your letter dated October 24, 2013 regarding the subject Draft EA pre-assessment consultation. In response to your inquiry, the following table shows the existing level of campus activity.

Existing Level of Campus Activity

Day of Week	Time Period	# Students	# Faculty/Staff
Mon.-Thur.	9:00 am – 4:30 pm	100 to 125	10 to 15*
Mon.-Thur.	4:30 pm – 9:00 pm	50 to 125	3 to 4
Fri.-Sat.	9:00 am – 4:30 pm	40 o 80	4 to 10

* 3-4 staff members arrive at 8:00 am

A traffic impact report (TIR) is being prepared and will be incorporated in the forthcoming Draft EA for your review and comment. The University of Hawai'i will continue to work with Mā'ili Elementary regarding the possible collaboration between the two schools to address common interests as well as to coordinate the proposed construction work to reduce impacts to the school.

We would also like to make a correction to your statement regarding the number of available parking stalls at the proposed project site. The plans show a total of 99 parking stalls at complete build-out. Twenty eight stalls are currently planned to serve Phase I of the project. Phase II will provide an additional 71 stalls, not 17 stalls, and we believe it should be sufficient to support the school at full occupancy. However, as the project is considered to be a "public use and structure" under the City and County of Honolulu's

Land Use Ordinance, the Director of Planning and Permitting will determine number of stalls that will be required for the project. In addition to the planned 28 stalls that will be included in Phase I of the project, LCC-W has plans to provide several unimproved, overflow parking options within their designated property boundaries. The number of available stalls has not yet been determined, however, the areas designated for overflow parking will not interfere, impede, or conflict with the vehicular and pedestrian movement patterns planned for the campus. While the University feels that the number of stalls planned should be sufficient enough to serve current and expected students and faculty, this will be monitored to ensure that there are no adverse effects on the neighborhood.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawai'i

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:
13-193
Waianae LCC

October 14, 2013

Mr. Milton Arakawa, AICP
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PREPARATION OF AN ENVIRONMENTAL ASSESSMENT FOR THE WAI`ANAE COAST CAMPUS LEEWARD COMMUNITY COLLEGE MA`ILI, O`AHU, HAWAI`I; TAX MAP KEY: (1) 8-7-004: 041

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your letter dated October 7, 2013. Thank you for allowing us to review and comment on the subject document. The document was routed to DOH's Indoor & Radiological Health Branch. They will provide specific comments to you if necessary. EPO recommends that you review the Standard Comments (www.health.hawaii.gov/epo/ under the land use tab). You are required to adhere to all Standard Comments specifically applicable to this application.

EPO suggests that you examine the many sources available on strategies to support the sustainable design of communities, including the following:
State of Hawaii, Office of Planning: www.planning.hawaii.gov and the new 2013 ORMP;
U.H., School of Ocean and Earth Science and Technology: www.soest.hawaii.edu;
U.S. Environmental Protection Agency's sustainability programs: www.epa.gov/sustainability; and
U.S. Green Building Council's LEED program: www.usgbc.org/leed.

The DOH encourages everyone, to apply these sustainability strategies and principles early in the planning and review of projects. We also request that for future projects you consider conducting a Health Impact Assessment (HIA). More information is available at www.cdc.gov/healthyplaces/hia.htm. We request you share all of this information with others to increase community awareness on sustainable, innovative, inspirational, and healthy community design.

We require a written response confirming receipt of this letter and any other letters you receive from DOH in regards to this submission. You may mail your response to 919 Ala Moana Blvd., Ste. 312, Honolulu, Hawaii 96814. However, we would prefer an email submission to epo@doh.hawaii.gov. We anticipate that our letter(s) and your response(s) will be included in the final document. If you have any questions, please contact me at (808) 586-4337.

Mahalo,

Laura Leialoha Phillips McIntyre, AICP
Manager, Environmental Planning Office

WILSON OKAMOTO CORPORATION

1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

8272-01
December 20, 2013

Ms. Laura Leialoha Phillips McIntyre, AICP
Environmental Planning Office Manager
State of Hawai'i
Department of Health
Environmental Health Administration
919 Ala Moana Blvd., Suite 312
Honolulu, Hawai'i 96814

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Ms. McIntyre:

Thank you for your letter dated October 14, 2013 (13-193 Waianae LCC) regarding the subject Draft EA pre-assessment consultation. We will review your Department's Standard Comments on your website and any comments applicable shall be adhered to during project implementation.

We will also review the sustainable design resources you have provided and will take them into consideration in project design. To the extent feasible, opportunities for energy efficiency and achievement of environmental standards will be pursued as part of the proposed renovation and rehabilitation work.

Your recommendation of conducting a Health Impact Assessment shall be taken into consideration for future University of Hawai'i projects.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. Your office shall be notified when the Draft EA is available for public review. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawai'i

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 6, 2013

Wilson Okamoto Corporation
Attention: Mr. Milton Arakawa, AICP
1907 South Beretania Street, Suite 400
Honolulu, Hawai`i 96826

via email: marakawa@wilsonokamoto.com

Dear Mr. Arakawa,

SUBJECT: Pre-Assessment Consultation for the Preparation of an Environmental Assessment (EA) for the Wai`anae Coast Campus Leeward Community College, Tax Map Key: (1) 8-7-004:041, Ma`ili, O`ahu, Hawai`i

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

At this time, enclosed are comments from (1) Land Division – Oahu District; (2) Engineering Division; and (3) Commission on Water Resource Management. No other comments were received as of our suspense date. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at 587-0439. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 10, 2012

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Pre-Assessment Consultation for the Preparation of an Environmental Assessment (EA) for the Wai`anae Coast Campus Leeward Community College
LOCATION: Tax Map Key: (1) 8-7-004:041; Ma`ili, O`ahu, Hawai`i
APPLICANT: University of Hawai`i Leeward Community College by its consultant Wilson Okamoto Corporation

Transmitted for your review and comment on the above-referenced document.

