October 06, 2022

Mary Alice Evans, Director
Office of Planning and Sustainable Development
Environmental Review Program
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Dear Ms. Evans:

Subject: Hilo Medical Center New Medical Office Building Draft Environmental Assessment and Anticipated Finding of No Significant Impact, TMK (3rd): 2-3-031:019 and 2-3-032:009 TMK (3rd.) South Hilo District, Hawai'i Island

The Draft EA (DEA) assesses the potential effects of constructing and operating the proposed project. Hilo Medical Center, as the proposing and approving agency, anticipates that the proposed action is not likely to have a significant effect and therefore is issuing a notice of an Anticipated Finding of No Significant Impact, subject to the public review provisions of HAR Section 11-200.1-20. Please publish a notice of the DEA and AFONSI in the next edition of The Environmental Notice. Please contact me at 808-932-3111 if you have any questions.

We are also providing a pdf copy of the Draft EA, the action summary, significance criteria, and other required information via the Environmental Notice online submittal platform. Please contact our project consultant, Ron Terry of Geometrician Associates, at (808) 969-7090, if you have any questions concerning the submittal.

Sincerely,

Lisa Shiroma
Chief Administrative Officer
East Hawaii Region
lshiroma@hhsc.org
808-932-3111 (office)
Enclosures as noted above

cc: Dan Brinkman, East Hawaii Region CEO (w/o enclosures)
Ron Terry, Ph.D., Project Environmental Consultant (w/o enclosures

From: webmaster@hawaii.gov
To: DBEDT OPSD Environmental Review Program
Subject: New online submission for The Environmental Notice
Date: Sunday, October 9, 2022 7:15:56 AM

Action Name

Hilo Medical Center New Medical Office Building

Type of Document/Determination

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

HRS §343-5(a) Trigger(s)

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

Judicial district

South Hilo, Hawaiʻi

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

(3) 2-3-031:019 and (3) 2-3-032:009

Action type

Agency

Other required permits and approvals

Hawaiʻi County Building Division Approval Hawaiʻi County Planning Department Plan Approval Hawaiʻi State Department of Health Underground Injection Control Permit

Proposing/determining agency

Hilo Medical Center, Hawaii Health Systems Corporation

Agency contact name

Lisa Shiroma

Agency contact email (for info about the action)

lshiroma@hhsc.org

Email address or URL for receiving comments

lshiroma@hhsc.org

Agency contact phone

(808) 987-4826

Agency address

1190 Waianuenue Avenue
Hilo, HI 96720
United States
Map It

Was this submittal prepared by a consultant?

Yes

Consultant

GEOMETRICIAN ASSOCIATES, LLC

Consultant contact name

Ron Terry

Consultant contact email

rterry@hawaii.rr.com

Consultant contact phone

(808) 969-7090

Consultant address

10 HINA STREET
Hilo, HI 96720-2005
United States
Map It

Action summary

Hilo Medical Center proposes a new 2-story, 18,750 sf Medical Office Building on its campus. Design includes multiple exam rooms, provider offices, procedure rooms, two check-in/check-out/waiting areas, and various storage, janitorial, elevator, stairs and other spaces. The architectural style follows the “New Formalism” style of contemporary healthcare buildings. The total parking area on the campus is expected to be sufficient to accommodate existing and future users. This addition is essential to enhance medical services with up to 75 new healthcare and increase efficiency and address rural health clinic regulations. No sensitive biological, hydrological, archaeological, cultural or other resources are present on the cleared, paved property.

Reasons supporting determination

Chapter 11-200.1-13, Hawaiʻi Administrative Rules, outlines those factors agencies must consider when determining whether an Action has significant effects:

(a) In considering the significance of potential environmental effects, agencies shall consider and evaluate the sum of effects of the proposed action on the quality of the environment.

(b) In determining whether an action may have a significant effect on the environment, the agency shall consider every phase of a proposed action, the expected impacts, and the proposed mitigation measures. In most instances, an action shall be determined to have a significant effect on the environment if it may:

1. Irrevocably commit a natural, cultural, or historic resource. No valuable natural or cultural resource would be committed or lost at the fully paved project site through construction and use of additional medical facilities at Hilo Medical Center.

2. Curtail the range of beneficial uses of the environment. Only a small parking area would be affected, and no restriction of beneficial uses would occur.

3. Conflict with the State’s environmental policies or long-term environmental goals established by law. The State’s long-term environmental policies are set forth in Chapter 344, HRS. The broad goals of this policy are to conserve natural resources and enhance the quality of life. The project is minor, environmentally beneficial, and fulfills aspects of these policies calling for an improved social environment. It is thus consistent with all elements of the State’s long-term environmental policies.

4. Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the

community and State. The project would improve the social welfare of the community and State by improving medical treatment for the Big Island community and the State of Hawaiʻi.

5. Have a substantial adverse effect on public health. The project would affect public health and safety in only beneficial ways by providing expanded, improved and more efficient medical care for the Big Island community and the State of Hawaiʻi.

6. Involve adverse secondary impacts, such as population changes or effects on public facilities. No adverse secondary effects are expected to result from the proposed action, which would simply provide a facility to improve medical care at Hilo Medical Center.

7. Involve a substantial degradation of environmental quality. The project is minor and environmentally benign, and thus it would not contribute to environmental degradation.

8. Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions. Various reasonably foreseeable projects are present in the general area. Operational traffic from each of these projects has the potential to interact with that from the Medical Office Building. Although there is a potential to increase traffic 2-3 percent above future estimated levels without the project, the total traffic is expected to be within the capacity of the system to absorb it, with no significant effects. Due to the various factors including distance and resource health, only the two projects located on the HMC campus have any potential to interact with the impacts of the Medical Office Building for the resource areas of traffic, noise, air quality and scenery during the construction phase. HMC officials will be able to coordinate tasks to ensure that if there is schedule overlap, minimal disruption to traffic and staging logistics and parking will occur. Nearly all permanent impacts from the proposed project are so small as to be negligible, with no measurable effects on ecosystems or rare species; erosion, sedimentation and water quality, historic properties, noise or air quality, and most other measures.

9. Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat. The project site is a small, paved area with no natural vegetation or habitat. Impacts to rare, threatened or endangered species of flora or fauna will not occur.

10. Have a substantial adverse effect on air or water quality or ambient noise levels. No adverse effects on these resources would occur. Mitigation of construction-phase impacts will preserve water quality receptors in the vicinity. Hilo Medical Center will ensure that the construction contractor consults with the Department of Health. If applicable, Hilo Medical Center will obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction that may include various mitigation measures for construction noise.

11. Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters. Although the project is located in an area with volcanic and seismic risk, the entire Island of Hawaiʻi shares this risk, and the project is not imprudent to construct. There is only minimal flood hazard in this area.

12. Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies. No scenic vistas and viewplanes will be adversely affected by the project.

13. Require substantial energy consumption or emit substantial greenhouse gases. Negligible amounts of energy input and greenhouse gas emissions would be required for construction and occupation of the facility. The facility would meet or exceed all applicable commercial building energy efficiency standards. The building was designed using the 2018 International Energy Conservation Code. Reduction of the building’s carbon footprint is achieved by increasing the R value of all exterior walls and roof, and by increasing the solar heat gain coefficient of all the windows. A commercial grade weather-barrier will be installed to all exterior walls to control air leakage into and from the interior of the building. HVAC equipment performance is very efficient with multiple-zone controls and automatic off-hour thermostat

controls. All ducts, plenums and piping will be insulated. All lighting will have high efficacy lamps, and occupancy sensors will be installed in all rooms. Exterior lighting is minimal and mostly used for path finding and safety.

Attached documents (signed agency letter & EA/EIS)

- AFONSI-Letter-v.-1-HMC-New-Medical-Office-Building.pdf
- Draft-EA-Hilo-Medical-Center-New-Medical-Office-Building.pdf

Action location map

- HMC-Medical-Office-Building-Location.zip

Authorized individual

Ron Terry

Authorization

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

DRAFT ENVIRONMENTAL ASSESSMENT

Hilo Medical Center New Medical Office Building

TMKs (3rd): 2-3-031:019 and 2-3-032:009
Pi‘ihonua, South Hilo District, Hawai‘i Island, State of Hawai‘i

October 2022

Prepared for:

Hilo Medical Center
Hawaii Health Systems Corporation
1190 Waianuenue Avenue
Hilo, Hawai‘i 96720

DRAFT ENVIRONMENTAL ASSESSMENT

Hilo Medical Center New Medical Office Building

TMKs (3rd): 2-3-031:019 and 2-3-032:009
Pi‘ihonua, South Hilo District, Hawai‘i Island, State of Hawai‘i

PROPOSING/
APPROVING AGENCY:

Hilo Medical Center
Hawaii Health Systems Corporation
1190 Waianuenue Avenue
Hilo, Hawai‘i 96720

CONSULTANT:

Geometrician Associates LLC
10 Hina Street
Hilo, Hawai‘i 96720

CLASS OF ACTION:

Use of State Land and State Funds

This document is prepared pursuant to:

The Hawai‘i Environmental Protection Act,
Chapter 343, Hawai‘i Revised Statutes (HRS), and
Title 11, Chapter 200.1, Hawai‘i Department of Health Administrative Rules (HAR).

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APPENDIX 2 Traffic Impact Assessment Report

SUMMARY OF THE PROPOSED ACTION
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Hilo Medical Center (HMC), a State agency, seeks to build a new Medical Office Building on TMK 2-3-032:009, on Waianuenue Avenue. The two-story, 18,750-square foot building would be located adjacent to the new Hawaii Pacific Oncology Center Addition and Rural & Telehealth Center Unit (HPOCA-RHTC) building, which is currently finishing in construction on TMK 2-3-031:0019. The two parcels will be consolidated into one to meet setback requirements. Current design includes multiple exam rooms, provider offices, procedure rooms, two check-in/check-out/waiting areas, and various storage, janitorial, elevator, stairs and other spaces. The medical office building would connect to the HPOCA-RHTC building via an enclosed bridge on the second story. The architectural style follows the "New Formalism" style of contemporary healthcare buildings. It is a self-contained, freestanding block, with visually simple exterior elevations, glazing where appropriate for function and aesthetics, and a level skyline. Landscaping will be installed per County regulations within the front yard setback between the north face of building and Waianuenue Avenue, in addition to supplemental landscaping within a plaza space. The total parking area is expected to be sufficient to accommodate existing and future users. During construction, approximately 40 spaces will be temporarily unavailable in order to accommodate staging. The parking spaces lost during construction will be restored after the building is complete.

A medical office building that is on the HMC campus and adjacent to existing support and procedural infrastructure such as surgical suites, lab and radiology services is essential to enhance medical services and increase efficiency. This project also helps address rural health clinic regulations that require all clinics to be at one certified address. The project will provide space for up to 75 new healthcare jobs including physicians, registered nurses, medical assistants, LPNs, nurse practitioners, physician assistants, housekeepers and clerical support staff.

No sensitive biological, hydrological, archaeological, cultural or other resources are present on the cleared, paved property. In the highly unlikely event archaeological resources are encountered during land-altering activities associated with construction, work in the immediate area of the discovery will be halted and the State Historic Preservation Division will be contacted. The only sensitive noise receptors in the vicinity are associated with nearby medical center and rehabilitation center uses. Hilo Medical Center will ensure that the construction contractor consults with the Department of Health. If applicable, Hilo Medical Center will obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction that may include various mitigation measures for construction noise.

PART 1: PROJECT DESCRIPTION, PURPOSE AND NEED AND ENVIRONMENTAL ASSESSMENT PROCESS

1.1 Project Description and Location

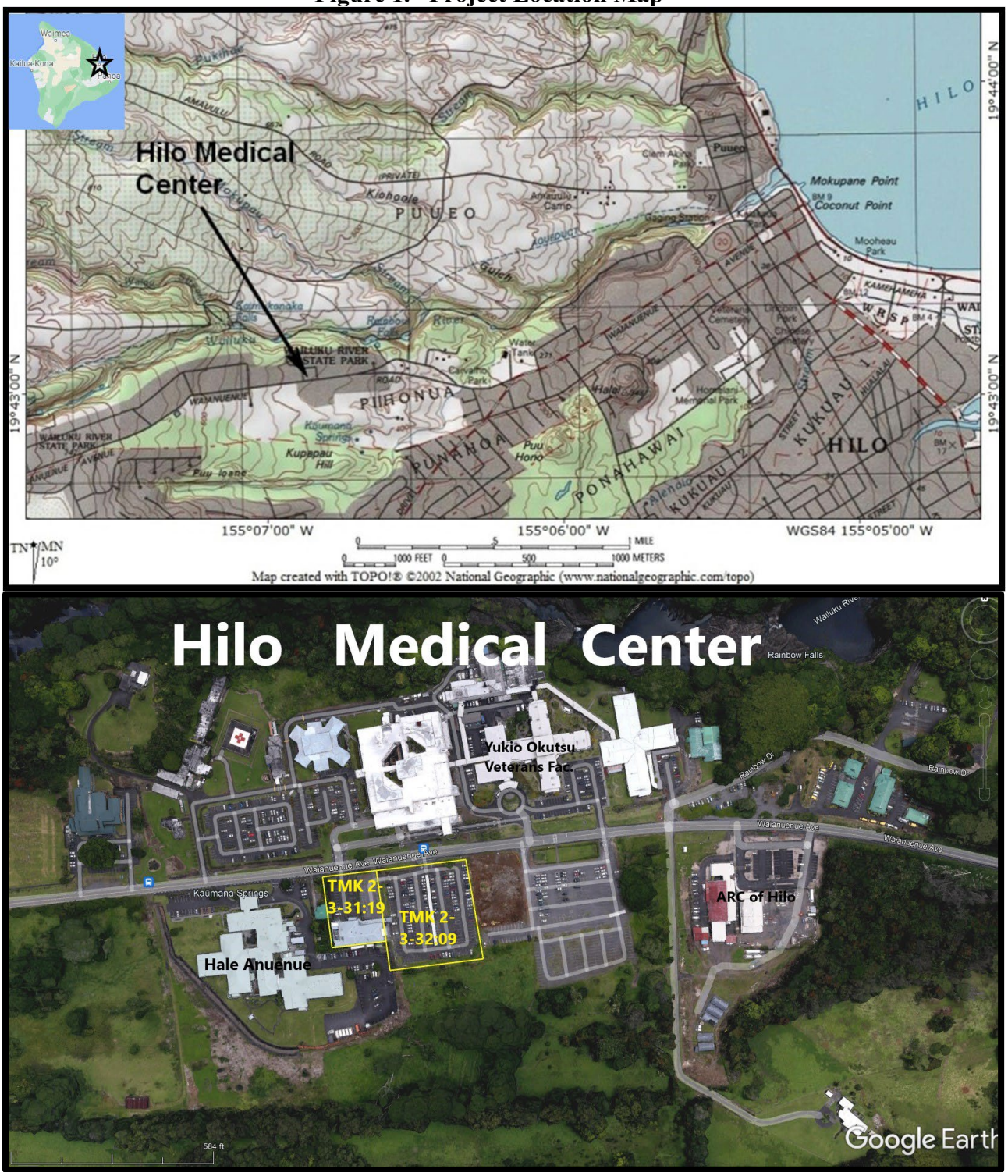
Hilo Medical Center (HMC), a State agency, seeks to build a new Medical Office Building on TMK 2-3-032:009, on Waianuenue Avenue. The two-story, 18,750-square foot building would be located adjacent to the new Hawaii Pacific Oncology Center Addition and Rural & Telehealth Center Unit (HPOCA-RHTC) building, which is currently finishing construction on TMK 2-3-031:0019 (Figures 1 &3). The two parcels will be consolidated into one to meet setback requirements. A surveyor has prepared a draft map that will be submitted when final to the Hawai‘i County Planning Department as part of the request for consolidation.