We would appreciate your comments on this document. Please submit any comments by November 5, 2013. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

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

Signed: _____
Print Name: Tony Choe
Date: 10/14/13

cc: Central Files

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

'13 OCT 11 PM 02:39 ENGINEERING

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 10, 2012

PR

MEMORANDUM

TO:

DLNR Agencies:
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division Oahu District
X Historic Preservation

DEPT. OF LAND & NATURAL RESOURCES STATE OF HAWAII
2013 NOV -1 PM 2:53
RECEIVED
LAND DIVISION

TO

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Pre-Assessment Consultation for the Preparation of an Environmental Assessment (EA) for the Wai`anae Coast Campus Leeward Community College
LOCATION: Tax Map Key: (1) 8-7-004:041; Ma`ili, O`ahu, Hawai`i
APPLICANT: University of Hawai`i Leeward Community College by its consultant Wilson Okamoto Corporation

Transmitted for your review and comment on the above-referenced document.

We would appreciate your comments on this document. Please submit any comments by November 5, 2013. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

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

Signed: _____
Print Name: Carty S. Chang, Chief Engineer
Date: 10/26/13

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji
REF: Pre-Assessment Consultation for the Preparation of an EA for the Waianae Coast Campus
Leeward Community College, Maili
Oahu 018

COMMENTS

( ) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ___.

(X) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone D, an area where flood hazards are undetermined.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

( ) Mr. Mario Siu Li at (808) 768-8098 or Ms. Ardis Shaw-Kim at (808) 768-8296 of the City and County of Honolulu, Department of Planning and Permitting.
( ) Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
( ) Mr. Carolyn Cortez at (808) 270-7813 of the County of Maui, Department of Planning.
( ) Mr. Stanford Iwamoto at (808) 241-4884 of the County of Kauai, Department of Public Works.

(X) The applicant should include water demands and infrastructure required to meet project needs. Please note that State sponsored projects requiring water service from the Honolulu Board of Water Supply system may be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.

(X) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments: _____

( ) Other: _____

Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER
Date: 10/31/13

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON

WILLIAM D. BALFOUR, JR.
KAMANA BEAMER
LORETTA J. FUDDY, A.C.S.W., M.P.H.
MILTON D. PAVAO
JONATHAN STARR
TEO YAMAMURA

WILLIAM M. TAM
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

October 28, 2013

2013 NOV -1 PM 3:45
DEPT OF LAND & NATURAL RESOURCES
RECEIVED
LAND DIVISION

TO: Russell Tsuji, Administrator
Land Division

FROM: William M. Tam, Deputy Director
Commission on Water Resource Management

SUBJECT: CWRM review of Pre-Assessment Consultation for the Preparaton of an Environmental Assessment for the Wai'anae Coast Campus Leeward Community College, Ma'ili, Oahu, Hawaii

FILE NO.: N/A
TMK NO.: (1) 8-7-004:041

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

Our comments related to water resources are checked off below.

☒ 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.

☒ 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.

☐ 3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.

☒ 4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at http://www.usgbc.org/leed. A listing of fixtures certified by the EPA as having high water efficiency can be found at http://www.epa.gov/watersense/.

☒ 5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at http://hawaii.gov/dbedt/czm/initiative/lid.php.

☐ 6. We recommend the use of alternative water sources, wherever practicable.

☒ 7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at http://energy.hawaii.gov/programs/achieving-efficiency/green-business-program

☒ 8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at http://landscapehawaii.org/_library/documents/lich_irrigation_conservation_bmps.pdf

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

Permits required by CWRM:
Additional information and forms are available at http://hawaii.gov/dlnr/cwrm/info_permits.htm.

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

☐ 11. A Well Construction Permit(s) is (are) required before any well construction work begins.

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

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

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

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

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

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

☒ 18. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.

☒ OTHER:

1. Please provide an estimate of the water demands of the project and provide estimates of the flow from the various sources that will fulfill those demands—BWS, new well, restored existing well, restored Tunnel discharge.
2. Pumpage of groundwater from Wai'anae Valley is near the Valley's Sustainable Yield of 3 Mgal/d. Development of new wells or new/restored Tunnel sources may require the Commission to judge between competing uses.

If there are any questions, please contact Paul Eyre at 587-0251.

WILSON OKAMOTO CORPORATION
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

8272-01
December 20, 2013

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

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Mr. Tsuji:

Thank you for your letter dated November 6, 2013 regarding the subject Draft EA pre-assessment consultation. We offer you the following response in the order of your comments:

Land Division – O'ahu District

We acknowledge that your Division has no comments.

Engineering Division:

We appreciate your confirmation that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone D, an area where flood hazards are undetermined. As the University of Hawai'i (UH) proceeds with proposed project, they will provide water demands and calculations to the Engineering Division so that it can be included in the State Water Project Plan Update. We understand that State sponsored projects requiring water service from the Honolulu Board of Water Supply system may be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage. UH will continue to work with the Board of Water Supply as the project moves forward.

Commission On Water Resource Management

- As UH proceeds with the proposed project, they will coordinate with the County to incorporate this project into the County's Water Use and development Plan.
- As mentioned above, as UH proceeds with the proposed project, they will provide water demands and calculations to the DLNR Engineering Division for inclusion in the State Water Project Plan Update.