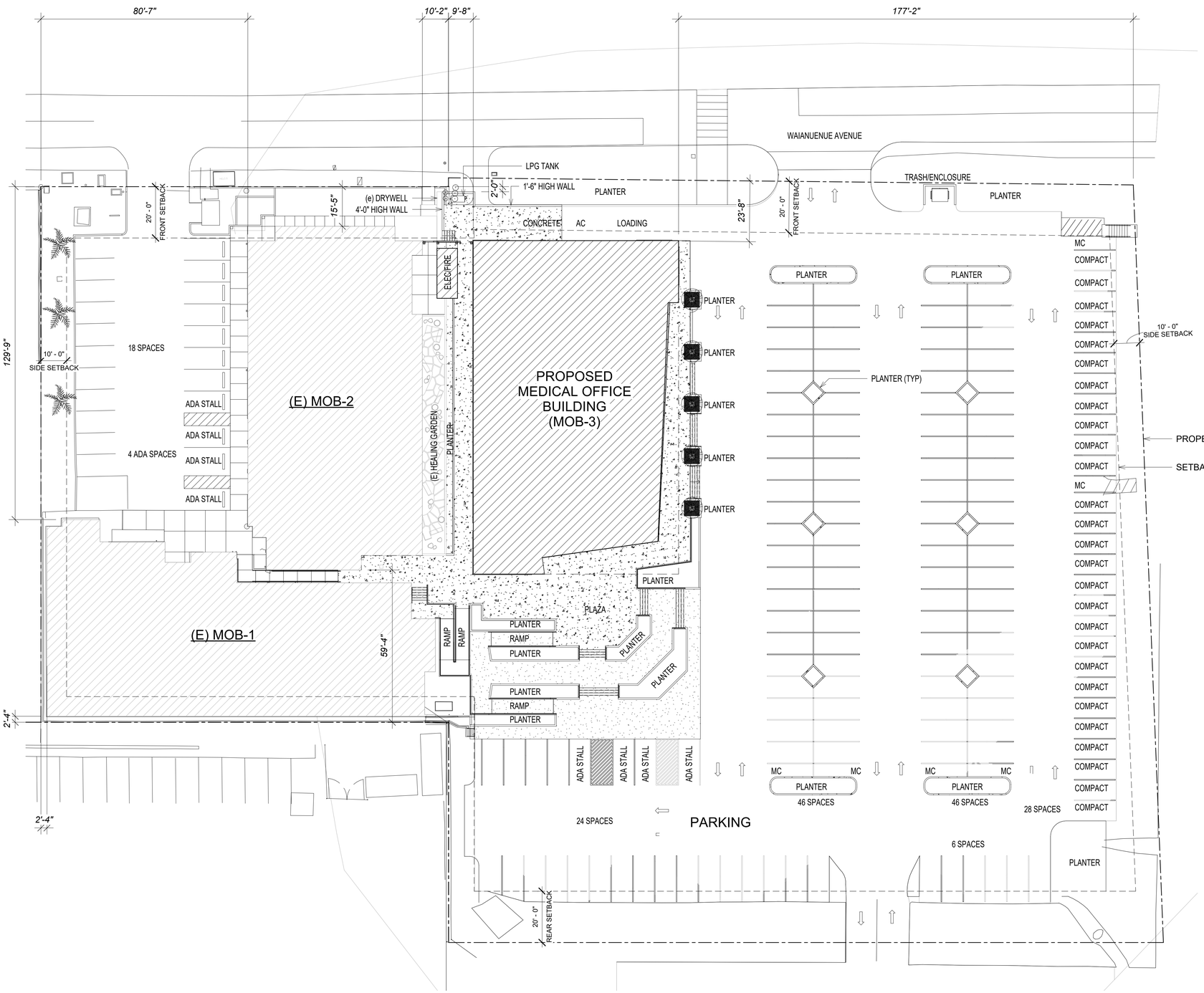
The proposed project site presently supports asphalt paved parking being utilized as a contractor staging area for the HPOCA-RHTC project. As illustrated in the preliminary Site Plans in Figure 2, the two-story building would generally match the appearance of other facilities at the HMC campus in scale, proportion and use of color and materials. Final design is ongoing, but the current layout includes 32 exam rooms, 8 provider offices, 4 procedure rooms, 2 check-in/check-out/waiting areas, and various storage, janitorial, elevators, stairs and other spaces. The medical office building would connect to the HPOCA-RHTC building via an enclosed bridge on the second story. The architectural style follows the “New Formalism” style of contemporary healthcare buildings. It is a self-contained, freestanding block, with visually simple exterior elevations, glazing where appropriate for function and aesthetics, and a level skyline. Wall surfaces are smooth with ornamentation mostly in the form of colored surfaces and patterned metal screens and metal panels. Landscaping will be installed per County regulations within the front yard setback between the north face of building and Waianuenue Avenue, in addition to supplemental landscaping within a plaza space.

The current properties for the proposed Medical Office Building and HPOCA-RHTC building contain a total of 224 parking spaces, a number of which are currently unavailable because of construction and staging. Forty-three spaces will permanently be taken up by the new building, leaving a total of 175 standard spaces and 6 ADA spaces. Parking is not separated by unit within Hilo Medical Center, and so these spaces can be shared by workers, outpatients, visitors and service vehicles in other areas of the medical center. The total parking area is expected to be sufficient to accommodate existing and future users. During construction of the Medical Office Building, approximately 40 spaces will once again be temporarily unavailable in order to accommodate staging. The parking spaces lost during construction will be restored after the building is complete. In the interim, the temporary loss of parking will be compensated for by adjacent HMC parking, including a lot built in 2007 *makai* of the main HMC parking lot, where there is adequate space.

The cost of the improvements, which are scheduled to begin in 2023 and be complete by late 2025 or early 2026, is estimated at $20 million.

Figure 1. Project Location Map





1 EXISTING / NEW SITE PLAN
1" = 20'-0"

ZONING ANALYSIS

RS-10
FRONT / REAR SETBACK: 20'-0"
SIDE SETBACK: 10'-0"
HEIGHT: 35'-0"

EXISTING MOB-1

1ST FLOOR	=	8,865 SQ FT
2ND FLOOR	=	8,736 SQ FT
TOTAL	=	17,601 SQ FT

EXISTING MOB-2

1ST FLOOR	=	8,355 SQ FT
2ND FLOOR	=	8,940 SQ FT
TOTAL	=	17,295 SQ FT

PROPOSED MOB-3

1ST FLOOR	=	9,100 SQ FT
2ND FLOOR	=	9,650 SQ FT
TOTAL	=	18,750 SQ FT

MOB-1	=	17,601 SQ FT
MOB-2	=	17,295 SQ FT
MOB-3	=	18,750 SQ FT
TOTAL	=	53,646 SQ FT

REQUIRED:
53,646 / 300 = 179 PARKING SPACES

PROPOSED:
STANDARD STALLS: 131
COMPACT STALLS: 27
ADA STALLS: 8
MOTORCYCLE STALLS: 6
TOTAL STALLS: 172

FLEMING &
Associates, LLC
557 MANONO STREET
HILO, HAWAII

SCOTT E. FLEMING
LICENSED PROFESSIONAL ARCHITECT
No. 11441
HAWAII, U.S.A.

EXP. DATE: 04/30/2024

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE MADE UNDER MY OBSERVATION AS SPECIFIED IN HAWAII REVISED CHAPTER 16-115 OF THE HAWAII ADMINISTRATIVE RULES, DEPT. OF COMMERCE AND CONSUMER AFFAIRS, ENTITLED PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS, AND LANDSCAPE ARCHITECTS.

HILO MEDICAL CENTER
MEDICAL OFFICE BUILDING

1285 WAIANUENUE AVENUE
HILO, HAWAII, 96720
TAX MAP KEY: (3) 2-3-031: 019

CONSULTANT:

REVISIONS

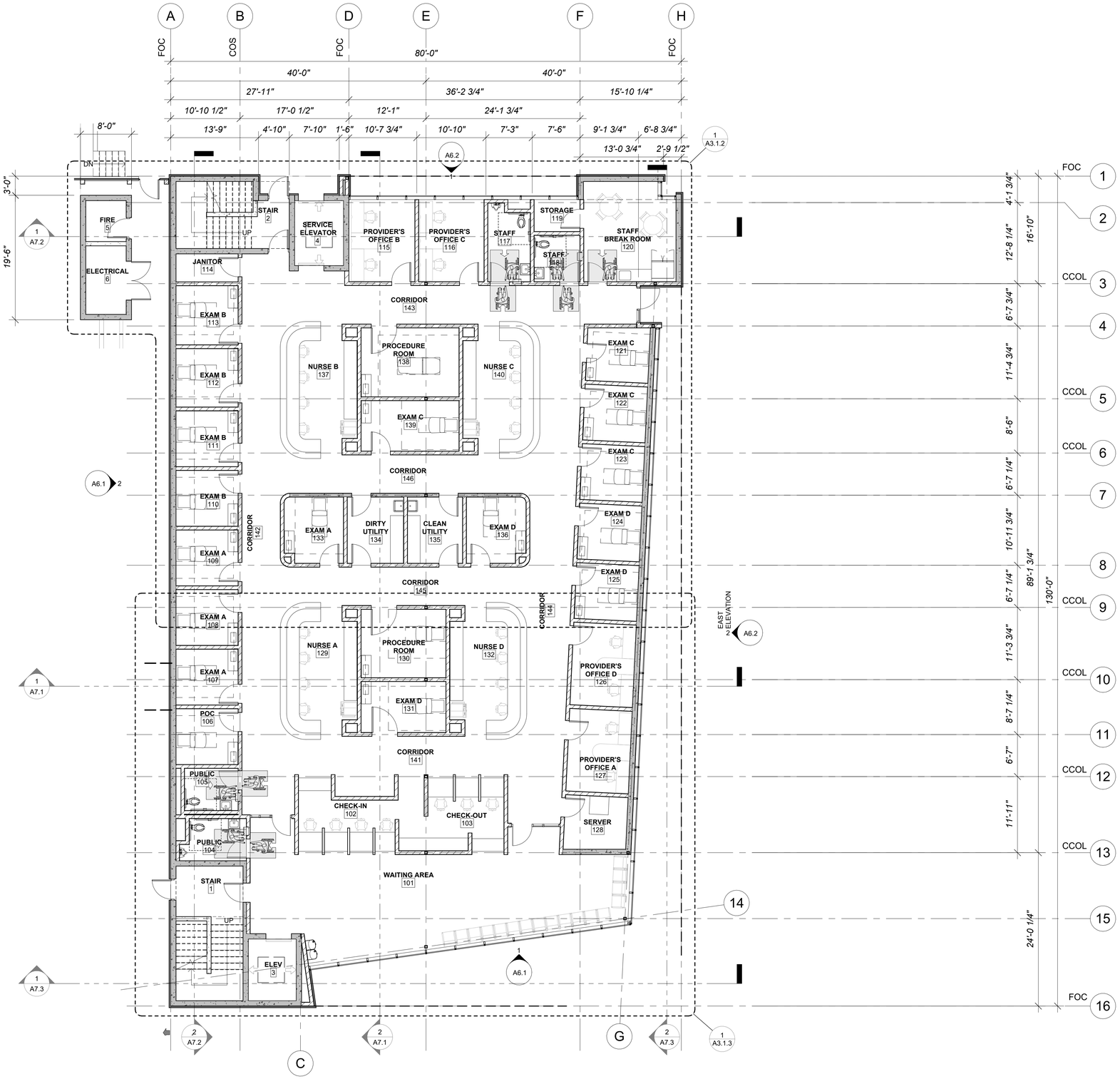
No	Description	Date

PROJECT NO.: 21003.00
PROJECT ARCH.: SF
PROJECT PLANS: JAA

SHEET CONTENTS:
SITE PLAN

DATE: OCTOBER 2022

SHEET:
A2.2



1 FLOOR PLAN - GROUND LEVEL
1/8" = 1'-0"

WALL TYPE LEGEND:

- TYPE A — 10" THK CONC WALL, FIRE-RATED
- TYPE B — 8" THK CONC WALL
- TYPE C — 6" MTL FRAMING

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HILO MEDICAL CENTER MEDICAL OFFICE BUILDING

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CONSULTANT:

REVISIONS

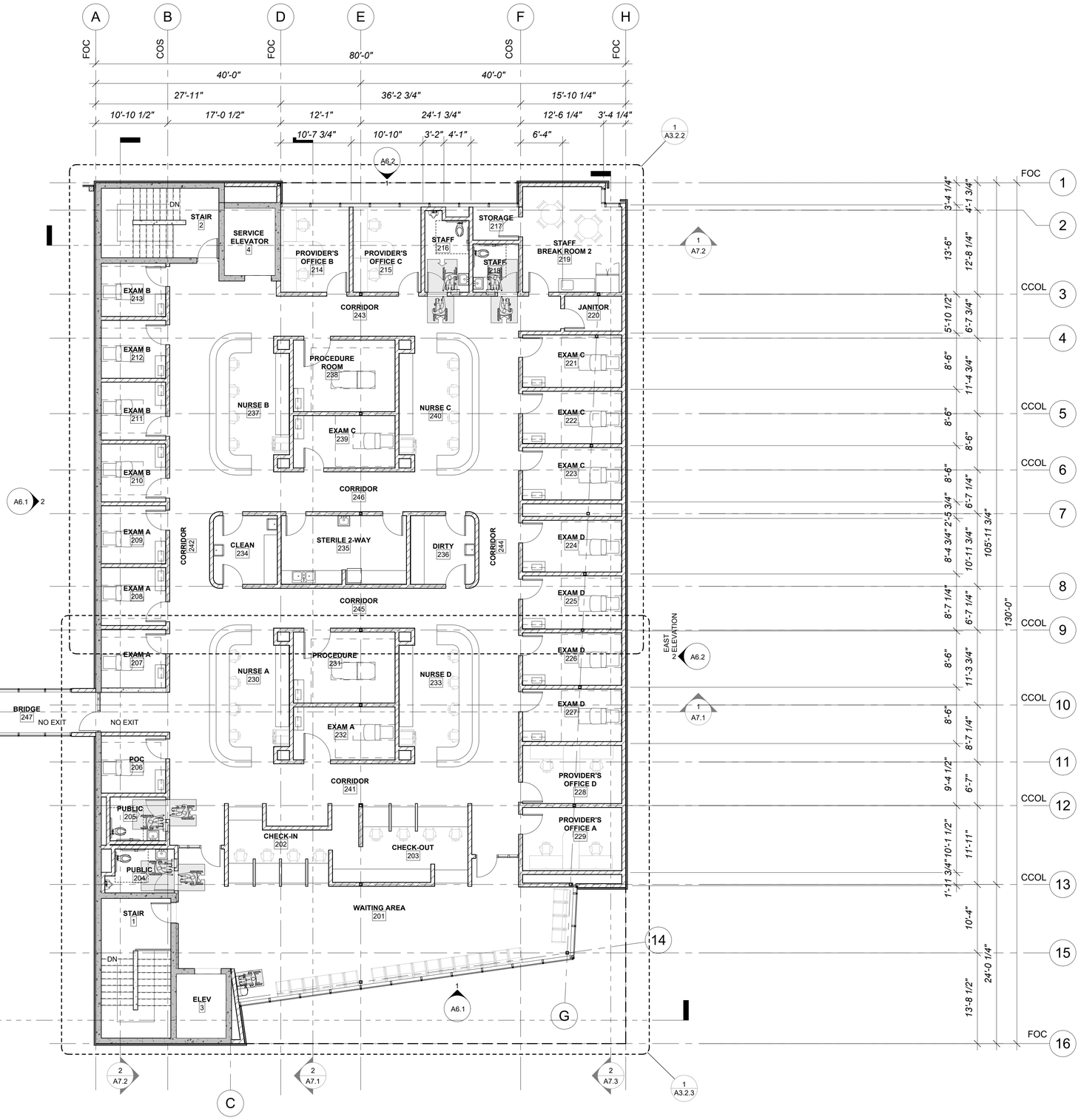
No	Description	Date

PROJECT NO.: 21003.00
PROJECT ARCH.: SF
PROJECT PLANS: JAA

SHEET CONTENTS:
FLOOR PLAN
GROUND LEVEL

DATE: OCTOBER 2022

SHEET:
A3.1.1



1 FLOOR PLAN - UPPER LEVEL
1/8" = 1'-0"

WALL TYPE LEGEND:

- TYPE A — 10" THK CONC WALL, FIRE-RATED
- TYPE B — 8" THK CONC WALL
- TYPE C — 6" MTL FRAMING

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HILO MEDICAL CENTER
MEDICAL OFFICE BUILDING

1285 WAIANUENUE AVENUE
HILO, HAWAII, 96720
TAX MAP KEY: (3) 2-3-031: 019

CONSULTANT:

REVISIONS

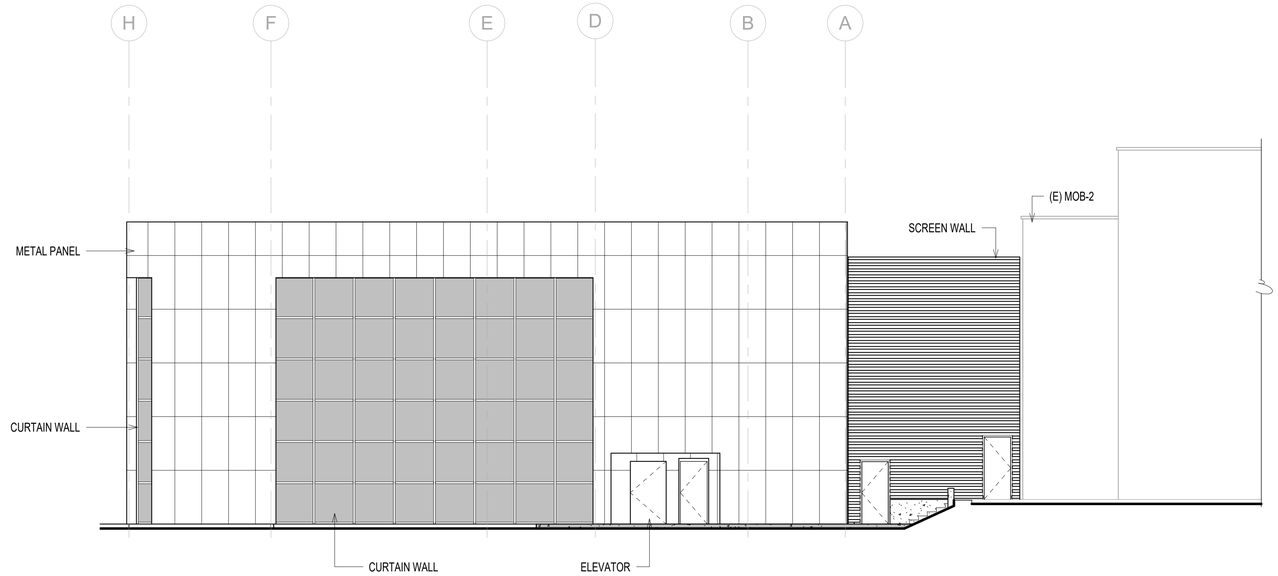
No	Description	Date

PROJECT NO.: 21003.00
PROJECT ARCH.: SF
PROJECT PLANS: JAA

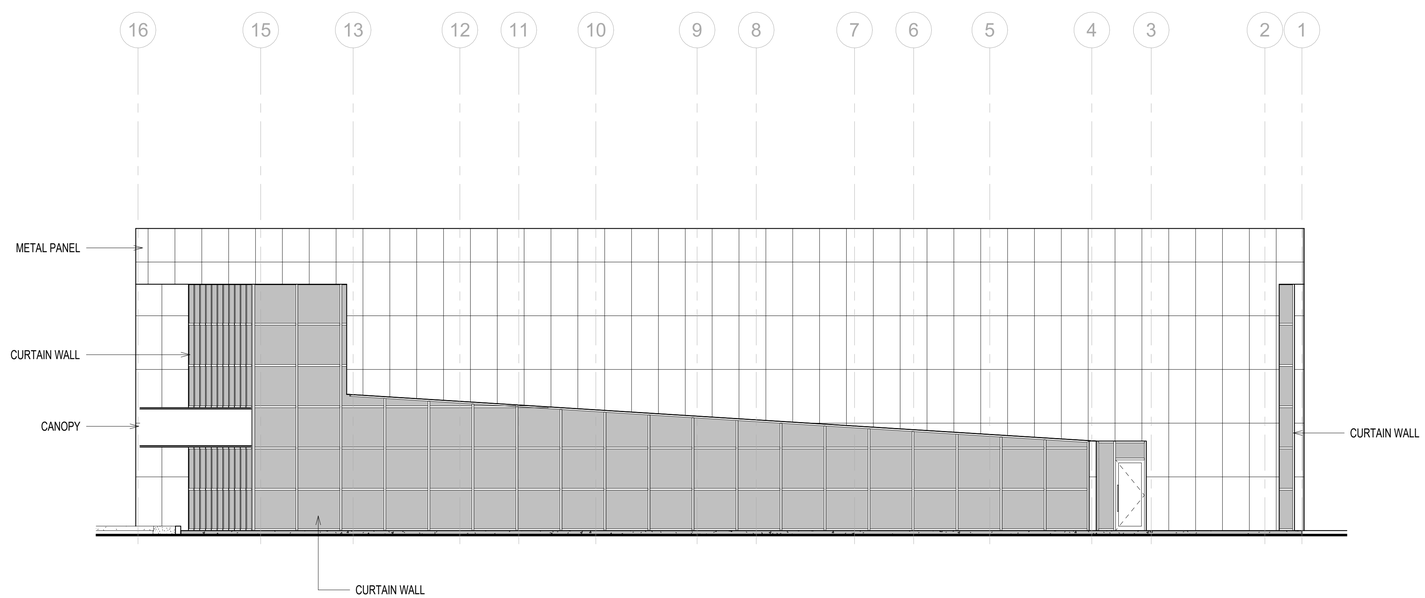
SHEET CONTENTS:
FLOOR PLAN
UPPER LEVEL

DATE: OCTOBER 2022

SHEET:
A3.2.1



1 EXTERIOR ELEVATION - NORTH
1/8" = 1'-0"



2 EXTERIOR ELEVATION - EAST
1/8" = 1'-0"

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EXP. DATE: 04/30/2024

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HILO MEDICAL CENTER
MEDICAL OFFICE BUILDING

1285 WAIANUENUE AVENUE
HILO, HAWAII, 96720
TAX MAP KEY: (3) 2-3-031: 019

CONSULTANT:

REVISIONS

No	Description	Date

PROJECT NO.: 21003.00
PROJECT ARCH.: SF
PROJECT PLANS: JAA

SHEET CONTENTS:
NORTH & EAST EXTERIOR ELEVATIONS

DATE: OCTOBER 2022

SHEET:
A6.2

Figure 3. Project Site Photos

2a, Above: Project site from Waianuenue Avenue, September 2022.
2b, Below: View from adjacent building, June 2022.

1.2 Purpose and Need

A new medical office building that is on the HMC campus and adjacent to existing support and procedural infrastructure such as surgical suites, lab and radiology services is essential to enhance medical services and increase efficiency. This project also helps address rural health clinic regulations that require all clinics to be at one certified address. The project will provide space for up to 75 new healthcare jobs including physicians, registered nurses, medical assistants, LPNs, nurse practitioners and physician assistants, housekeepers and clerical support staff. The project is part of a response to a severe shortage of physicians and other medical services that amounts to a State crisis, evidenced also by the recent signing by Governor David Ige of Senate Bills 2597 and 2657, appropriating a combined $6.75 million to medical education and training and loan repayment for graduates in health care careers.

It should be noted that the proposed project will overlap in time with a planned expansion of Hilo Medical Center across Waianuenue Avenue, directly adjacent to the main hospital building, which will be implemented in two phases (HHSC 2022). The Phase 1 addition of the expansion project will be located in a two-story structure above the current physician and visitor parking and will house an ICU containing an expansion of up to 18 beds. The Phase 2 addition will consist of a three-story structure also located above the existing visitor parking. Planned facilities include a 12-bed Family Birthing Center. Both additions will connect to the existing HMC building via enclosed pedestrian bridges. This expansion and the medical office building project have been conducted separately because they have unrelated functions, one focused on ICU and birthing facilities, and the other on out-patient medical services.

1.3 Environmental Assessment Process

The project involves the use of State of Hawai‘i funds and land and thus requires compliance with Chapter 343, Hawai‘i Revised Statutes (HRS), the Hawai‘i Environmental Policy Act (HEPA). The Hilo Medical Center, a unit of the Hawaii Health Systems Corporation, is the proposing and approving agency for this Environmental Assessment (EA).

This EA process is being conducted in accordance with Chapter 343 of the Hawai‘i Revised Statutes (HRS). This law, along with its implementing regulations, Title 11, Chapter 200.1, of the Hawai‘i Administrative Rules (HAR), is the basis for the environmental impact process in the State of Hawai‘i. According to Chapter 343, an EA is prepared to determine impacts associated with an action, to develop mitigation measures for adverse impacts, and to determine whether any of the impacts are significant according to thirteen specific criteria.

Part 4 of this document states the finding (anticipated in the Draft EA) that no significant impacts are expected to occur, based on HMC’s findings for each significance criterion. In the EA process, if the approving agency determines after considering comments to the Draft EA that no significant impacts would likely occur, then it issues a FONSI (Finding of No Significant Impact), and the action is permitted to proceed to necessary permits. If the agency concludes that significant impacts are expected, then an Environmental Impact Statement (EIS) is prepared.

1.4 Public Involvement and Agency Coordination

The following agencies and organizations were consulted in development of the Environmental Assessment.

State:

Department of Health	Office of Hawaiian Affairs
Department of Land and Natural Resources, Land Division	

County:

Civil Defense Agency	County Council
Department of Environmental Management	
Fire Department	Planning Department
Public Works Department	Police Department

Organizations and Individuals:

Hawai‘i Island Chamber of Commerce	Sierra Club
Kalona Properties LLC	Hale Anuenue Restorative Care Ctr.

Copies of communications received during early consultation are contained in Appendix 1a.

PART 2: ALTERNATIVES

2.1 No Action

Under the No Action Alternative, no new medical office building would be constructed. The opportunity to enhance medical services and increase efficiency would not occur. The needed space for dozens of physicians, registered nurses, medical assistants, LPNs, nurse practitioners and physician assistants, housekeepers and clerical support staff adjacent to existing support and procedural infrastructure would not be provided. Compliance with rural health clinic regulations that require all clinics to be at one certified address would be difficult or impossible to achieve. The parking area that would support the proposed medical office building would still be available for other potential uses.

2.2 Alternative Locations

The medical office building needs to be adjacent to Hilo Medical Center in order to efficiently and fully meet the project’s purpose and need. There are very few locations on or directly adjacent to the HMC campus that could accommodate the proposed facility, and none that have a superior location. During early phases of project planning, HMC officials examined and analyzed a number of locations in the general area. The selected site minimizes ground disturbance and drainage concerns as well as distance to patient parking. After full consideration, HMC determined that the proposed site would provide the best overall location for the required function, as it is directly across Waianuenue Avenue from the main buildings of the medical

center and adjacent to other medical facilities. The proposed site also has the advantage of being State property and will thus be available to the HMC for negligible or no cost, and acquisition will therefore not impose a financial burden on the public.

As there do not appear to be any environmental or other disadvantages associated with the proposed site, and no other vacant and suitable land is available nearby, no alternative sites have been advanced for study in the Environmental Assessment.

PART 3: ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Basic Geographic Setting

The property upon which the project facility would be built is referred to throughout this EA as the *project site*. The term *project area* is used to describe the Hilo Medical Center campus, associated facilities, and surrounding areas.

The project site is located at approximately 470 feet in elevation on Waianuenue Avenue, across the street from the main buildings of Hilo Medical Center and adjacent to the Hawaii Pacific Oncology Center and the under construction Hawaii Pacific Oncology Center Addition-Hilo Rural Health and Telehealth Center (HPOCA-RHTC). The proposed office building location presently supports asphalt paved parking being utilized as a contractor staging area for the HPOCA-RHTC project (see Figs. 1-2). The general area has been extensively modified by sugar cane agriculture, grazing and later medical facility construction, including parking lots.

The general area is primarily occupied by medical facilities and support facilities, including in addition to those mentioned above, the Hale Anuenue Restorative Care and the Yukio Okutsu State Veterans Home, a long-term care facility. To the south is a large extent of vacant State land currently encumbered with a cattle grazing lease.

3.1 Physical Environment

3.1.1 Geology, Soils and Geologic Hazards

Environmental Setting

Geologically, the project site is located on the lower flank of Mauna Loa near Wailuku Stream (commonly called the Wailuku River). The surface consists of weathered ash soils on Pleistocene-era (greater than 10,000 years old) lava flows from Mauna Loa. The project site soil is classified by the U.S. Natural Resources Conservation Service (formerly Soil Conservation Service) as Hilo silty clay loam, which forms on layers of volcanic ash. Permeability is rapid, runoff moderate, and erosion hazard slight to moderate (U.S. Soil Conservation Service 1973).

The entire Big Island is subject to geologic hazards, especially lava flows and earthquakes. Volcanic hazard as assessed by the U.S. Geological Survey in this area of Hilo is 3 on a scale of ascending risk 9 to 1 (Heliker 1990:23). The high hazard risk is based on Mauna Loa being an active volcano. Volcanic hazard zone 3 areas have had 1-5 percent of the land area covered by lava or ash flows since the year 1800, and are at lower risk than zone 2 areas because of their greater distances from recently active vents and/or because the local topography makes it less likely that flows will cover these areas.

The Island of Hawai‘i experiences high seismic activity and is at risk from earthquake damage (USGS 2000), especially to structures that are poorly designed or built, as the 6.7-magnitude quake of 2006 and the 6.9-magnitude quake of 2018 demonstrated. The project site does not appear to be subject to subsidence, landslides or other forms of mass wasting.

Impacts and Mitigation Measures

In general, geologic conditions impose no constraints on the proposed project and it is not imprudent to implement.

3.1.2 Climate, Drainage, Water Features and Water Quality

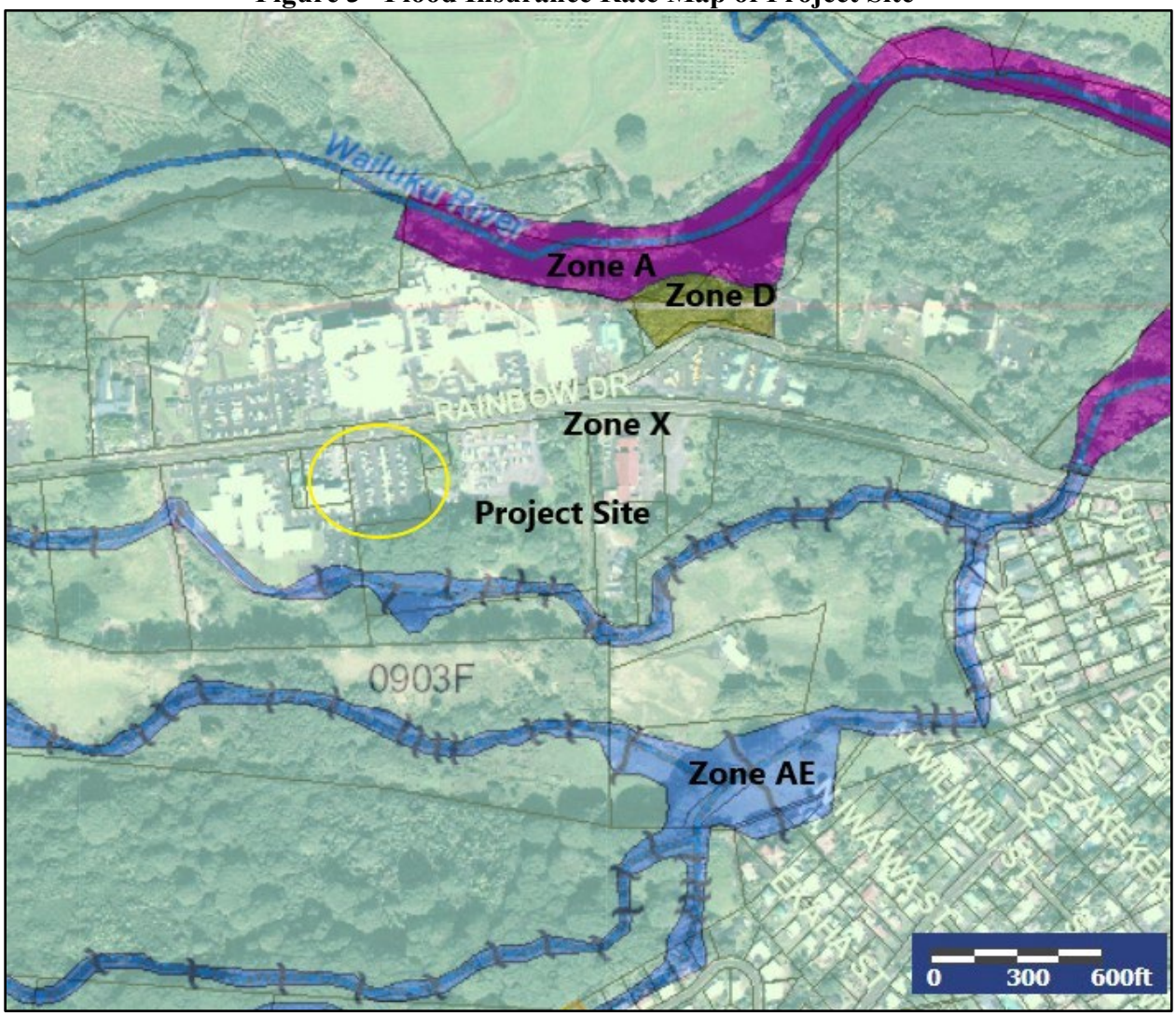
Existing Environment

The average maximum daily temperature in the project area is approximately 75 degrees F., with an average minimum of 65 degrees, and annual rainfall averages approximately 200 inches (U.H. Hilo-Geography 1998:57).