- Installation of water efficient fixtures and implementation of water efficient practices will be used where appropriate.
- Construction of the proposed project will not involve any major land disturbing activities as the proposed project involves interior renovations to an existing building. Only minimal land disturbing activities are planned such as clearing and grubbing for landscaping purposes, and, possibly utilities. If applicable, excavation and grading activities will be regulated by the County's grading ordinance.
- UH will take into consideration participating in the Hawaii Green Business Program.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawai'i

NEIL ABERCROMBIE
GOVERNOR

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

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

IN REPLY REFER TO:
DIR 1470
HWY-PS 2.5891

October 29, 2013

Mr. Milton Arakawa, AICP
Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

Subject: Pre-Assessment Consultation for the Preparation of an Environmental Assessment (EA) for the Waianae Coast Campus Leeward Community College, Maili, Oahu, TMK: (1) 8-7-004:041

Thank you for consulting with us regarding the subject project. We have the following comments:

1. Prior to the development of the site, applicant shall prepare a Traffic Impact Report for our review and acceptance that discusses and specifies (a) project vehicle access (b) project trip generation and distribution (c) measures to mitigate all project generated traffic.

2. The EA should discuss and evaluate project impacts on our State highway facility, Farrington Highway (State Route #93) during peak hours and school's special events or functions.

3. The EA should discuss (a) construction vehicle/equipment type that will be used at the job site (b) inconvenience to the motoring public, bicyclists, park users and nearby residents during construction (c) dust, odor and noise pollution (d) construction activity hours and project completion date.

If you have any questions, please contact Gary Ashikawa, Systems Planning Engineer, Planning Branch, Highways Division at 587-6336.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

WILSON OKAMOTO CORPORATION
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Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

8272-01
December 20, 2013

Dr. Glenn M. Okimoto, Ph.D.,
Director of Transportation
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813-5097

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Dr. Okimoto:

Thank you for your letter dated October 29, 2013 (DIR 1470 HWY-PS 2.5881) regarding the subject Draft EA pre-assessment consultation. We offer the following responses in the respective order of your comments:

1. A traffic impact report (TIR) is being prepared and will be incorporated in the forthcoming Draft EA for your review and comment.

2. The EA will include a discussion and evaluate project impacts to Farrington Highway during peak hours.

3. The EA will include a discussion on traffic impacts, however, no short-term impacts to the motoring public, bicyclists, park users, and nearby residences are anticipated during the construction of the proposed project. The majority of construction work will be conducted on-site as the proposed project primarily involves interior renovations to an existing building. In addition, all construction parking and staging will be on-site. Construction will take place approximately during the hours of 7:00 AM to 3:30 PM, Monday through Friday, excluding holidays. The EA will include a discussion on dust, odor, and noise pollution.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawai'i

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

November 6, 2013

Mr. Milton Arakawa, AICP
Wilson Okamoto Corporation
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

Subject: Your Letter Dated October 7, 2013 Regarding the Pre-Assessment Consultation for the Preparation of an Environmental Assessment for the Waianae Coast Campus Leeward Community College - Tax Map Key: 8-7-004: 041

Thank you for the opportunity to comment on the Waianae Coast Campus Leeward Community College.

The existing water system is adequate to accommodate the proposed Waianae Coast Campus. 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.

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

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

If you have any questions, please contact Robert Chun at 748-5443.

Very truly yours,

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

WILSON OKAMOTO CORPORATION

1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

8272-01
December 20, 2013

Mr. Ernest Y. W. Lau, P.E.,
Manager and Chief Engineer
City and County of Honolulu
Board of Water Supply
630 South Beretania Street
Honolulu, Hawai'i 96843

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Mr. Lau:

Thank you for your letter dated November 6, 2013 regarding the subject Draft EA pre-assessment consultation. We offer you the following response in the order of your comments:

We appreciate your confirmation that the existing water system should be adequate to accommodate the proposed developed. We also understand this situation is subject to change and the final decision will be confirmed when the building permit application is submitted for approval.

The University of Hawai'i (UH) understands that once water is made available, they will be subject to your Water System Facilities Charges for resource development, transmission, and daily storage.

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

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

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawai'i

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

KIRK CALDWELL
MAYOR

CHRIS T. TAKASHIGE, P.E., CCM
DIRECTOR

MARK YONAMINE, P.E.
DEPUTY DIRECTOR

October 30, 2013

Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Attn: Milton Arakawa

Dear Mr. Arakawa:

Subject: Pre-Assessment Consultation for the Preparation of an Environmental Assessment (EA) for the Waianae Coast Campus Leeward Community College

The Department of Design and Construction has the follow comments to offer on the pre-assessment consultation.

The City owns the adjacent Maili Community Park and is especially interested in the traffic impacts that are anticipated as a result of your project.

Please provide our department a copy of the DEA when it published and keep us apprised of developments.

Thank you for the opportunity to review and comment. Should there be any questions, please contact Clifford Lau, Chief, Facilities Division at 768-8483.

Sincerely,

Chris T. Takashige, P.E., CCM
Director

CTT: cf (533825)

Cc: Department of Parks and Recreation

WILSON OKAMOTO CORPORATION
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Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
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FAX: 808-946-2253
www.wilsonokamoto.com

8272-01
December 20, 2013

Mr. Chris T. Takashige, P.E., CCM, Director
City and County of Honolulu
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, Hawai'i 96813

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Mr. Takashige:

Thank you for your letter dated October 30, 2013 regarding the subject Draft EA pre-assessment consultation.

We acknowledge your concerns regarding the traffic impacts that are anticipated as a result of the proposed project. A Traffic Impact Assessment Report (TIAR) will be prepared and incorporated in the forthcoming Draft EA for your review and comment. The University of Hawai'i will also keep you apprised of future developments regarding the proposed project.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawaii

DEPARTMENT OF PARKS & RECREATION

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • Fax: (808) 768-3053
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

TONI P. ROBINSON
DIRECTOR

JEANNE C. ISHIKAWA
DEPUTY DIRECTOR

October 17, 2013

Milton Arakawa, AICP, Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

SUBJECT: Pre-Assessment Consultation for the Preparation of an Environmental Assessment (EA) for the Waianae Coast Campus Leeward Community College, Maili, Oahu, Hawaii, Tax Map Key: (1) 8-7-004:041

Thank you for your letter dated October 7, 2013, regarding the above-noted project. The Division of Urban Forestry (DUF), Department of Parks and Recreation, has reviewed the project summary and exhibits enclosed with your letter, and are providing the following comments:

1. As no plans were provided to show the existing site conditions such as trees, landscaping, street lights, overhead and underground utilities, sidewalks, property lines etc., and the proposed improvements to support the written portion of the summary, DUF shall provide comments after a review of the Pre-Final Plan submittals.

2. Submit Street Tree Planting Plans for the project to Anthony X. Ching, Chief, Urban Design Branch of the Department of Planning and Permitting, City and County of Honolulu, 615 South King Street, 7th floor, Honolulu, Hawaii 96813, for street tree review and approval.

Should you have any questions, please contact David Kumasaka, Landscape Architect III of DUF, at 971-7151.

Sincerely,

Toni P. Robinson
Director

TPR:ch

cc: David Kumasaka, Division of Urban Forestry
John Reid, Executive Services

DEPARTMENT OF PARKS & RECREATION

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • Fax: (808) 768-3053
Website: www.honolulu.gov

OCT 28 2013

KIRK CALDWELL
MAYOR

TONI P. ROBINSON
DIRECTOR

JEANNE C. ISHIKAWA
DEPUTY DIRECTOR

October 25, 2013

Mr. Milton Arakawa, AICP, Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

SUBJECT: Pre-Assessment Consultation for the Preparation of an Environmental Assessment (EA) for the Waianae Coast Campus Leeward Community College; Tax Map Key: (1) 8-7-004:041; Maili, Oahu, Hawaii

Dear Mr. Arakawa:

We have reviewed the plans for the above-mentioned project and have no comments at this time.

Should you have any questions, please contact Dexter Liu, Leeward Oahu District Manager, at 675-6030.

Sincerely,

Toni P. Robinson
Director

TR:by
(533876)

WILSON OKAMOTO CORPORATION
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Honolulu, Hawaii, 96826 USA
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FAX: 808-946-2253
www.wilsonokamoto.com

8272-01
December 20, 2013

Ms. Toni P. Robinson
Director
Department of Parks and Recreation
City and County of Honolulu
1000 Uluohia Street, Suite 309
Kapolei, Hawai'i 96707

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Ms. Robinson:

Thank you for your letters of October 17 and October 25, 2013 regarding the subject Draft EA pre-assessment consultation.

We will work with the Division of Urban Forestry as details on trees, landscaping, street lights, utilities, and sidewalks are being formulated. Street tree planting plans will also be coordinated with the Department of Planning and Permitting.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawaii

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.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

KIRK CALDWELL
MAYOR

GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2013/ELOG-1956(pl)

October 15, 2013

Mr. Milton Arakawa, AICP
Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

OCT 17 2013

Dear Mr. Arakawa:

SUBJECT: Pre-Consultation for Draft Environmental Assessment for
Waianae Coast Campus Leeward Community College
Maili, Oahu, Hawaii
Tax Map Key: 8-7-04: 41

This is in response to your letter of October 8, 2013, requesting comments on the proposed Waianae Coast Campus Leeward Community College (LCC) relocation to the Tycom Building located at 87-380 Kulaaupuni Street in Maili. The site is in the R-5 Residential District with Maili Elementary School and the Maili Playground (Parcel 42) located to the north and residential homes to the west and south of the site.

For purposes of the Land Use Ordinance we have determined the Waianae Coast Campus LCC to be a "public use and structure" which is a permitted use in the R-5 Residential District. As a "public use and structure" it does not require a Plan Review Use Permit. Further, there are no specific parking requirements for a public use and structure, but rather, parking for a public use and structure will be determined by the Director of the Department of Planning and Permitting. Please be advised, however, that any improvements within the site must comply with the development standards of the R-5 Residential District, i.e. yards, heights, and building area.

For your information, a Conditional Use Permit-Minor (CUP-m) (CUP File No. 2000/CUP-89) for a utility installation, Type B was granted on November 20, 2000 to TYCOM (US), INC. for a fiber optic cable distribution station providing island-wide service. A Zoning Waiver (File No. 2000/W-98, relating to height regulations) was concurrently approved to allow a portion of the building and certain rooftop features to exceed the maximum 25-foot height limit.

Although the utility installation was never operational, the CUP remains valid. Condition D of the CUP Decision and Order requires that:

"D: The applicant and/or landowner shall notify the Director of Planning and Permitting of:

1. Any change in uses of the property;
2. Termination of any uses on the property; and/or
3. Transfer in ownership of the property or any uses on the property.

The Director will then determine the appropriate disposition of this Conditional Use (Minor) and/or zoning waiver, and facilities."

We appreciate the opportunity to review and comment on the project. If you should have any questions, please contact Pat Lee of our staff at 768-8019 or plee@honolulu.gov

Very truly yours,

for George I. Atta, FAICP
Director

GIA:nw

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Honolulu, Hawaii, 96826 USA
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8272-01
December 20, 2013

Mr. George I. Atta, FAICP, Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Mr. Atta:

Thank you for your letter dated October 15, 2013 (2013/ELOG-11956(pl)) regarding the subject Draft EA pre-assessment consultation. We offer you the following responses in the order of your comments:

1. We appreciate your confirmation that the project site is located in the R-5 Residential District.

2. We acknowledge that the project is identified as a "public use and structure" and appreciate your confirmation that the proposed project will not require a Plan Review Use Permit. We understand that there are no specific parking requirements for a public use and structure and that parking will be determined by the Director of Planning and Permitting. The proposed project will also comply with the development standards of the R-5 Residential District, i.e. yards, heights and building areas.