The Pi‘ihonua district has a number of surface water bodies, including the Wailuku River, which is located about 0.2 miles north of the project site (see Figure 1). A small perennial tributary stream also flows about 0.2 miles south of the project site and merges with the Wailuku near Carvalho Park at the intersection of Kaumana Drive and Waianuenue Avenue. Additionally, a number of springs are found approximately 0.2 miles south of the project site. No streams or springs are present on or within 500 feet of the fully developed site itself. The *Hawai‘i Stream Assessment* (Hawai‘i State CWRM 1990) inventoried streams statewide (including over a hundred on the Hilo/Hamakua coast) for their water quality/supply, habitat, cultural and recreational resource value. Streams are ranked in various resources categories. Of particular importance are the *Candidate Streams for Protection*, which meet the criteria for either diversity of outstanding resources or “blue-ribbon resources.” Four such streams are present on the Hamakua/Hilo coast: Waikoloa, Kolekole, Honoli‘i, and Wailuku Streams. The Wailuku River is listed as a candidate owing to its scenic and recreational characteristics.

No stream poses a flooding hazard to the project site. The Flood Insurance Rate Map (FIRM) 880C (9/16/88) maps the project site within Zone X, outside the 500-year floodplain (Figure 3).

Figure 3 Flood Insurance Rate Map of Project Site



Source: Hawai‘i State Department of Land and Natural Resources: http://gis.hawaiinfip.org/fhat/

Impacts and Mitigation Measures

Because of the scale of the proposed project and the environmental setting, very little potential for impacts to water quality exist. The project will disturb much less than one acre and no National Pollutant Discharge Elimination System permit will be required. However, in order to minimize the potential for sedimentation and erosion, the contractor shall perform all earthwork and grading in conformance with Chapter 10, Erosion and Sediment Control, Hawai‘i County Code. Construction plans that are currently under development will require the contractor to implement an extensive array of Best Management Practices), including but not limited to the following:

- All grading work shall conform to Chapter 10 of the Hawai‘i County Code. Should a

grading permit be required, no grading work shall commence until the Department of Public Works approves a grading permit.

- The contractor shall remove all silt and debris deposited in drainage facilities, roadways and other areas resulting from his work.
- The contractor shall keep the project and surrounding areas free from dust nuisances. The work shall be in conformance with the air pollution control rules of the State Department of Health, HAR 11-60.1, "Fugitive dust".
- All grading operations shall be performed in conformance with the applicable provisions of the Hawai‘i Administrative Rules, Title 11, Chapter 55, Water Pollution Control and Chapter 54, Water Quality Standards, and to the Erosion and Sedimentation Control Standards and Guidelines of the Department of Public Works, County of Hawaii.
- The contractor shall inform the Department of Public Works of the locations of the disposal and/or borrow site(s) required for this project, if any, when an application for a grading permit is made. The disposal and/or borrow site(s) must also fulfill the requirements of the grading ordinance.

The improvements will include engineered drainage that, in conformance with applicable regulations, will promote infiltration of storm water runoff and will therefore both protect surface water quality and prevent storm water runoff from leaving the site. The design will include adequately sized drainage facilities to handle the runoff from the project in conformance with drainage laws and regulations, which are currently envisioned as three drywells. The Hawai‘i County Department of Public Works will be consulted during design, and all applicable regulations, in particular Chapter 27, Drainage, and Chapter 10, Erosion and Sedimentation Control, will be adhered to.

There is a scientific consensus that the earth is warming due to manmade increases in greenhouse gases in the atmosphere, according to the United Nations' Intergovernmental Panel on Climate Change (UH Manoa Sea Grant 2014). Global mean air temperatures are projected to increase by at least 2.7°F by the end of the century. This will be accompanied by warming of ocean waters, expected to be highest in tropical and subtropical seas of the Northern Hemisphere. Wet and dry season contrasts will increase, and wet tropical areas in particular are likely to experience more frequent and extreme precipitation. For Hawai‘i, where warming air temperatures are already quite apparent, accelerating sea level rise is expected. Not only is the equable climate at risk but also agriculture, ecosystems, the visitor industry and public health. It is possible, and even likely, that larger and more frequent tropical storms and hurricanes will affect the Hawaiian Islands in the future.

Guidance to federal agencies for addressing climate change issues in environmental reviews was released in August 2016 by the Council on Environmental Quality (US CEQ 2016). The guidance urged that agencies should consider: 1) the potential effects of a proposed action on climate change as indicated by assessing greenhouse gas emissions in a qualitative, or if reasonable, quantitative way; and 2) the effects of climate change on a proposed action and its environmental impacts. It recommends that agencies consider the short- and long-term effects

and benefits in the alternatives and mitigation analysis in terms of climate change effects and resiliency to the effects of a changing climate.

The State of Hawai‘i in Hawai‘i Revised Statutes §226-109 encourages a similar analysis, and Title 11-200.1-13 includes significance criteria that consider greenhouse gas emissions and the hazardousness of sea level rise.

As illustrated in Figure 4, the location of the project site at 470 feet above sea level, 1.7 miles from the shoreline, will preclude direct effects of sea level rise under any expected scenario. In order to deal with the potential for larger and more frequent tropical storms that could be part of a changing climate, the structure is designed with walls, windows and gutters that can withstand hurricane force winds and torrential rains.

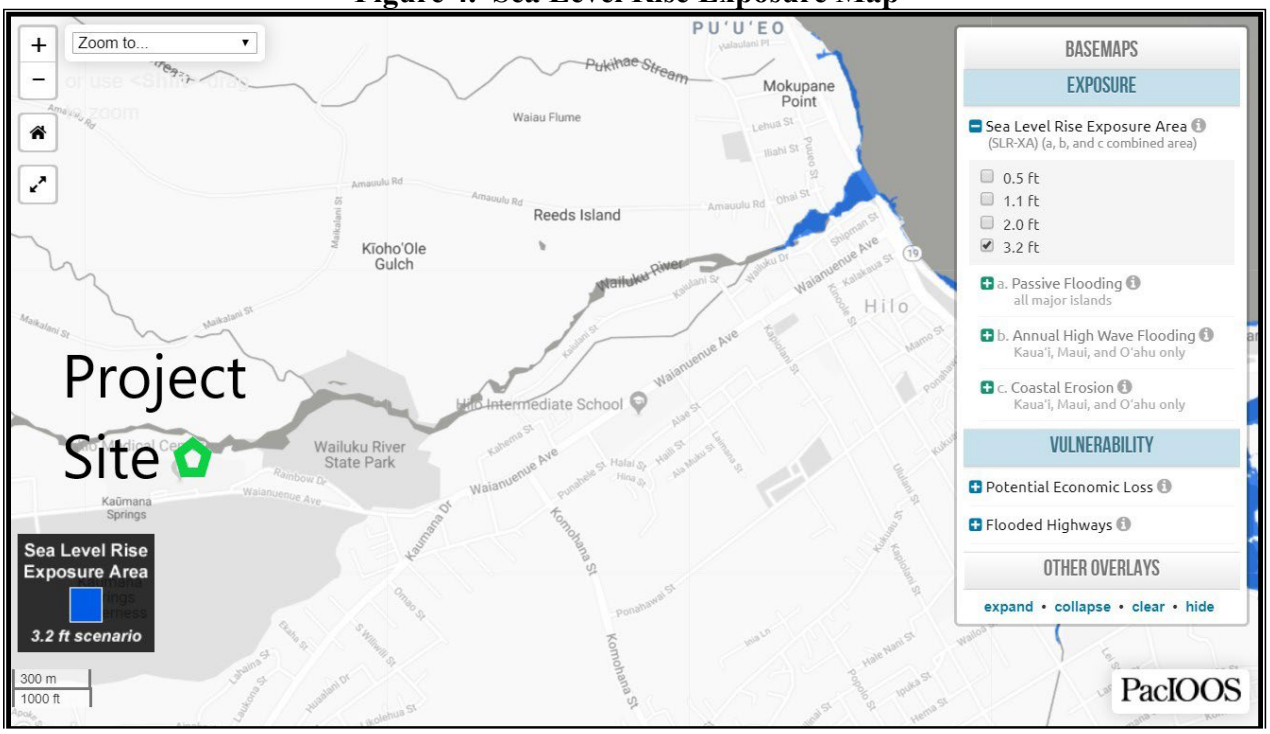
Negligible amounts of energy input and greenhouse gas emissions would be required for construction and occupation of the facility. The facility would meet or exceed all applicable commercial building energy efficiency standards. The building was designed using the 2018 International Energy Conservation Code. Reduction of the building's carbon footprint is achieved by increasing the R value of all exterior walls and roof, and by increasing the solar heat gain coefficient of all the windows. A commercial grade weather-barrier will be installed to all exterior walls to control air leakage into and from the interior of the building. HVAC equipment performance is very efficient with multiple-zone controls and automatic off-hour thermostat controls. All ducts, plenums and piping will be insulated. All lighting will have high efficacy lamps, and occupancy sensors will be installed in all rooms. Exterior lighting is minimal and mostly used for path finding and safety.

3.1.3 Flora and Fauna

Existing Environment

The natural vegetation of this part of Hilo was most likely lowland rain forest dominated by *‘ōhi‘a* (*Metrosideros polymorpha*) and *koa* (*Acacia koa)* (Gagne and Cuddihy 1990). These original communities, however, have been destroyed or heavily degraded by sugarcane cultivation, cattle grazing, and clearing for farms and residences, and the vegetation of the project area is now either managed vegetation (i.e., farms, pasture or landscaped grounds) or adventive "communities" of various alien weeds. As shown in Figure 2, the entire project site is a former parking lot that was graded flat and paved, prior to being used as a staging area for the Hilo Rural Health and Telehealth Center project. No plants are present at the current time.

Figure 4. Sea Level Rise Exposure Map



Source: https://www.pacioos.hawaii.edu/shoreline/slr-hawaii/

No listed, candidate or proposed endangered plant species were found or would be expected to be found on the project site. In terms of conservation value, no botanical resources requiring special protection are present.

The entirely paved area with no plants is not suitable habitat for feeding, nesting or most other bird activities, although a few common non-native birds such as common myna (*Acridotheres trista*) may briefly perch in the area. During several brief field visits no birds were observed on the site, although we heard songs and calls of nearby mynahs and Japanese white-eyes (*Zosterops japonicus*).

Hawaiian hawks (*Buteo solitarius*), which were delisted as federal endangered species in 2019 but are still listed by the State of Hawai‘i, nest in tall trees between March and October. Endangered Hawaiian hoary bats (*Lasiurus cinereus semotus*) are commonly observed in many parts of East Hawai‘i. Bats roost in woody vegetation taller than 15 feet, and female bats are extremely vulnerable to disturbance while caring for their young in summer months. No vegetation suitable for hawk nests or bat roosts is present on or near the project site.

The endangered Hawaiian petrel (*Pterodroma sandwichensis*), the endangered band-rumped storm petrel (*Oceanodroma castro*), and the threatened Newell's shearwater (*Puffinus auricularis newelli*) may overfly the general project area. The primary cause of mortality for these seabirds in Hawai‘i is predation by alien mammalian species at the nesting colonies, followed by collision with man-made structures. Nocturnally flying seabirds, especially

fledglings on their way to sea in the summer and fall, can become disoriented by exterior lighting. Disoriented seabirds may collide with manmade structures and, if not killed outright, become easy targets of predatory mammals.

Impacts and Mitigation Measures

Because of the lack of native ecosystems, or threatened or endangered plant species, no adverse impacts to botanical resources would occur as a result of clearing and improvements. Because of the limited vegetation, no Hawaiian hawk nests or Hawaiian hoary bats roosts are present, and the project presents no impacts to these species. All lighting installed for either construction or operation of the facility will be required to be shielded in conformance with the Hawai‘i County Outdoor Lighting Ordinance (Hawai‘i County Code, Article 9), and will also be low-blue spectra and low-light emitting, in order to reduce the risk that seabirds may be attracted to and then disoriented by the lighting. Additionally, no nighttime, lighted, outdoor construction work will be allowed during the seabird-fledging season, which runs from September 15 through December 15 each year. Best Management Practices to prevent sedimentation and erosion to be required during construction will prevent offsite impacts to water quality and aquatic habitat.

3.1.4 Air Quality, Noise, and Scenic Resources

Environmental Setting

Air pollution in East Hawai‘i is minimal. When Kilauea Volcano is active it emits sulfur dioxide, which converts into particulate sulfate and produce a volcanic haze (vog) that occasionally blankets the district. Even then, persistent tradewinds keep the project area free of vog for most of the year.

The moderate noise levels at the project site are derived mainly from motor vehicles and medical center maintenance activities. HMC in general, and the Hawaii Pacific Oncology Center, the Hale Anuenue Restorative Care Center, an adjacent residence and the new Rural Health and Telehealth Center in particular, are sensitive receptors to potential noise from construction and operation of the facility.

The project area contains several sites associated with the Wailuku River that are considered significant for their scenic character in the Hawai‘i County General Plan. Rainbow Falls and Kaimukanaka Falls are each located 0.3 miles north, beyond Hilo Medical Center. Boiling Pots is a mile *mauka* of the project site. The project site is not visible from these sites or lookouts for these sites, and is at a sufficient distance so that it will not affect the character or visual quality of these resources.

Impacts and Mitigation Measures

There may be short-term and very minor impacts to air quality and noise levels during construction. Due to the sensitive nature of nearby facilities, care will be taken to minimize these short-term impacts.

There is very limited potential for fugitive dust emissions due to disturbance of soil during dry periods. The project will not generate any substantial dust and emissions, and Hilo Medical Center will ensure that construction managers will develop and implement a dust control plan to minimize any impacts. Adherence to best management practices (BMPs), including, but not limited to, covering stockpile materials and routine watering of bare, disturbed soil and fill/stockpile materials during dry periods will minimize this potential. Air quality will not be adversely affected by construction or operation of the facility.

Development would entail limited excavation, grading, compressors, vehicle and equipment engine operation, and construction of new infrastructure. These activities could generate noise exceeding 95 decibels at times, impacting nearby sensitive noise receptors. If construction noise is expected to exceed the Department of Health's (DOH) "maximum permissible" property-line noise levels, the contractor would be required to consult with DOH and may need to obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction. DOH would review the proposed activity, location, equipment, project purpose, and timetable in order to decide upon conditions and mitigation measures, such as restriction of equipment type, maintenance requirements, restricted hours, and portable noise barriers. Hilo Medical Center will ensure that the construction contractor consults with the Department of Health. If applicable, the contractor will obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction that may include various mitigation measures for construction noise.

As illustrated in the preliminary Site Plans in Appendix 2, the two-story building would be visually attractive and generally match the appearance of other facilities at the HMC campus in scale, proportion and use of color and materials. The architectural style follows the "New Formalism" style of contemporary healthcare buildings. It is a self-contained, freestanding block, with visually simple exterior elevations, glazing where appropriate for function and aesthetics, and a level skyline. Final design will include street front landscaping using native Hawaiian and Polynesian introduced flora, in addition to supplemental landscaping within a plaza space and parking lot. No important viewplanes or scenic sites recognized in the Hawai'i County General Plan would be affected. In order to prevent light pollution, which is of particular importance because of the presence of astronomical observatories on Mauna Kea, only minimal exterior lighting is planned. It will consist of recessed lights in the exterior soffit and lights on the building walls, and step or paths in the plaza space. In the parking area, five existing light poles will be relocated and replaced with five new LED parking lot light poles. All fixtures will be shielded, low light emitters designed for safety as people move around the site at night. The design will utilize lighting with a CCT of 2700 K or less. In some cases, frosted lighting may be used to further lessen impact. Given the number and design features of the lighting fixtures, no effect on astronomical observatories would be expected.

3.1.5 Hazardous Substances, Toxic Waste, and Hazardous Conditions

No Phase I Environmental Site Assessment has been conducted for the project site. Based upon prior and present use of the project site, there is currently no evidence that the site contains hazardous or toxic substances or has a history of spills or other incidents.

No Above Ground Storage Tanks (AST), Underground Storage Tanks (UST) or Leaking Underground Storage Tanks (LUST) are visible on or near the project site. State databases did not indicate any records of ASTs, USTs, or LUSTs, or records of incidents or releases on the site or in the immediately surrounding area (https://eha-cloud.doh.hawaii.gov/iheer/#!/viewer accessed June 2022). Although it is unlikely that any potentially hazardous, toxic or radioactive waste would be found on the project site, reasonable precautions will be undertaken by the contractors in the context of the project construction Best Management Practices for appropriate response and remediation should any such material be encountered during construction.

It should be noted that the adjacent Hawaii Pacific Oncology Center employs ionizing radiation for diagnostic imaging and treatment of cancer. Care must be taken in any facility utilizing ionizing radiation to ensure that it does not create potentially hazardous situations for personnel who work within the facility, patients or the general public. There are several systems built into the facility to ensure it delivers the correct dose as prescribed (Hilo Medical Center 2020). The Linear Accelerator sits in a room with lead, steel and concrete walls so that the high-energy x-rays are shielded. The unit only emits radiation during treatment, and therefore the risk of accidental exposure is extremely low. There are also warning or caution signs as necessary and where appropriate, to warn unauthorized or unsuspecting personnel of a hazard and to remind authorized personnel. The amount of radiation outside of the building is well below all state and federal guidelines for the general public. The design for the radiation therapy facility is closely regulated by the State of Hawai‘i and is required to follow the rules set by the Department of Health to insure safety of the public, the worker and the patient (Title 11, Hawai‘i Administrative Rules, Chapter 45, “Radiation Control”). Personnel monitoring is also conducted utilizing film badges that measure the radiation dose that workers receive while attending patients undergoing therapeutic or diagnostic procedures with radionuclides or radiation generation devices, such as fluoroscopes or the Linear Accelerator. This provides early notice if a worker’s exposure is near or above the limits prescribed by law, and also provides a permanent record of the individual’s exposure. Because of all these extensive precautions, the ionizing radiation at the facility does not pose a hazard to the patients, staff or general public, and poses no hazard risk for the staff and visitors at the proposed Medical Office Building.

For construction, in addition to the measures related to water quality detailed in Section 3.1.3, engineering plans will specify the following conditions in order to ensure to minimize the possibility for spills of hazardous materials:

- Unused materials and excess fill will be removed and disposed of at an authorized waste disposal site.
- During construction, emergency spill treatment, storage, and disposal of all hazardous materials, will be explicitly required to meet all State and County requirements, and the contractor will be asked to adhere to "Good Housekeeping" for all appropriate substances, with the following instructions:
    - Onsite storage of the minimum practical quantity of hazardous materials necessary to complete the job;
    - Fuel storage and use will be conducted to prevent leaks, spills or fires;
    - Products will be kept in their original containers unless unresealable, and original labels and safety data will be retained;
    - Disposal of surplus will follow manufacturer's recommendation and adhere to all regulations;
    - Manufacturers' instructions for proper use and disposal will be strictly followed;
    - Regular inspection by contractor to ensure proper use and disposal;
    - Onsite vehicles and machinery will be monitored for leaks and receive regular maintenance to minimize leakage;
    - Construction materials, petroleum products, wastes, debris, and landscaping substances (herbicides, pesticides, and fertilizers) will be prevented from blowing, falling, flowing, washing, or leaching into the ocean
    - All spills will be cleaned up immediately after discovery, using proper materials that will be properly disposed of;
    - Regardless of size, spills of toxic or hazardous materials will be reported to the appropriate government agency; and
    - Should spills occur, the spill prevention plan will be adjusted to include measures to prevent spills from re-occurring and for modified clean-up procedures.

3.2 Socioeconomic and Cultural

3.2.1 Socioeconomic and Health Characteristics

The project would benefit the population of the County of Hawai‘i, in particular East Hawai‘i and Hilo, the largest population center on the island and a microcosm of the island's demographics. Data on socioeconomic characteristics of Hilo are available from 2022 estimates from the American Community Survey, U.S. Census Bureau. It should be noted that the Census Bureau has not yet released precise data from the 2020 U.S. Census of Population for communities such as Hilo. The town has a diverse population of approximately 44,186 residents, with over 80 percent minorities, mainly Asian and Pacific Islanders, within one of the 100 fastest-growing counties in the U.S. It has a median age of over 42.8 years, the oldest of all counties in the State. Several segments of the population that typically exhibit disadvantaged measures of social welfare are disproportionately represented in the population of Hilo as compared to the County or State of Hawai‘i. Median family income is 10 percent less than that of the County as a whole, and almost 14 percent of individuals have income below the poverty

level, almost 50% above the Statewide rate. Similar patterns pertain to households receiving welfare, food stamps, and disability payments.

Impacts

The proposed project would benefit public health by enhancing access to and the efficiency of quality health care on the Island of Hawai‘i and would have no negative impacts.

3.2.2 Cultural and Historic Resources

Existing Environment

The material in this section is based on previous archaeological reports and environmental assessments for Hilo Medical Center and other medical and recreational facilities nearby (Hilo Medical Center 2005 and 2013; Sinoto 1978; Spear 1992), as well as a study of nearby Waiākea Ahupua‘a conducted by Maly (1996).

The purpose of this review was to document the presence of any historic properties or traditional cultural properties that might exist on or adjacent to the project site. Research and consultation were restricted because the activities are limited to a parking lot that is part of Hilo Medical Center. No undeveloped land or land with any cultural resources is involved.

The earliest historical knowledge of Hilo comes from legends written by Kamakau (1961) of a 16th century chief ‘Umi-a-Liloa (son of Liloa), who at that time ruled the entire island of Hawai‘i. Descendants of Umi and his sister-wife were referred to as “Kona” chiefs, controlling Ka‘ū, Kona, and Kohala, while descendants of Umi and his Maui wife were “Hilo” chiefs, controlling Hāmākua, Hilo, and Puna (Kelly 1981:1). According to Kamakau (1961), both sides fought over control of the island, desiring access to resources such as feathers, *māmaki* tapa, and canoes on the Hilo side, and *wauke* tapa, and warm lands and waters on the Kona side (c.f. Kelly 1981:3).

Sometime near the end of the 16th century or early in the 17th century, the lands of Hilo were divided into *ahupua‘a,* which till today retain their original names (Kelly 1981:3). These include the *ahupua‘a* of Pu‘u‘eo, Pi‘ihonua, Punahoa, Pōnohawai, Kūkūau and Waiākea. The design of these land divisions was such that residents could have access to all that they needed to live, with ocean resources at the coast, and agricultural and forest resources in the interior. However, only Pi‘ihonua and Waiākea provided access to the full range of resources stretching from the sea up to 6,000 feet along the slopes of Mauna Kea (Kelly 1981:5).

Historical accounts (McEldowney 1979) place the project site in a zone of agricultural productivity. As Isabella Bird recorded upon arriving in Hilo in 1873:

> "Above Hilo, broad lands sweeping up cloudwards, with their sugar cane, *kalo*, melons, pine-apples, and banana groves suggest the boundless liberality of Nature" (Bird 1964:38).

Handy and Handy (1972) also describe the general region as an agricultural area:

> "On the lava strewn plain of Waiakea and on the slopes between Waiakea and Wailuku River, dry taro was formerly planted wherever there was enough soil. There were forest plantations in Panaewa and in all the lower fern-forest zone above Hilo town along the course of the Wailuku River" (Handy and Handy 1972:539).

Maly (1996) refers to a 1922 article from the Hawaiian Language newspaper, *Ka Nupepa Kū'oku'a*, where planting on *pāhoehoe* lava flats is described:

> "There are *pahoehoe* lava beds walled in by the ancestors in which sweet potatoes and sugar cane were planted and they are still growing today. Not only one or two but several times forty (*mau ka'au*) of them. The house sites are still there, not one or two but several times four hundred in the woods of the Panaewa. Our indigenous bananas are growing wild, these were planted by the hands of our ancestors" (Maly 1996:A-2).

Pi'ihonua Ahupua'a

As part of an archaeological assessment survey, Maly (1996) conducted historical research for the lands of Wainaku, Pōnohawai, Waiākea, and Pi'ihonua. He discusses the significance of the Hawaiian word *wai* in the placenames: Pōnohawai, Waiākea, Wainaku, and Wailuku (River). According to Maly, the word *wai* (water) has strong metaphorical associations with the Hawaiian concept of wealth (*waiwai*), stressing its cultural importance (Maly 1996:A-2). In this context, the importance of Hilo can be better understood, with its copious streams that fed taro pond fields and its numerous fishponds. Maly refers to the origins of the names Waiākea and Pi'ihonua in the Hawaiian legend of Ka'ao Ho'oniua Pu'uwai no Ka-Miki. Pi'ihonua literally translates to: "Ascending Earth," and the *ahupua'a* is named for Pi'ihonua-a-ka-lani, the brother of Waiākea and Pana'ewa, and the father of the chiefesses 'Ohele and Waiānuenue (Maly 1996:A-4).

Pi'ihonua along with Punahoa and Waiākea were held by Kamehameha I until the time of his death in 1819, at which time his holdings, including Pi'ihonua, were passed down to his son, Liholiho. Kelly (1981) speculates that Pi'ihonua may have been given to Chief Kalaeokekio by Kauikeaouli or Boki in 1828. Pi'ihonua was surrendered at the time of the *Māhele* and classified as Crown Land (Kelly 1981); no *kuleana* claims were registered for lands in the vicinity of the current subject property (Maly 1996). Following the *Māhele,* the population of Hilo grew and the scattered upland habitations gave way to sugar cultivation (McEldowney 1979:37). At the turn of the century, there were remnants of *heiau* and at least one intact *heiau* within Pi'ihonua. Thrum

(1907) describes a *heiau* named Kaipālaloa that had been destroyed and another called Papio, which was reportedly for bird catchers and canoe builders. Stokes (1991) reported another *heiau* in Pi‘ihonua called Pinao that was once located near the intersection of Waiānuenue and Ululani Streets (Maly 1996).

Beginning in the late 1880s Pi‘ihonua was home to the Hawaii Mill Company, built on the Alenaio Stream (Kelly 1981). By 1905, according to Thrum (1923) the Hawaii Mill Company had 10 miles of cane flumes and produced twenty-five tons of sugar per day. In 1920 Hawaii Mill Company was taken over by the Hilo Sugar Company (Kelly 1981). Commercial sugar production lasted in Pi‘ihonua until the mid-twentieth century, at which time many of the fields were converted to pasturage associated with cattle ranching.

Impacts and Mitigation Measures

As part of the EA process, an effort was made to obtain information about any potential traditional cultural properties and associated practices that might be present, or have taken place in upper Pi‘ihonua Ahupua‘a. The Office of Hawaiian Affairs was contacted but supplied no information relative to the existence of traditional cultural properties or customary practices at the graded and graveled lot that comprises the small project site. No caves, springs, *pu‘u*, native forest groves, gathering resources or other natural features are present on or near the project site. Vegetation is mostly absent and does not contain the quality and quantity or resources that would be important for native gathering. As no resources or practices of a potential traditional cultural nature (i.e., landform, vegetation, etc.) appear to be present on or near the project site, and there is no evidence of any traditional gathering uses or other cultural practices, the proposed Hilo Medical Center Medical Office Building would not appear to impact any culturally valued resources or cultural practices. The Draft EA was made available to agencies and groups who might have knowledge in order to confirm this finding.

In terms of archaeological resources, the project site was extensively disturbed by mechanized sugar cane agriculture and later, as illustrated in Figure 2, bulldozed and surfaced with an asphalt parking lot. As such, no archaeological features are present. In the unlikely event that archaeological resources are encountered during grading or construction, contract conditions will require that work in the immediate area of the discovery will be halted and DLNR-SHPD contacted as outlined in Hawai‘i Administrative Rules 13§13-275-12. In order to assist in compliance with the Chapter 6e process, the State Historic Preservation Division (SHPD) was provided a link to a digital copy of the EA for their comment on the presumed lack of archaeological resources and no effect to significant historic properties. As necessary, Hilo Medical Center will provide further submittals demonstrating the lack of historic properties on the completely disturbed site to comply with SHPD HRS 6e for any permits related to ground disturbance.

3.3 Infrastructure

3.3.1 Utilities

Existing Facilities and Services

Electrical power to the project site is supplied by Hawai‘i Electric Light Company (HELCO) and potable water is supplied by the Department of Water Supply (DWS). Wastewater from HMC is treated in Hilo’s municipal wastewater system under the supervision of the Department of Environmental Management (DEM), and telephone/cable TV service is supplied by Hawaiian Telcom.

Impacts and Mitigation Measures

All necessary utilities are available onsite. The project imposes only modest demands on most utility services and does not require any mitigation or special planning. Project design includes utility hookups, including electrical connection and fiber optic that will be pulled in from the subsurface lines at the nearest handhole. Depending on final design, the sewer connection may be located away from the building in order to achieve the desirable sewer pipe slope. The project would not impose any substantial impact on existing utility facilities or the ability to provide service to HMC or other users. Appropriate coordination with HELCO, DWS, DEM and Hawaiian Telcom will be conducted during the design and construction of the improvements.

3.3.2 Roads and Parking

Existing Facilities

Waianuenue Avenue, which provides access to the project site as well as all of the HMC campus (see Figure 1), is an east-west, two-way, two-lane County of Hawai‘i road with intermittent shoulders. It has a posted speed limit of 35 miles per hour near HMC. It starts in the east in downtown Hilo at its intersection with Highway 19 and extends west and uphill past a complex of schools and medical facilities, terminating in a residential area. No bike paths are present on Waianuenue Avenue, and sidewalks end just above downtown, a half-mile east of the project site. Wide, walkable shoulders are provided along both sides of Waianuenue Avenue fronting Hilo Medical Center to accommodate pedestrian activity to/from the HMC facility and adjacent parking lots.

A recent Traffic Impact Assessment Report (TIAR) (Austin Tsutsumi 2021) for the planned 61,500- square foot (sf) Hilo Medical Center Expansion (HMCE) project on the north side of Waianuenue Avenue evaluated existing traffic levels in the area. It found that aside from congestion associated with morning school traffic about a mile east of the project site, traffic on Waianuenue Avenue flows smoothly, with no significant queues.

The 33-acre HMC campus comprises various facilities totaling 390,800 sf:

- HMC Primary Acute Care Facility – 250,581 sf
- HMC Behavioral Health Facility – 13,581 sf
- HMC West Wing – Non-Clinical Offices – 9,365 sf
- HMC Cancer Center – 16,896 sf
- HMC Long-Term Care Facility – 22,284 sf
- Yukio Okutsu State Veterans Home (YOSVH) – 55,554 sf
- Ancillary/Maintenance Buildings – 22,569 sf
- Hawaii Pacific Oncology Center Addition and Rural & Telehealth Center Unit HRTH – 17,295 sf (in construction)

Parking for the existing HMC Campus is provided via six main intersection accesses off Waianuenue Avenue:

- HMC North Parking Lot – West Driveway
- HMC North Parking Lot – East Driveway/HMC Cancer Center Driveway
- HMC South Parking Lot – West Driveway
- HMC South Parking Lot – East Driveway
- YOSVH – West Driveway

The project site for the new 18,750-sf Medical Office Building is accessed by the HMC South Parking Lot – West Driveway, which has a pedestrian crosswalk with a signal and warning lights.

Impacts and Mitigation Measures

The previous 2021 TIAR for the HMCE project – which at 61,500 sf is more than three times the size of the new Medical Center Office Building – calculated the impact that project traffic along with background traffic growth would have in the study area. The engineers conducted traffic counts and calculated future traffic at the intersections that would experience noticeable and measurable traffic increases because of the new project:

- Waianuenue Avenue/HMC & YOSVH Driveways 1-6
- Waianuenue Avenue/Rainbow Drive
- Waianuenue Avenue/Pu‘uhina Street
- Waianuenue Avenue/Kaumana Drive/Lele Street
- Waianuenue Avenue/Komohana Street
- Kaumana Drive/Pu‘uhina Street/Hualilili Street
- Komohana Street/Punahele Street

The HMCE project was forecasted to generate 57(59) new external trips during the AM(PM) peak hours of traffic. Upon full completion of that project in 2029, the TIAR stated that:

> ….overall Project traffic will increase …. by only 2 to 3%, or as much as 10-35 vehicles/hour/direction. All movements will operate adequately at LOS D [adequate service] or better, with vehicular delays only increasing by as much as 1-2 second at each of the study intersections from Base Year conditions with the exception of the westbound approach along Punahele Street at its intersection with Komohana Street….[where a very small volume left turns would have poor level of service].

As with the HMCE project, the new Medical Office Building project will generate new traffic on Waianuenue Avenue and to some degree throughout the East Hawai‘i area, and specifically the same intersections as studied in the HMCE TIAR. By the third year after construction, HMC anticipates up to 75 new healthcare jobs associated with the facility including physicians, registered nurses, medical assistants, LPNs, nurse practitioners and physician assistants, housekeepers and clerical support staff. Although the new Medical Office Building is smaller than the HMCE project, most of the jobs and visits to the Medical Office Building will be new, with very few that would be relocated from existing facilities on the HMC campus.