3. Thank you for providing information regarding the existing Conditional Use Permit-Minor (CUP-m) for the project site. Per Condition D of the CUP Decision and Order, the University of Hawai'i shall formally notify the Director of Planning and Permitting of transfer in ownership of the property or any uses on the property once the land transaction is complete. We understand that the Director will then determine the appropriate disposition of the CUP-m and/or zoning waiver, and facilities,

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawai'i

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHAEL D. FORMBY
DIRECTOR

MARK N. GARRITY, AICP
DEPUTY DIRECTOR

TP10/13-534046R

October 30, 2013

Mr. Milton Arakawa, AICP
Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

SUBJECT: Pre-Consultation for Draft Environmental Assessment (DEA)
Waianae Coast Campus Leeward Community College
Map Key (TMK): (1) 8-7-004:041; Maili, Oahu, Hawaii

In response to your letter of October 7, 2013, we have the following comments:

1. The DEA should include a traffic impact assessment report (TIAR). The TIAR should discuss the traffic and pedestrian impacts on the surrounding City roadways as a result of the project, including short-term impacts during construction, proposed mitigating measures, and complete streets concepts.

2. The TIAR should address improvements necessary to provide for vehicular, pedestrian, bicycle, and public transportation circulation between the project location and Farrington Highway.

3. The DEA should provide a traffic management plan to minimize short term traffic impacts during construction.

4. The area Neighborhood Board, as well as the area residents, businesses, etc., should be kept apprised of the details of the proposed project and the impacts, particularly during construction, that the project may have on the adjoining local street area network.

5. A street usage permit from the City's Department of Transportation Services (DTS) should be obtained if work impacts City streets.

6. The DEA should include a description of Public Transit and the impact of your project on Public Transit bus and paratransit operations during construction. Basic information is available on our websites: www.thebus.org and www.honolulu.gov/dts. For more details, you may contact our staff at 768-8370.

7. The DEA should describe paratransit access to campus sites, assuring compliance with the Americans with Disabilities Act (ADA).

8. If the construction affects bus routes, bus stops, or paratransit operations, construction notes should include the following note regarding transit services:

"This project may affect bus routes, bus stops, and paratransit operations, therefore, the Contractor shall notify the Department of Transportation Services, Public Transit Division at 768-8396 and Oahu Transit Services, Inc. (bus operations: 848-4578 or 852-6016 and paratransit operations: 454-5041 or 454-5020) of the scope of work, location, proposed closure of any street, traffic lane, sidewalk, or bus stop and duration of project at least two weeks prior to construction."

We reserve further comment pending submission of the DEA.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,

Michael D. Formby
Director

cc: Mr. Bruce Teramoto
University of Hawaii

WILSON OKAMOTO CORPORATION
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www.wilsonokamoto.com

8272-01
December 20, 2013

Mr. Michael D. Formby, Director
City and County of Honolulu
Department of Transportation Services
650 South King Street, 3rd Floor
Honolulu, Hawai'i 96813

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Mr. Formby:

Thank you for your letter dated September 4, 2013 (TP8/13-526458R) regarding the subject Draft EA pre-assessment consultation. We offer you the following response in the order of your comments:

1. The DEA shall include a Traffic Impact Report (TIR). The TIR will discuss impacts of traffic generated by the proposed project on the surrounding city roadways, including short-term impacts during construction, and proposed mitigating measures. Should any mitigation require physical modification of streets, concepts of complete streets will be considered.

2. No improvements to the surrounding roadways are planned as a part of the proposed project.

3. No short-term traffic impacts are anticipated during the construction of the proposed project. The majority of the construction work will be conducted on-site as the proposed project primarily involves interior renovations to an existing building. In addition, all construction parking and staging will be on-site.

4. The Wai'anae Coast Campus, Leeward Community College will periodically update the Nānākuli-Mā'ili Neighborhood Board and the Wai'anae Coast Neighborhood Board, as well as area residents, businesses, etc., regarding the progress of construction and subsequent operation of the facility.

5. A street usage permit from your department will be obtained if work impacts City streets.

6. No impacts to bus routes, bus stops, or paratransit operations are anticipated during the construction of the proposed project.

7. We will coordinate with your Department regarding paratransit access to the site in compliance with the Americans with Disabilities Act.

8. No impacts to bus routes, bus stops, or paratransit operations are anticipated due to the construction of the proposed project. However, should construction affect bus routes, bus stops, or paratransit operations, construction notes shall include the following note regarding transit services:

   "This project may affect bus routes, bus stops, and paratransit operations, therefore, the contractor shall notify the Department of Transportation Services, Public Transit Division at 768-8396 and O'ahu Transit Services, Inc. (bus operations: 848-4578 or 852-6016 and paratransit operations: 454-5041 or 454-5020) of the scope of work, location, proposed closure of any street, traffic land, sidewalk, or bus stop and duration of project at least two weeks prior to construction."

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawai'i

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

KIRK CALDWELL
MAYOR

MANUEL P. NEVES
FIRE CHIEF

LIONEL CAMARA JR.
DEPUTY FIRE CHIEF

October 23, 2013

OCT 24 2013

Mr. Milton Arakawa, AICP
Project Manager
Wilson Okamoto Corporation
Suite 400, Artesian Plaza
1907 South Beretania Street
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

Subject: Preassessment Consultation for the Preparation of an Environmental Assessment of the Waianae Coast Campus Leeward Community College
Maili, Oahu, Hawaii
Tax Map Key: 8-7-004: 041

In response to your letter of October 7, 2013, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) reviewed the material provided 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 m) 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; Uniform Fire Code [UFC]™, 2006 Edition, Section 18.2.3.2.2)

   A fire department access road shall extend to within 50 ft (15 m) 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; UFC™, 2006 Edition, Section 18.2.3.2.1)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter

constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1; UFC™, 2006 Edition, Section 18.3.1, as amended)

3. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151 or sbratakos@honolulu.gov

Sincerely,

ROLLAND J. HARVEST
Assistant Chief

RJH/SY:bh

WILSON OKAMOTO CORPORATION
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8272-01
December 20, 2013

Mr. Rolland J. Harvest, Assistant Chief
City and County of Honolulu
Honolulu Fire Department
636 South Street
Honolulu, Hawai'i 96813-5007

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Mr. Harvest:

Thank you for your letter dated October 23, 2013 regarding the subject Draft EA pre-assessment consultation. We offer you the following responses in the order of your comments:

1. The fire department access road will be constructed to meet the National Fire Protection Association Uniform Fire Code.