In order to calculate the additional traffic impacts from the Medical Office Building project, another TIAR was conducted, also by Austin Tsutsumi. The TIAR is contained in Appendix 2 and summarized below. The study accounted for a natural background annual traffic growth rate of about 1.2 percent due to general development of other homes, offices and other facilities in Hilo and then added traffic projections from known projects, including various hospital projects; the Fire Administration Support Complex and Wailani Hale Ola O Mohouli developments off of Mohouli and Komohana Streets; the Hilo Hillside and Puainako Heights developments off of Puainako Street; and miscellaneous minor planned developments. To establish Base Year 2025 conditions, vehicles were “added” to the 2020 traffic counts at the studied intersections in proportion to the volume of traffic these projects were expected to generate, along with general background growth.

After this step, the traffic generated by the Medical Office Building was calculated. These trips were then distributed proportionally to the study intersections. An additional 50 AM peak hour trips and 70 PM peak hour trips were forecast to occur. This modest level of additional traffic was calculated to have relatively minimal impacts to the overall roadway network. By the year 2025, the project would increase traffic by 2 to 3% over Base Year 2025 conditions, or as much as 10-45 vehicles/hour/direction. Nearly all movements at all intersections will operate adequately with acceptable vehicular delays that would increase by about 1-3 seconds. The exception is the westbound (uphill) approach along Punahele Street at its intersection with Komohana Street, which will operate poorly during both the AM and PM peak hours. However, the queues here will to be aided by gaps in flows along Komohana Street due to the existing signal at Waianuenue Avenue and a new one at Ponahawai Street to be provided as part of the Wailani project. The westbound right-turn movement will be able to complete its turn generally unimpeded. Due to minimal increases in traffic at these intersection, no major impacts are anticipated and no roadway improvements are recommended.

As discussed in detail in Section 1.1., sufficient parking exists on the HMC campus, although construction will cause a short-term, minor shortage that may require minor adjustments such as temporary parking areas and changes in parking rules. No driveway improvements or alterations are currently anticipated, but if necessary, HMC will coordinate with the Hawai‘i County Department of Public Works and obtain approvals per Chapter 22 of the Hawai‘i County Code.

In the short-term, construction has at least some potential to cause traffic congestion on adjacent streets. However, as little of this work will require obstruction of traffic on Waianuenue Avenue, impacts on traffic will be minimal. Furthermore, the contractor will be required to develop a traffic control plan during the design phase of the project that will outline the steps necessary to minimize congestion and maintain access to adjacent properties at all times during construction, with particular attention to access for emergency vehicles. This traffic control plan will be coordinated with HMC to ensure that it does not interfere with the facility's essential operations, particularly emergency services, the driveway for which is directly across Waianuenue Avenue. By letter of May 4, 2022, the County of Hawai‘i Police Department stated that it did not anticipate any significant impact to traffic or public safety concerns (see Appendix 1a).

3.4 Secondary and Cumulative Impacts

The proposed project will not involve any long-term secondary impacts, such as population changes or effects on public facilities, because it simply enables Hilo Medical Center to provide greater access to improved health care. Although the project will provide some short-term construction jobs, these would almost certainly be filled by local residents and would not induce in-migration. Approximately 75 long-term jobs would occur, some of them filled by local residents, others by personnel from other parts of the island, State and nation. In the context of a regional population of over 100,000, the small number of new residents would not be expected to cause significant impacts in terms of housing, demand for services, or effects on infrastructure such as roads, water supply, wastewater treatment, or recreational facilities. If any stress on housing and infrastructure should occur, it would be considered a vital and necessary tradeoff for an increase in medical personnel on the island, which is severely underserved.

Cumulative impacts result when implementation of several projects that individually have limited impacts combine to produce more severe impacts or conflicts in mitigation measures. The impacts should be considered with consideration of the past and current impacts on the health of various area resources. To investigate the potential for cumulative impacts, the first step was to assess reasonably foreseeable future projects that could affect such resources. In the project area, these include:

- *Wailani Development*. This project is a master planned community bordered by Komohana Street to the east and Mohouli Street to the west. The project proposes a maximum of 420,000 square feet of combined retail space, medical-office space and business/tech park space, 208 single-family residential units, 324 multi-family residential units and 296 senior housing residential units.

- *Hale Ola O Mohouli Affordable Residential Project*. This project is located on Mohouli Street just east of its intersection with Kukuau Street. The project proposes to construct 90 affordable residential units and is expected to be completed by 2025.
- *County of Hawai'i Fire Administration Support Complex*. This project currently in construction is building a Fire Administration Support Complex on five acres of land adjacent and to the east of the proposed Hale Ola O Mohouli Affordable Residential Project.
- *Hilo Hillside Phase II*. Phase I of the development on Puainako Street just east of the Kukuau Street dead-end terminus includes 56 single-family homes, mostly constructed and occupied at the current time. Phase II proposes to construct an additional 56 single-family homes.
- *Puainako Heights*. Mauka of Hilo Hillside Phase II on Puainako Street, east of Wilder Road, the project proposes to construct 49 single family homes under Phase 1A and 1B. The remaining phases of the project do not currently have a timeframe for completion.
- *Kaiaulu O Kapiolani Apartments*. This project proposes to construct 64 affordable multi-family residential units bordered by Kukuau Street, Kapiolani Street and Kupukupu Street.
- *HMC Oncology Center Expansion and Rural Health and Telehealth Center Building*. HMC is currently constructing this new 17,295 SF structure, which will be complete and occupied by the time construction of the Medical Office Building is complete.
- *HMC Campus Expansion.* This project, extensively discussed in Section 1 of this EA, would relocate and expand the ICU and Family Birthing Center facilities and provide future programmable space.

Operational traffic from each of these projects has the potential to interact with that from the Medical Office Building. For this reason, traffic was carefully considered from the cumulative perspective, as discussed in Section 3.3.2. Although there is a potential to increase traffic 2-3 percent above future estimated levels without the project, the total traffic is expected to be within the capacity of the system to absorb it, with no significant effects. Due to the various factors including distance and resource health, only the latter two projects located on the HMC campus have any potential to interact with the impacts of the Medical Office Building for the resource areas of traffic, noise, air quality and scenery during the construction-phase. HMC officials will be able to coordinate tasks to ensure that if there is schedule overlap, minimal disruption to traffic and staging logistics and parking will occur. Nearly all permanent impacts from the proposed project are so small as to be negligible, with no measurable effects on ecosystems or rare species; erosion, sedimentation and water quality, historic properties, noise or air quality, and most other measures.

3.5 Required Permits and Approvals

- Hawai'i County Building Division Approval
- Hawai'i County Planning Department Plan Approval
- Hawai'i State Department of Health Underground Injection Control Permit

3.6 Consistency With Government Plans and Policies

3.6.1 Hawai‘i State Plan

Adopted in 1978 and last revised in 1991 (Hawai‘i Revised Statutes, Chapter 226, as amended), the Plan establishes a set of themes, goals, objectives and policies that are meant to guide the State's long-run growth and development activities. The three themes that express the basic purpose of the *Hawai‘i State Plan* are individual and family self-sufficiency, social and economic mobility and community or social well-being. The proposed project would promote these goals by assisting Hilo Medical Center in providing expanded, improved and more efficient medical care, which will benefit Hawai‘i County and the Hilo community.

3.6.2 Hawai‘i County General Plan and Zoning

The *General Plan* for the County of Hawai‘i is a policy document expressing the broad goals and policies for the long-range development of the Island of Hawai‘i. The current plan was adopted by ordinance in 2005. The *General Plan* itself is organized into thirteen elements, with policies, objectives, standards, and principles for each. There are also discussions of the specific applicability of each element to the nine judicial districts comprising the County of Hawai‘i. Most relevant to the proposed project are the following Standard and Course of Action:

<u>Policies, Public Facilities, Health and Sanitation</u>

(a) Encourage the development of new health care facilities or the improvement of existing health care facilities to serve the needs of Hamakua, North and South Kohala, and North and South Kona.

<u>Standards, Public Facilities (1) </u>: Health and Sanitation

Hospitals should be on sites capable of handling moderate expansion of facilities. Quiet surroundings, convenient and adequate access, and compatibility with adjoining uses shall be required.

<u>Courses of Action: South Hilo: Public Facilities: Health and Sanitation:</u>

Improvement and expansion of hospital facilities shall be undertaken as the need arises.

<u>Discussion:</u> The proposed project satisfies relevant standards and courses of action related to Public Health and Sanitation Facilities in Hawai‘i County and the South Hilo District. Other relevant aspects of the General Plan relate to protection of natural and cultural resources and public safety and facilities. The proposed project will not adversely affect any natural or cultural resources or involve public safety or facility impacts.

The *Hawai'i County General Plan Land Use Pattern Allocation Guide (LUPAG)*. The LUPAG map component of the *General Plan* is a graphic representation of the Plan's goals, policies, and standards as well as of the physical relationship between land uses. It also establishes the basic urban and non-urban form for the County along with the planned public and cultural facilities, public utilities and safety features, and transportation corridors. The project site is classified as Low Density Urban in the LUPAG. The proposed project is consistent with this designation.

Hawai'i County Zoning and SMA. The project site is zoned single family residential (RS-10) by the County. Section 25-4-11 of the County Zoning Code allows for public uses that fulfill a government function within this zone, and the proposed facility is a permitted use. The Zoning Code specifies that Plan Approval shall be required for all public uses permitted under 25-4-11. The property is not situated within the County's Special Management Area (SMA). According to the project architects, a height variance and Plan Approval are being submitted in October.

3.6.3 Hawai'i State Land Use Law

All land in the State of Hawai'i is classified into one of four land use categories – Urban, Rural, Agricultural, or Conservation – by the State Land Use Commission, pursuant to Chapter 205, HRS. The property is in the State Land Use Urban District. The proposed use is consistent with this State Land Use designation.

PART 4: DETERMINATION, FINDINGS AND REASONS

4.1 Determination

Based on the findings below, Hilo Medical Center expects that the proposed project will not have any significant effect in the context of Chapter 343, Hawai'i Revised Statues and Chapter 11-200.1-13 of the State Administrative Rules, and intends to issue a Finding of No Significant Impact (FONSI). This conclusion will be finalized after review of comment letters on the Draft EA.

4.2 Findings and Supporting Reasons

Chapter 11-200.1-13, Hawai'i Administrative Rules, outlines those factors agencies must consider when determining whether an Action has significant effects:

> (a) In considering the significance of potential environmental effects, agencies shall consider and evaluate the sum of effects of the proposed action on the quality of the environment.
>
> (b) In determining whether an action may have a significant effect on the environment, the agency shall consider every phase of a proposed action, the expected impacts, and the proposed mitigation measures. In most instances, an action shall be determined to have a significant effect on the environment if it may:

1. *Irrevocably commit a natural, cultural, or historic resource.* No valuable natural or cultural resource would be committed or lost at the fully paved project site through construction and use of additional medical facilities at Hilo Medical Center.

2. *Curtail the range of beneficial uses of the environment.* Only a small parking area would be affected, and no restriction of beneficial uses would occur.

3. *Conflict with the State's environmental policies or long-term environmental goals established by law*. The State's long-term environmental policies are set forth in Chapter 344, HRS. The broad goals of this policy are to conserve natural resources and enhance the quality of life. The project is minor, environmentally beneficial, and fulfills aspects of these policies calling for an improved social environment. It is thus consistent with all elements of the State's long-term environmental policies.

4. *Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State.* The project would improve the social welfare of the community and State by improving medical treatment for the Big Island community and the State of Hawai‘i.

5. *Have a substantial adverse effect on public health.* The project would affect public health and safety in only beneficial ways by providing expanded, improved and more efficient medical care for the Big Island community and the State of Hawai‘i.

6. *Involve adverse secondary impacts, such as population changes or effects on public facilities*. No adverse secondary effects are expected to result from the proposed action, which would simply provide a facility to improve medical care at Hilo Medical Center.

7. *Involve a substantial degradation of environmental quality*. The project is minor and environmentally benign, and thus it would not contribute to environmental degradation.

8. *Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions.* Various reasonably foreseeable projects are present in the general area. Operational traffic from each of these projects has the potential to interact with that from the Medical Office Building. Although there is a potential to increase traffic 2-3 percent above future estimated levels without the project, the total traffic is expected to be within the capacity of the system to absorb it, with no significant effects. Due to the various factors including distance and resource health, only the two projects located on the HMC campus have any potential to interact with the impacts of the Medical Office Building for the resource areas of traffic, noise, air quality and scenery during the construction phase. HMC officials will be able to coordinate tasks to ensure that if there is schedule overlap, minimal disruption to traffic and staging logistics and parking will occur. Nearly all permanent impacts from the proposed project are so small as to be negligible, with no measurable effects on ecosystems or rare species; erosion, sedimentation and water quality, historic properties, noise or air quality, and most other measures.

9. *Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat.* The project site is a small, paved area with no natural vegetation or habitat. Impacts to rare, threatened or endangered species of flora or fauna will not occur.

10. *Have a substantial adverse effect on air or water quality or ambient noise levels.* No adverse effects on these resources would occur. Mitigation of construction-phase impacts will preserve water quality receptors in the vicinity. Hilo Medical Center will ensure that the construction contractor consults with the Department of Health. If applicable, Hilo Medical Center will obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction that may include various mitigation measures for construction noise.

11. *Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.* Although the project is located in an area with volcanic and seismic risk, the entire Island of Hawai‘i shares this risk, and the project is not imprudent to construct. There is only minimal flood hazard in this area.

12. *Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies.* No scenic vistas and viewplanes will be adversely affected by the project.

13. *Require substantial energy consumption or emit substantial greenhouse gases*. Negligible amounts of energy input and greenhouse gas emissions would be required for construction and occupation of the facility. The facility would meet or exceed all applicable commercial building energy efficiency standards. The building was designed using the 2018 International Energy Conservation Code. Reduction of the building’s carbon footprint is achieved by increasing the R value of all exterior walls and roof, and by increasing the solar heat gain coefficient of all the windows. A commercial grade weather-barrier will be installed to all exterior walls to control air leakage into and from the interior of the building. HVAC equipment performance is very efficient with multiple-zone controls and automatic off-hour thermostat controls. All ducts, plenums and piping will be insulated. All lighting will have high efficacy lamps, and occupancy sensors will be installed in all rooms. Exterior lighting is minimal and mostly used for path finding and safety.

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ENVIRONMENTAL ASSESSMENT

Hilo Medical Center New Medical Office Building

APPENDIX 1A Comments in Response to Early Consultation

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Mitchell D. Roth
Mayor

Paul K. Ferreira
Police Chief

Kenneth Bugado Jr.
Deputy Police Chief

County of Hawai`i

POLICE DEPARTMENT
349 Kapi'olani Street • Hilo, Hawai'i 96720-3998
(808) 935-3311 • Fax (808) 961-2389

May 4, 2022

Ron Terry, Ph.D.
Geometrician Associates, LLC
10 Hina Street
Hilo, HI 96720

Dear Dr. Terry:

SUBJECT: EARLY CONSULTATION FOR HILO MEDICAL CENTER NEW OFFICE BUILDING, HILO, HI : TMK (3rd) 2-3-031:009, 012 and 019

Staff, upon reviewing the provided documents, does not anticipate any significant impact to traffic and/or public safety concerns.

Thank you for allowing us the opportunity to comment.

If you have any questions, please contact Captain Sandor Finkey, South Hilo Patrol, at 961-2214.

Sincerely,

KENNETH A.K. QUIOCHO
ASSISTANCE POLICE CHIEF
AREA I OPERATIONS

SF:lli/19HQ1301

DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAI'I
345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAI'I 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

May 24, 2022

Ron Terry, Ph.D.
Geometrician Associates, LLC
10 Hina Street
Hilo, HI 96720

Dear Mr. Terry:

Subject: Early Consultation for Hilo Medical Center New Office Building
Tax Map Key 2-3-031:019, 012; 2-3-032:009

This is in response to your letter dated April 27, 2022.

Please be informed that water can be made available from an existing 16-inch waterline within Waiānuenue Avenue which fronts the subject parcels in accordance with the Department's existing water availability conditions, which are subject to change without notice.

The Department requests that the applicant submit estimated maximum daily water usage calculations for each parcel, for review and approval. The water usage calculations shall be prepared by a professional engineer licensed in the State of Hawai'i and should include the estimated peak flow in gallons, per minute (GPM) and the total estimated maximum daily water usage in gallons per day, including all irrigation/landscaping use.

Upon receipt of the water usage calculations above, the Department will make a determination as to the water commitment deposit amount and prevailing facilities charge (subject to change) to be paid, if necessary. Based on the water demand calculations, the Department will determine the appropriate service lateral and meter size required for each parcel.

The proposed use will require the installation of a reduced pressure type backflow prevention assembly, within five (5) feet of the meter on private property. If a larger or additional meter is required, a backflow prevention assembly will also be required for that meter. The installation of the backflow prevention assembly(s) must be inspected and approved by the Department before the commencement/continuation of water service.