2. A water supply approved by the County, capable of supplying the required fire flow for fire protection, shall be provided to all premises. Should any portion of the building be in excess of 150 feet from a water supply on the fire apparatus access road, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the Authority Having Jurisdiction.

3. The civil drawings for the proposed project will be submitted to the HFD for review and approval.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawai'i

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

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

KIRK CALDWELL
MAYOR

LOUIS M. KEALOHA
CHIEF

DAVE T. KAJIHIRO
MARIE A. McCAULEY
DEPUTY CHIEFS

OUR REFERENCE EO-WS

October 24, 2013

Mr. Milton Arakawa, AICP, Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

This is in response to your letter dated October 7, 2013, requesting comments on the Pre-Assessment Consultation for the Preparation of an Environmental Assessment for the Waianae Coast Campus of Leeward Community College project located in Maili.

The Honolulu Police Department (HPD) anticipates an increase in calls for service during the construction phase of the project due to construction-related dust, noise, and traffic. Any lane closures or arrivals and departures of construction personnel, equipment, and/or materials may cause disruptions to normal traffic patterns. The HPD concurs with the school's plan to have classes scheduled so that they do not interrupt the start and end times of the nearby Maili Elementary School.

The HPD currently has no major concerns at this time regarding the project. However, there may be concerns when the project is completed and faculty and students are in the classrooms. The HPD would like the opportunity to review and comment on the Draft Environmental Assessment when it is released.

If there are any questions, please contact Acting Major Timothy Boswell of District 8 (Kapolei) at 723-8403 or via e-mail at tboswell@honolulu.gov.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By Clayton G. Kau
CLAYTON G. KAU
Assistant Chief
Support Services Bureau

Serving and Protecting With Aloha

WILSON OKAMOTO CORPORATION
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
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8272-01
December 20, 2013

Mr. Louis M. Kealoha, Chief of Police
City and County of Honolulu
Honolulu Police Department
801 South Beretania Street
Honolulu, Hawai'i 96813

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Chief Kealoha:

Thank you for your letter dated October 24, 2013 (EO-WS) regarding the subject Draft EA pre-assessment consultation.

We acknowledge that HPD anticipates an increase in calls for service during the construction phase of the project related to construction-related dust, noise, and traffic. Any lane closures or arrivals and departures of construction personnel, equipment, and/or materials may cause disruptions to normal traffic patterns. A Traffic Impact Assessment Report (TIAR) is being prepared for the proposed project and will be included in the forthcoming Draft EA for your review and comment.

We appreciate your concurrence with the University of Hawai'i's plans to have classes scheduled so that they do not interrupt the start and end times of the nearby Mā'ili Elementary School.

We acknowledge that HPD has not major concerns at this time regarding the proposed project. We understand, however, that HPD may have concerns when the project is completed and faculty and students are in the classrooms. A copy of the Draft EA will be send to HPD once it is made available for public review and comment.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawai'i

HAWAI'IGAS
THE CLEAN ENERGY COMPANY

October 17, 2013

Mr. Milton Arakawa, AICP
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

Subject: Pre-Assessment Consultation for the Preparation of an Environmental Assessment (EA) for the Wai'anae Coast Campus Leeward Community College
Tax Map Key: (1) 8-7-004:041
Ma'ili, O'ahu, Hawai'i

In response to your letter dated October 7, 2013, it has been determined that the area is currently clear of utility gas facilities.

Thank you for the opportunity to review the map. Should there be any questions, or if additional information is desired, please feel free to call Jared Pasalo at 594-5008.

Sincerely,

HAWAI'IGAS

Keith K. Yamamoto
Manager, Engineering

K.K.Y:krs
13-189

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8272-01
December 20, 2013

Mr. Keith Yamamoto, Manager, Engineering
Hawai'i Gas
P.O. Box 3000
Honolulu, Hawai'i 96802-3000

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Mr. Yamamoto:

Thank you for your letter dated October 17, 2013 regarding the subject Draft EA pre-assessment consultation. We appreciate your confirmation that the area is currently clear of utility gas facilities.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawaii

Hawaiian Electric Company. • PO Box 2750 • Honolulu, HI 96840

November 25, 2013

Mr. Milton Arakawa, AICP
Wilson Okamoto Corporation
1907 South Beretania St Suite 400
Honolulu, Hawaii 96826

Dear Mr. Arakawa:

Subject **Pre-Assessment Consultation Draft Environmental Assessment for the Wai'anae Coast Campus Leeward Community College.**
TMK: 8-7-004:041, Ma'ili, Hawai'i

Thank you for the opportunity to comment on the subject project. Hawaiian Electric Company has no objections to the project. Should HECO have existing easements and facilities on the subject property, we will need continued access for maintenance of our facilities.

We appreciate your efforts to keep us apprised of the subject project in the planning process. As the Wai'anae Coast Campus Leeward Community College project comes to fruition, please continue to keep us informed. Further along in the design, we will be better able to evaluate the effects on our system facilities.

If you have any questions, please call Rouen Liu at 543-7245.

Sincerely,

Rouen Q. W. Liu
Permits Engineer

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8272-01
December 20, 2013

Mr. Rouen Q. W. Liu, Permits Engineer
Hawaiian Electric Company
P.O. Box 2750
Honolulu, Hawai'i 96840

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Mr. Liu:

Thank you for your letter dated November 25, 2013 regarding the subject Draft EA pre-assessment consultation. We acknowledge that you have no objections to the project. Should HECO have existing easements and facilities on the subject property, the University will continue to work with HECO to ensure continued access for maintenance purposes. In addition, the University will continue to keep HECO apprised of the project and will submit electrical plans to your office so that you may further evaluate the effects of the project on your system facilities.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA. We appreciate your participation in the pre-assessment consultation review process.

Sincerely,

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawaii

APPENDIX C

Neighborhood Board Pre-Assessment Consultation Meeting Summaries

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8272-01
December 4, 2013

PRE-ASSESSMENT CONSULTATION MEETING SUMMARY

SUBJECT: Wai'anae Coast Campus, Leeward Community College
Nānākuli-Mā'ili Neighborhood Board Meeting

MEETING DATE: November 19, 2013

MEETING LOCATION: Nanaikapono Elementary School Cafeteria

MEETING SUMMARY:

A presentation was given at the November 19, 2013 Nānākuli-Mā'ili Neighborhood Board meeting to apprise the Board members and community of the University of Hawai'i's (UH) intent to prepare a Draft Environmental Assessment (EA) to relocate the existing Wai'anae Coast Campus, Leeward Community College (LCC-W) to the former Tycom Building in Mā'ili.

Several concerns were raised by both the Board members and the community and included the following:

Transportation to the Campus:

- It was mentioned that there is no bus stop near the new location. Therefore, there may be a need for more parking stalls as there may be more students driving. It also may make it difficult for the kupuna (senior citizens) to get to and from the campus.
- There were earlier discussions regarding having a shuttle from Farrington Highway to the new campus via St. John's Road. It was felt that St. John's Road is too narrow for the regular City bus, but wide enough for the Handi-Van. It was requested that a status update regarding the shuttle be provided to the Board.

Response: *In addition to the planned 28 stalls that will be included in Phase I of the project, LCC-W has plans to provide several unimproved, overflow parking options within their designated property boundaries. The number of available stalls has not yet been determined, however, the areas designated for overflow parking will not interfere, impede, or conflict with the vehicular and pedestrian movement patterns planned for the campus. UH is also currently in discussions regarding having a shuttle run from Farrington Highway to the new campus. UH will update the Board once a final decision has been made.*

Student Services

- It was noted that there is a lack of eating facilities for the students. Without dining options at the new location, it may create traffic at off-peak times should students need to leave to purchase food and then return to campus for the remainder of their classes.

Response: *Food service will be provided at the new campus and may include a variety of vending machines and food trucks available at lunch time. The peak time for students to leave campus would be between the hours of 11:45 am and 1:15 pm. Students also have the option to brown bag their food from home. A microwave and a refrigerator will be available for use in the student lounge. There is also the possibility that once the culinary arts program has been established, there could be a partnership with the program to provide another food option for the students.*

Impacts on Wai'anae Town

- It was felt that moving the campus to Mā'ili will create a loss of economic activity in Wai'anae.
- It was suggested that LCC-W should help to find tenants to replace them at their existing location.
- It was also suggested that Phase II should be constructed first while the current facility continues to operate as is.
- It was felt that LCC-W missed an opportunity to purchase a 5-acre site near their current location.

Response: *The purpose for relocating LCC-W is to provide the school with more space to better serve current and future students, as well as give the school a permanent home. UH currently does not have the funding resources available to operate the current location and buy/renovate the proposed project site to operate Phase II at the same time. Furthermore, when the 5-acre parcel near the current location was available, UH did not have the funding resources to purchase the property.*

Majority of the community and the Board members were in support of the project. The Board also took the position to unanimously support the process of moving LCC-W to the former Tycom Building.

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8272-01
December 20, 2013

Ms. Cynthia Rezentes, Chair
and Members of the Nānākuli - Māʻili Neighborhood Board No. 36
c/o Neighborhood Commission Office
530 S. King Street, Room 406
Honolulu, Hawaii 96813

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Waiʻanae Coast Campus, Leeward Community College
Māʻili, Oʻahu, Hawaiʻi
TMK (1) 8-7-004:041

Dear Chair Rezentes and Members:

Thank you for allowing us the time to present the proposed plans for the Waiʻanae Coast Campus, Leeward Community College (LCC-W) at the Board's meeting of November 19, 2013. The presentation was done as part of the pre-assessment consultation phase of the Environmental Assessment (EA) process.

Although the LCC-W has been in its current leased location adjacent to the Waiʻanae Mall for over 20 years, the need and demand for the services which LCC-W provides has increased significantly over the years resulting in overcrowded facilities. Presently, LCC-W can only offer a 2 year liberal arts curriculum to students at the facility. In addition, there is a need for career and workforce development programs to serve the educational needs of the Leeward Coast. We believe that the new facility at the Tycom Building has the available land and space to meet these needs.

While we understand the concern that moving LCC-W to Māʻili may cause a void in the vacated space and adjacent area, please understand that the new facility is intended to serve interested students along the entire Leeward Coast from Kahe to Kaʻena. Moreover, the new facility will be able to serve more students who have a greater variety of interests. We also understand that there may be concerns with the new location such as the distance from the nearest bus stop and lack of food options at the site. Possible use of a shuttle bus between Farrington Highway and the campus, or implementation of more on-site parking may be options to address distance from the highway. Scheduling of food trucks and/or on-site vending machines to provide food options for the students and faculty may be other options. LCC-W intends to continue to be a good neighbor within the Leeward Coast community and these concerns will be monitored closely.

We certainly appreciate the Board and members of the Leeward Coast community addressing problems and issues with us. LCC-W understands your concerns and has a mutual incentive to address potential issues should they arise. If there are any questions or if additional information is needed, please feel free to call me at 946-2277.