Please be informed that the existing 16-inch waterline within Waiānuenue Avenue is adequate to provide the required 2,000 gallons per minute flow for fire protection, as per the Department's Water System Standards. The applicant should contact the Fire Department to determine any other fire protection requirements.

Should there be any questions, please contact Mr. Troy Samura of our Water Resources and Planning Branch at (808) 961-8070, extension 255.

Sincerely yours,

f Keith K. Okamoto, P.E.
Manager-Chief Engineer

TS:dfg

copy - Planning Department

Mitchell D. Roth
Mayor

Lee E. Lord
Managing Director

Steven Ikaika Rodenhurst, P.E.
Director

Stephen M. Pause, P.E.
Deputy Director

County of Hawai'i

DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 · Hilo, Hawai'i 96720-4224
(808) 961-8321 · Fax (808) 961-8630
public_works@hawaiicounty.gov

MAY 27, 2022

ATTN: RON TERRY
GEOMETRICIAN ASSOCIATES, LLC.
P.O. BOX 396
HILO, HAWAII 96721
(via email to rterry@hawaii.rr.com)

SUBJECT: EARLY CONSULTATION FOR HILO MEDICAL CENTER NEW OFFICE BUILDING
HILO DISTRICT, ISLAND OF HAWAII
TMK: (3) 2-3-031:019, 2-3-032:009, 012

We received the subject dated April 27, 2022 and have the following comments:

The subject parcel is in an area designated as Zone X on the Flood Insurance Rate Map (FIRM) by the Federal Emergency Management Agency (FEMA). Zone X is an area determined to be outside the 500-year floodplain.

All development-generated runoff shall be disposed of on site and not directed toward any adjacent properties. A drainage study shall be prepared and the recommended drainage system shall be constructed meeting the approval of the Department of Public Works.

All activities shall comply with the requirements of Hawaii County Code (HCC), Chapter 10, Erosion and Sedimentary Control.

Construction within the County right-of-way shall comply with HCC, Chapter 22, County Streets.

Should there be any questions concerning this matter, please contact Ms. Robyn Matsumoto in our Engineering Division at (808) 961-8924.

for ALAN K. THOMPSON, Division Chief
Engineering Division

RM

County of Hawai'i is an Equal Opportunity Provider and Employer.

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
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

Jun 2, 2022

Geometrician Associates, LLC
Attention: Mr. Ron Terry
P.O. Box 396
Hilo, Hawaii 96721

via email: rterry@hawaii.rr.com

Dear Mr. Terry:

SUBJECT: Early Consultation for **Hilo Medical Center New Office Building** located at Hilo, Island of Hawaii; TMK: (3) 2-3-031: 009, 012, and 019 on behalf of Hilo Medical Center

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

At this time, enclosed are comments from the (a) Engineering Division and (b) Land Division-Hawaii District on the subject matter. Should you have any questions, please feel free to contact Darlene Nakamura at (808) 587-0417 or email: darlene.k.nakamura@hawaii.gov. Thank you.

Sincerely,

Russell Tsuji

Russell Y. Tsuji
Land Administrator

Enclosures
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
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

May 10, 2022

MEMORANDUM

FROM: ~~TO:~~ **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
_X_Engineering Division (DLNR.ENGR@hawaii.gov)
_X_Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___Div. of State Parks
_X_Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
___Office of Conservation & Coastal Lands
_X_Land Division – Hawaii District (gordon.c.heit@hawaii.gov)

TO: ~~FROM:~~ Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Early Consultation for **Hilo Medical Center New Office Building**
LOCATION: Hilo, Island of Hawaii; TMK: (3) 2-3-031: 009, 012, and 019
APPLICANT: Geometrician Associates, LLC on behalf of Hilo Medical Center

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit comments by **June 2, 2022.**

If no response is received by the above date, we will assume your agency has no comments. Should you have any questions about this request, please contact Darlene Nakamura at darlene.k.nakamura@hawaii.gov. Thank you.

BRIEF COMMENTS:

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

Signed: [signature]
Print Name: Carty S. Chang, Chief Engineer
Division: Engineering Division
Date: May 27, 2022

Attachments
cc: Central Files

5/26/22

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
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

May 10, 2022

MEMORANDUM

TO: **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
X Engineering Division (DLNR.ENGR@hawaii.gov)
X Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___Div. of State Parks
X Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
___Office of Conservation & Coastal Lands
X Land Division – Hawaii District (gordon.c.heit@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator Russell Tsuji
SUBJECT: Early Consultation for **Hilo Medical Center New Office Building**
LOCATION: Hilo, Island of Hawaii; TMK: (3) 2-3-031: 009, 012, and 019
APPLICANT: Geometrician Associates, LLC on behalf of Hilo Medical Center

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit comments by **June 2, 2022.**

If no response is received by the above date, we will assume your agency has no comments. Should you have any questions about this request, please contact Darlene Nakamura at darlene.k.nakamura@hawaii.gov. Thank you.

BRIEF COMMENTS:

Need To verify TMK plat #!.

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

Signed: [signature]
Print Name: GORDON C. HEIT
Division: Land Division
Date: 5/26/22

Attachments
cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji
Ref: Early Consultation for Hilo Medical Center New Office Building
Location: Hilo, Island of Hawaii
TMK(s): (3) 2-3-031: 009, 012, and 019
Applicant: Geometrician Associates, LLC on behalf of Hilo Medical Center

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high-risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR, Chapter 1, Subchapter B, part 60 reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA's Map Service Center (msc.fema.gov). Our Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT) could also be used to research flood hazard information.

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7139.
- Kauai: County of Kauai, Department of Public Works (808) 241-4896.

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

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

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: May 27, 2022

ENVIRONMENTAL ASSESSMENT

Hilo Medical Center New Medical Office Building

APPENDIX 2 Traffic Impact Assessment Report

Note: Appendices to TIAR not included, available upon request: rterry@hawaii.rr.com

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TRAFFIC IMPACT ANALYSIS REPORT NEW HILO MEDICAL CENTER MEDICAL OFFICE BUILDING (MOB3)

HILO, HAWAII

FINAL DRAFT

September 23, 2022

Prepared for:

FLEMING & Associates, LLC
557 Manono Street
Hilo, Hawaii 96720

Austin, Tsutsumi & Associates, Inc.
Civil Engineers • Surveyors
501 Sumner Street, Suite 521
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Honolulu • Wailuku, Hawaii

TRAFFIC IMPACT ANALYSIS REPORT
NEW HILO MEDICAL CENTER MEDICAL OFFICE BUILDING (MOB3)

Hilo, Hawaii

FINAL DRAFT

Prepared for

FLEMING & Associates, LLC
557 Manono Street
Hilo, Hawaii 96720

Prepared by
Austin, Tsutsumi & Associates, Inc.
Civil Engineers • Surveyors
Honolulu • Wailuku, Hawaii

September 23, 2022

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AUSTIN, TSUTSUMI & ASSOCIATES, INC. CIVIL ENGINEERS • SURVEYORS
CONTINUING THE ENGINEERING PRACTICE FOUNDED BY H. A. R. AUSTIN IN 1934

TERRANCE S. ARASHIRO, P.E.
ADRIENNE W.L.H. WONG, P.E., LEED AP
DEANNA M.R. HAYASHI, P.E.
PAUL K. ARITA, P.E.
ERIK S. KANESHIRO, L.P.L.S., LEED AP
MATT K. NAKAMOTO, P.E.
GARRETT K. TOKUOKA, P.E.

TRAFFIC IMPACT ANALYSIS REPORT

Hilo Medical Center Medical Office Building (MOB3)

Hilo, Island of Hawaii, Hawaii

1. INTRODUCTION

This report documents the findings of a traffic study conducted by Austin, Tsutsumi, and Associates, Inc. (ATA) to evaluate the potential traffic impacts resulting from the proposed New Hilo Medical Center (HMC) Medical Office Building (MOB3) (hereinafter referred to as the "Project") located in Hilo, Hawaii.

1.1 Existing Site Description

The existing HMC Campus encompasses various parcels on approximately 33 acres along Waianuenue Avenue. The existing HMC Campus currently provides the following, which totals approximately 390,800 square feet (SF) of building space:

- HMC Primary Acute Care Facility – 250,581 SF
- HMC Behavioral Health Facility – 13,581 SF
- HMC West Wing – Non-Clinical Offices – 9,365 SF
- HMC Cancer Center – 16,896 SF
- HMC Long-Term Care Facility – 22,284 SF
- Yukio Okutsu State Veterans Home (YOSVH) – 55,554 SF
- Ancillary/Maintenance Buildings – 22,569 SF

Parking for the existing HMC Campus is provided via six (6) intersection accesses off Waianuenue Avenue and are hereinafter identified as the following going from west to east of the HMC site:

- HMC North Parking Lot – West Driveway
- HMC North Parking Lot – East Driveway/HMC Cancer Center Driveway
- HMC South Parking Lot – West Driveway
- YOSVH – West Driveway
- HMC South Parking Lot – West Driveway/YOSVH – East Driveway
- HMC Long-Term Care Facility Driveway

In addition to the above existing uses, HMC is planning the following two (2) future expansions for HMC:

- HMC is currently constructing a new 17,295 SF Oncology Center Expansion and Rural Health and Telehealth Center Building (MOB2) next to the existing HMC Hawaii Pacific Oncology Center (HPOC) on the south side of Waianuenue Avenue. Access to the MOB2 site will be provided by the existing parking lot accesses identified above.
- HMC is preparing a separate EA for a larger Campus Expansion on the north side of Waianuenue Avenue. In total, this expansion would expand the existing campus facility by 18,900 SF in phase 1 (anticipated completion by Year 2025) and 43,000 SF in phase 2 (anticipated completion by Year 2029).

1.2 Project Description

The Project proposes to construct a new building on the south side of Waianuenue Avenue, immediately adjacent and to the east of the aforementioned MOB2 building that is currently in construction. The Project is proposing a new 18,750 square foot (SF) building for medical-office use. These uses will include new healthcare programs not currently available on the existing HMC campus and will provide approximately 75 new healthcare jobs (registered nurses, medical assistants, LPN's, nurse practitioner/PA's, physicians, housekeepers and support staff). The Project is not adding any new beds and will only provide outpatient services. Vehicular access to the Project will occur via existing parking lot accesses identified above in Section 1.1. The Project is expected to open by Year 2025.

See Figure 1.1 for Location Map and Figure 1.2 for the Project Site Plan.

HILO MEDICAL CENTER MOB 3 TIAR

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

STUDY INTERSECTIONS

1. WAIANUENUE AVE. & HMC NORTH PARKING LOT (WEST DWY.)
2. WAIANUENUE AVE. & HMC NORTH PARKING LOT (EAST DWY.)
3. WAIANUENUE AVE. & HMC SOUTH PARKING LOT (WEST DWY.)
4. WAIANUENUE AVE. & HMC YUKIO OKUTSU WEST DWY.
5. WAIANUENUE AVE. & HMC YUKIO OKUTSU EAST DWY. & HMC SOUTH PARKING LOT (EAST DWY.)
6. WAIANUENUE AVE. & HMC LONG-TERM CARE DWY.
7. WAIANUENUE AVE. & RAINBOW DR.
8. WAIANUENUE AVE. & PUUHINA ST.
9. WAIANUENUE AVE. & KAUMANA DR. & LELE ST.
10. WAIANUENUE AVE. & KOMOHANA ST.
11. KAUMANA DR. & PUUHINA ST. & PUNAHELE ST. & HUALILILI ST.
12. PUNAHELE ST. & KOMOHANA ST.

FIGURE 1.1

LOCATION MAP

NOTE:
THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY. DO NOT USE FOR CONSTRUCTION.

N
NOT TO SCALE

ZOING ANALYSIS

RS-10
FRONT / REAR SETBACK: 20'-0'
SIDE SETBACK: 10'-0"
HEIGHT: 35'-0"

EXISTING MOB-1

1ST FLOOR = 8,865 SQ FT
2ND FLOOR = 8,736 SQ FT
TOTAL = 17,601 SQ FT

EXISTING MOB-2

1ST FLOOR = 8,355 SQ FT
2ND FLOOR = 8,940 SQ FT
TOTAL = 17,295 SQ FT

PROPOSED MOB-3

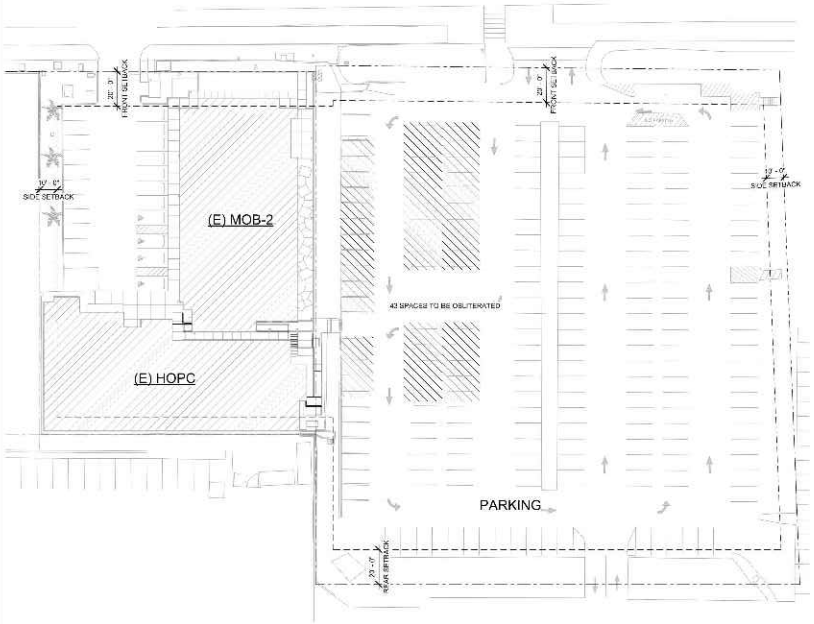
1ST FLOOR = 9,100 SQ FT
2ND FLOOR = 9,650 SQ FT
TOTAL = 18,750 SQ FT

MOB-1 = 17,601 SQ FT
MOB-2 = 17,295 SQ FT
MOB-3 = 18,750 SQ FT
TOTAL = 53,646 SQ FT

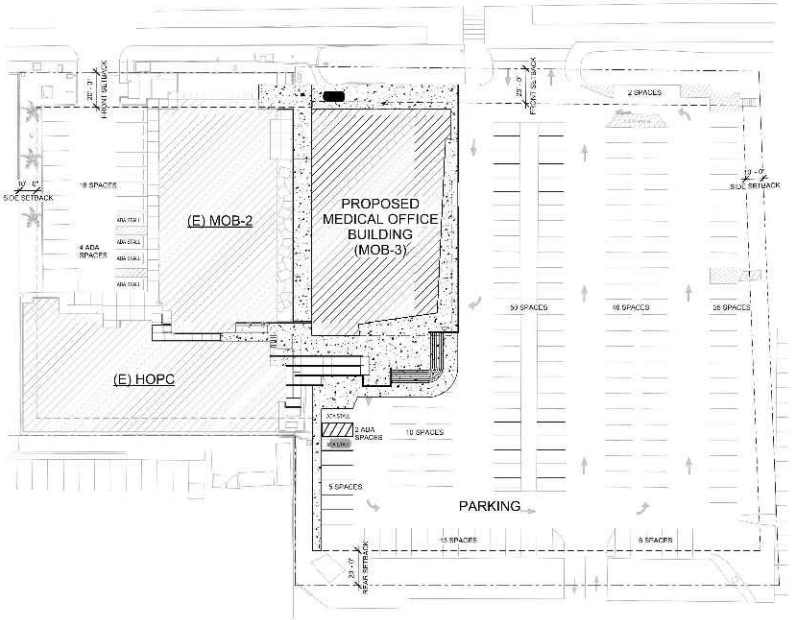
53,646 / 300 = **179 PARKING SPACES**

REQUIRED:
STANDARD STALLS: **173**
ADA STALLS: **6**

PROVIDED:
STANDARD STALLS: **175**
ADA STALLS: **6**



1 EXISTING / DEMOLITION SITE PLAN
1" = 30'-0"



2 EXISTING / NEW SITE PLAN
1" = 30'-0"

FLEMING & Associates, LLC
557 MANONO STREET
HILO, HAWAII

HILO MEDICAL CENTER
MEDICAL OFFICE BUILDING
SCHEMATIC DESIGN
126b WAIANUENUE AVENUE
HILO, HAWAII 96720
TAX MAP KEY: (3) 2-3-051: 019

CONSULTANT:

REVISIONS

No.	Description	Date

PROJECT NO.: 21003.00
PROJECT ARCH: SF
PROJECT PLANS: JAA

SHEET CONTENTS:
SITE PLAN

DATE: JAN 2022

SHEET:
A100

2. METHODOLOGY

2.1 Study Methodology

This study will address the following:

- Assess existing traffic operating conditions during the weekday AM and PM peak hours of traffic within the study area.
- Traffic Projections for Base Year 2025 (without the Project), including traffic generated by other known developments in the vicinity of the Project in addition to an ambient growth rate.
- Trip generation and traffic assignment characteristics for the proposed Project.
- Traffic projections for the Future Year 2025 (with Project).
- Provide recommendations for roadway improvements or other mitigative measures, as appropriate, to reduce or eliminate the adverse impacts resulting from traffic generated by the Project.