Sincerely:

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawaiʻi

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8272-01
December 4, 2013

PRE-ASSESSMENT CONSULTATION MEETING SUMMARY

SUBJECT: Wai'anae Coast Campus, Leeward Community College
Wai'anae Coast Neighborhood Board Meeting

MEETING DATE: December 3, 2013

MEETING LOCATION: Wai'anae District Park – Multi-Purpose Room

MEETING SUMMARY:

A presentation was given at the December 3, 2013 Wai'anae Neighborhood Board meeting to apprise the Board members and community of the University of Hawai'i's (UH) intent to prepare a Draft Environmental Assessment (EA) to relocate the existing Wai'anae Coast Campus, Leeward Community College (LCC-W) to the former Tycom Building in Mā'ili.

Several concerns were raised by the Board members and included the following:

Project Site Alternatives:

- There was concern regarding whether the availability of the 5-acre Halewai Vista property had become available before or after the decision to relocate LCC-W.
- It was suggested that the Tycom Building should be converted into a gymnasium for Mā'ili Elementary School which is currently overcrowded.
- It was expressed that the campus should stay in its current location. Suggestions for making the current site viable included modifying the current building to be three stories high.
- It was suggested that the University of Hawai'i (UH) speak to Alexander & Baldwin (A&B), who are the new owners of Wai'anae Mall, regarding buying and/or leasing space there for the campus.
- There was concern regarding a recent news article in which the Board of Regents put a hold on all UH project and how it affected this project in particular.

Response: *When the Halewai Vista property was for sale, UH did not have the financial resources to purchase the property. Staying at the current property would also be costly. Should UH decide to purchase only the building and not the entire property, they would need to subdivide the parcel and also establish legal access to Farrington Highway. This would be costly and far exceed their available funding resources. In addition, UH previously had the building appraised, however, the asking price by the owner exceeded the appraised value. UH, being a State entity, cannot purchase property for more than the appraised value. Should UH decide to purchase the entire property, they would gain the responsibility of managing the other tenants on the property. If they then decide to expand the campus, they may face the difficulty of having to displace the current tenants.*

In the past, UH had spoken to the former owners of the Wai'anae Mall regarding buying a space for the campus at the mall. However, the owners at that time were not interested in selling space, and only wanted to rent. UH has not spoken to the new owners of Wai'anae Mall, but it is something they are willing to look into.

Student Services

- It was noted that there is a lack of eating/drinking facilities for the students and that perhaps a café should be included.
- It was thought that the automotive shop being proposed at LCC-W would replace the current program offered at Pearl City due to the rail project.
- It was felt that as student attendance is already an issue at the elementary and intermediate school levels, how will UH address the attendance problem.

Response: *Food/drink service will be provided at the new campus and may include a variety of vending machines and food trucks available at lunch time. Students also have the option to brown bag their food from home. A microwave and a refrigerator will be available for use in the student lounge. There is also the possibility that once the culinary arts program has been established, there could be a partnership with the program to provide another food option for the students.*

The automotive shop at LCC-W will not replace the current program offered at Pearl City due to rail. Rail will not be affecting the current program and the LCC-W program would be an extension of the current program offered.

Regarding student attendance issues at the elementary and intermediate school levels, there is significant potential for partnership with Mā'ili Elementary School to provide mentoring between community college students and elementary students. This may have a long-term effect of helping to address attendance by providing positive role models for the children.

Impacts on Wai'anae Town

- It was felt that moving the campus will take away business away from the surrounding businesses. Students from the school create a constant source of business for the area.

Response: *The purpose for relocating LCC-W is to provide the school with more space to better serve current and future students, as well as give the school a permanent home.*

Community Outreach

- It was felt that community was not informed of the proposed project.
- The Board requested that a formal letter, on University of Hawai'i letterhead, be sent out to the community, notifying them of the project.

Response: *The LCC-W Community Advisory Board has met annually since 2009. Purchase of a permanent campus and possible relocation has been on the agenda at each meeting.*

Students have been informed at various points in time over the past four years about the potential move to the Mā'ili site, most recently during the development of a Long Range Development Plan process in 2012-2013 in which they were asked to provide input.

The LCC-W Coordinator has attended the Education Committee meetings of the Wai'anae Neighborhood Board in previous years and informed the Committee Chair about the potential move to the Mā'ili site. In addition, the Education Committee Chair was present at the LCC-W Community Advisory Board meeting in July 2012 when the purchase of the Tycom Building was discussed at length.

Community members who testified were in support of the proposed project and felt that it was about time that the campus expanded as LCC-W needs more room to allow for continued growth. They expressed that this is a good thing for the school and it will provide the school a permanent home.

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8272-01
December 20, 2013

Ms. Johnnie Mae Perry, Chair
and Members of the Wai'anae Coast Neighborhood Board No. 24
c/o Neighborhood Commission Office
530 S. King Street, Room 406
Honolulu, Hawaii 96813

Subject: Pre-Assessment Consultation
Draft Environmental Assessment (EA) for the
Wai'anae Coast Campus, Leeward Community College
Mā'ili, O'ahu, Hawai'i
TMK (1) 8-7-004:041

Dear Ms. Perry and Members:

Thank you for allowing us the time to present the proposed plans for the Wai'anae Coast Campus of Leeward Community College (LCC-W) at the Board's meeting of December 3, 2013. The presentation was done as part of the pre-assessment consultation phase of the Environmental Assessment (EA) process.

Although the LCC-W has been in its current leased location adjacent to the Wai'anae Mall for over 20 years, the need and demand for the services which LCC-W provides has increased significantly over the years resulting in overcrowded facilities. Presently, LCC-W can only offer a 2 year liberal arts curriculum to students at the facility. In addition, there is a need for career and workforce development programs to serve the educational needs of the Leeward Coast. We believe that the new facility at the Tycom Building has the available land and space to meet these needs.

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We certainly appreciate the Board and members of the Wai'anae Coast community addressing problems and issues with us. LCC-W understands your concerns and has a mutual incentive to address potential issues should they arise. If there are any questions or if additional information is needed, please feel free to call me at 946-2277.

Sincerely:

Milton Arakawa, AICP
Project Manager

cc: Mr. Bruce Teramoto, University of Hawai'i

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