2.2 Analysis Methodology

Level of Service (LOS) is a qualitative measure used to describe the conditions of traffic flow at intersections, with values ranging from free-flow conditions at LOS A to congested conditions at LOS F. The Highway Capacity Manual (HCM), 6th Edition, includes methods for calculating volume-to-capacity (v/c) ratios, delays, and corresponding LOS that were used in this study. See Appendix B for LOS Criteria.

Analysis for the study intersections were performed using the traffic analysis software Synchro, which is able to prepare reports based on the methodologies described in the HCM. These reports contain control delay results as based on intersection lane geometry, signal timing, and hourly traffic volumes. Based on the vehicular delay at each intersection, a LOS is assigned to each approach and intersection movement as a qualitative measure of performance. These results constitute the technical analysis that will form the basis of the recommendations outlined in this report.

2.3 Study Area Intersection Analysis

Intersection analysis within the Project's study area was performed on the following intersections due to their proximity to the Project:

- Waianuenue Avenue/HMC & YOSVH Driveways 1-6
- Waianuenue Avenue/Rainbow Drive
- Waianuenue Avenue/Puuhina Street
- Waianuenue Avenue/Kaumana Drive/Lele Street
- Waianuenue Avenue/Komohana Street
- Kaumana Drive/Puuhina Street/Hualilili Sreet
- Komohana Street/Punahele Street

3. EXISTING CONDITIONS

3.1 Roadway System

The following are brief descriptions of the existing roadways studied within the vicinity of the Project:

Waianuenue Avenue is generally an east-west, two-way, two lane, undivided County roadway with a posted speed limit of 35 miles per hour (mph) within the study area. Waianuenue Avenue serves the Hilo area, beginning to the east in downtown Hilo at its intersection with Mamalahoa Highway, continues further west passing adjacent to the Hilo Medical Center and continuing near a small residential subdivision as Piihonua Road.

Rainbow Drive is generally an east-west, two-way, two lane, undivided roadway with a posted speed limit of 20 mph. Rainbow Drive is a loop road, less than 0.5-miles long and begins and ends at intersections with Waianuenue Avenue. It provides access to Rainbow Falls Park.

Puuhina Street is generally a north-south, two-way, two lane, undivided roadway with a posted speed limit of 25 mph. Puuhina Street serves a mostly residential area, beginning to the north at its intersection with Waianuenue Avenue and extends to the south at its intersection with Kaumana Drive.

Kaumana Drive is generally a northeast-southwest, two-way, two-lane, undivided County roadway with a posted speed limit of 25 mph within the study area. Kaumana Drive serves as a collector road in the Hilo area, beginning to the northeast at its intersection with Waianuenue Avenue and extending to the southwest at its intersection with Saddle Road.

Lele Street is a short, northbound, one-way, two-lane, roadway with no posted speed limit. Lele Street begins to the south at its intersection with Punahele Street and terminates to the north at its intersection with Kaumana Drive.

Hualilili Street is generally an east-west, two-way, two-lane, undivided roadway with no posted speed limit. Hualilili Street provides access to a residential neighborhood, as well as a 7-Eleven, beginning to the west at its intersection with Kaumana Drive and terminating to the east in a dead end.

Punahele Street is generally a north-south, two-way, two-lane, undivided roadway with a posted speed limit of 25 mph. Punahele Street provides access to a residential neighborhood, beginning to the north at its intersection with Kaumana Drive and terminating to the south at its intersection with Halai Street.

3.2 Existing Multimodal Facilities

3.2.1 Pedestrian Facilities

Due to the rural nature, there are very few raised or separated sidewalks. Wide, walkable shoulders are provided along both sides of Waianuenue Avenue fronting Hilo Medical Center to accommodate pedestrian activity to/from the HMC facility and adjacent parking lots. Sidewalks are provided along both sides of Kaumana Drive in the study area. Marked crosswalks are provided at the Rainbow Drive and Waianuenue intersection, Waianuenue Avenue and Kaumana Drive intersection, and the Kaumana Drive and Puuhina Street intersection. There are also two

(2) mid-block crosswalks along Waianuenue Avenue in front of Hilo Medical Center that service pedestrians walking to/from the HMC facility and the parking lots. Pedestrian facilities are shown in Figure 3.1.

3.2.2 Bicycle Facilities

There are currently no bike accommodations in the study area.

3.2.3 Transit Facilities

Hawaii County operates the Hele-On Bus, which provides 13 different routes in the East Hawaii region. Service is provided Monday through Saturday with limited service on Sundays and holidays. There is one bus route Kaumana (Route 102) that travels through the study area along Waianuenue Avenue and Kaumana Drive. A bus stop is provided fronting the HMC and nearby Kaiser Permanente Medical Center. Transit facilities are shown in Figure 3.1.

3.3 Existing Traffic Volumes

Turning movement counts were collected on Thursday, August 26, 2021. At this time, all DOE schools and UH Hilo were in session however, traffic increases were applied at various intersections based on the following:

- Minor traffic increase primarily on Waianuenue Avenue to account for slightly lower parking occupancy at the time of the August 2021 traffic count, when compared to average parking occupancy from an internal HMC study done over multiple days in 2020. AM(PM) peak hour parking occupancy was approximately 27(30) vehicles less than the average 2020 parking assessment. Therefore, 27 entering AM vehicles and 30 exiting PM vehicles were added to the existing August 2021 counts.

- At the time of the August 2021 traffic count, the HMC Cancer Center Driveway was closed due to construction of the new MOB2 Building. Additional in/out turning movement volumes were added to this HMC Cancer Center Driveway based on the 2020 HMC parking assessment. This yielded 13 entering AM peak vehicles and 7-8 entering/exiting PM peak vehicles.

- Based on available historic data (2008 ATA counts, 2016 HDOT counts, 2020 AECOM counts), the following traffic adjustments were made:

    - Add 50(30) eastbound through Kaumana Drive and 0(130) westbound through Kaumana Drive during the AM(PM) peak hours. Increases based on comparison of ATA's 2021 count to 2008 count at the Kaumana Drive/Lele Street intersection. Traffic increases carried over to the Waianuenue Avenue/Komohana Street intersection and increased all turning movements at this intersection.

    - No additional increases along Waianuenue Avenue, fronting HMC, since overall 2021 ATA peak counts were higher than 2016 HDOT counts.

Based on the traffic count data, the weekday AM and PM peak hours of traffic were determined to occur generally between 7:00 AM and 8:00 AM and between 3:15 PM to 4:15 PM, respectively. See the traffic count data provided in Appendix A.

3.4 Existing Observations and Intersection Analysis

Currently, between 7:15 AM to 8:00 AM on school days, the westbound lane along Waianuenue Avenue is used as an additional eastbound travel lane to service heavy traffic generated by the nearby Hilo Union Elementary School, Hilo Intermediate and Hilo High School. All vehicular traffic along Waianuenue Avenue during this period is restricted to only eastbound flows from Kamehameha Avenue to Komohana Street.

For about five (5) signal cycles between 7:30 AM and 7:45 AM, northbound queues were observed to briefly spill back along Komohana Street from its intersection with Waianuenue Avenue to Punahele Street. Northbound flows quickly dissipated, but Punahele Street westbound approach queued for a brief 10-minute period due to the northbound Komohana Street queue spillback. The combined westbound left-turn/through movement is relatively low with only 20-30 vehicles per hour during the AM peak hour, resulting in queues of only 1-2 vehicles long. Based on observations, the higher westbound right-turn movement from Punahele Street turning onto Komohana Street was generally able to complete its turn unimpeded with little to no impacts from the queued westbound left-turn/through vehicle(s) due to the skewed westbound approach alignment. There was no observed PM peak queuing at the Komohana Street/Punahele Street intersection. Turning movement volumes from Punahele Street onto Komohana Street is aided by gaps in flows along Komohana Street due to signals on either end at Waianuenue Avenue and Ponahawai Street.

Traffic throughout the remaining study network was observed to generally flow smoothly along the study corridors, with no significant queues. All vehicles at the study intersections were generally able to clear within one signal cycle.

Fronting the existing HMC site, two (2) marked pedestrian crosswalks are provided at the HMC South Parking Lot – West Driveway and the YOSVH West Driveway. Approximately 120-150 pedestrians cross at the HMC South Parking Lot – West Driveway crosswalk and approximately 60 pedestrians cross at the YOSVH West Driveway during each of the peak hours. Due to relatively low vehicular volumes and low speeds, there were no observed vehicle-pedestrian conflicts.

All movements at the Study Intersections were observed to operate at LOS C or better during the AM and PM peak hours of traffic.

Figure 3.2 illustrates the existing lane configuration, existing traffic volumes, and LOS for each study intersection. Table 3.1 summarizes the existing LOS at the study intersections. LOS worksheets are provided in Appendix C.

HILO MEDICAL CENTER MOB 3 TIAR

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

FIGURE 3.1

EXISTING PEDESTRIAN, BICYCLE AND TRANSIT FACILITIES

HILO MEDICAL CENTER MOB 3 TIAR

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

FIGURE 3.2.1

EXISTING CONDITIONS, LANE CONFIGURATIONS, TRAFFIC VOLUMES AND LOS - 1

HILO MEDICAL CENTER MOB 3 TIAR

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Engineers & Surveyors

FIGURE 3.2.2

EXISTING CONDITIONS, LANE CONFIGURATIONS, TRAFFIC VOLUMES AND LOS - 2

TABLE 3.1: LOS SUMMARY TABLE
EXISTING CONDITIONS

Intersection	Existing 2021 Conditions					
	AM			PM		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
1: HMC North Parking Lot - West Dwy & Waianuenue Ave						
EB LT	7.6	0.01	A	7.7	0.00	A
WB LT	7.6	0.01	A	7.5	0.01	A
SB LT/RT	11.0	0.05	B	11.3	0.12	B
OVERALL	1.4	-	-	2.2	-	-
2: HMC Cancer Center Dwy/HMC North Parking Lot - East Dwy & Waianuenue Ave						
NB LT/TH/RT	0.0	0.00	A	9.9	0.01	A
EB LT	7.7	0.00	A	7.7	0.00	A
WB LT	7.6	0.01	A	7.7	0.01	A
SB LT/TH/RT	12.3	0.04	B	12.9	0.10	B
OVERALL	0.8	-	-	1.5	-	-
3: HMC South Parking Lot - West Dwy & Waianuenue Ave						
NB LT/RT	9.9	0.09	A	10.9	0.12	B
WB LT	7.8	0.06	A	7.9	0.02	A
OVERALL	2.1	-	-	1.7	-	-
4: Waianuenue Ave & YOSVH - West Dwy						
EB LT	8.0	0.00	A	7.8	0.00	A
SB LT/RT	12.8	0.05	B	13.2	0.06	B
OVERALL	0.6	-	-	0.6	-	-
5: HMC South Parking Lot - West Dwy/YOSVH - East Dwy & Waianuenue Ave						
NB LT/TH/RT	9.7	0.01	A	13.3	0.32	B
WB LT	8.1	0.11	A	8.1	0.00	A
SB LT/TH/RT	17.2	0.01	C	20.4	0.05	C
OVERALL	1.7	-	-	3.5	-	-
6: Waianuenue Ave & HMC Long-Term Care Facility Dwy						
NB LT/TH/RT	9.6	0.00	A	0.0	0.00	A
EB LT	8.4	0.01	A	7.7	0.01	A
WB LT	7.8	0.00	A	8.6	0.00	A
SB LT/TH/RT	14.5	0.05	B	14.2	0.14	B
OVERALL	0.5	-	-	1.0	-	-
7: Waianuenue Ave & Rainbow Dr.						
EB LT	8.6	0.00	A	7.9	0.00	A
SB LT/RT	15.9	0.05	C	18.8	0.17	C
OVERALL	0.3	-	-	1.0	-	-
8: Puuhina St & Waianuenue Ave						
NB LT/RT	17.2	0.20	C	18.3	0.08	C
WB LT	7.9	0.01	A	9.0	0.01	A
OVERALL	1.5	-	-	0.6	-	-
9: Kaumana Dr & Waianuenue Ave/Lele St						
NB LT	30.7	0.39	C	32.3	0.08	C
NB TH	10.4	0.55	B	11.3	0.21	B
EB LT	16.6	0.37	B	19.8	0.57	B
EB LT/TH/RT	15.4	0.15	B	18.2	0.44	B
WB LT	23.3	0.03	C	0.0	0.00	A
WB TH/RT	25.0	0.14	C	32.9	0.12	C
SB TH	12.0	0.28	B	19.2	0.63	B
OVERALL	12.9	-	B	18.1	-	B

TABLE 3.1: LOS SUMMARY TABLE
EXISTING CONDITIONS CONT'D

Intersection	Existing 2021 Conditions					
	AM			PM		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
10: Komohana St & Waianuenue Ave						
NB LT	16.7	0.76	B	11.4	0.55	B
NB RT	9.9	0.31	A	9.2	0.11	A
EB TH	20.0	0.76	C	8.9	0.46	A
EB RT	12.0	0.14	B	8.0	0.26	A
WB LT/TH	11.8	0.09	B	9.1	0.48	A
OVERALL	15.3	-	B	9.2	-	A
11: Kaumana Dr & Puuhina St/Hualilili St. & Punahele St						
NB LT	7.6	0.04	A	8.1	0.01	A
EB RT	9.0	0.01	A	10.5	0.01	B
WB LT/TH/RT	15.7	0.14	C	15.1	0.08	C
SB LT	8.8	0.02	A	7.8	0.02	A
OVERALL	1.9	-	-	1.4	-	-
12: Punahele St & Komohana St						
NB LT	7.7	0.02	A	8.6	0.03	A
EB LT/TH/RT	14.7	0.39	B	16.9	0.28	C
WB LT/TH/RT	23.1	0.54	C	22.1	0.16	C
SB LT	9.9	0.02	A	8.4	0.00	A
OVERALL	5.5	-	-	2.6	-	-

4. BASE YEAR 2025 TRAFFIC CONDITIONS

Base Year 2025 represents the traffic conditions within the study area without the Project. Traffic projections were formulated by applying a defacto growth rate to the existing traffic count volumes as well as trips generated by known future developments in the vicinity of the Project.

4.1 De Facto Growth Rate

Background traffic growth in the study area was determined based on the HDOT Island of Hawaii 2035 Travel Demand Forecasting Model (TDFM). The forecasting model uses population forecasts from the Hawaii County General Plan to distribute households and vehicular trips across predetermined Traffic Analysis Zones (TAZs) based upon existing TAZ household distributions. Based on the TDFM, a conservative annual ambient growth rate of 1.2% was applied to the through movements along Waianuenue Avenue, Kaumana Drive and Komohana Street.

4.2 Background Developments

In addition to redevelopment accounted for in the de facto growth rates, traffic projections from all known background projects in the vicinity of the Project at the time of this study were added to the existing roadway network to account for intersection turning movements. Trips from the following developments were added to the existing AM and PM peak hour volumes to reflect Base Year conditions. See Figure 4.1 for the location of the background developments and Table 4.1 for anticipated trips generated by the background developments.

Wailani Development – This project is a master planned community bordered by Komohana Street to the east and Mohouli Street to the west. The project proposes a maximum of 420,000 square feet of combined retail space, medical-office space and business/tech park space, 208 single-family residential units, 324 multi-family residential units and 296 senior housing residential units. A 2009 TIAR was completed for this development, but since land use allocations have changed, new trips were generated based on the current plan, as shown in Table 4.1. purposes of this TIAR, ultimate build-out is anticipated to occur over a 10-year period to Year 2031.

Hale Ola O Mohouli Affordable Residential Project – This project is located north of Mohouli Street and just east of its intersection with Kukuau Street. The project proposes to construct 90 affordable residential units and is expected to be completed by 2025. A TIAR for the Hale Ola O Mohouli Affordable Residential Project was completed by AECOM dated November 2020.

County of Hawaii Fire Administration Support Complex – The project proposes to construct a Fire Administration Support Complex on 5.0 acres of land adjacent and to the east of the proposed Hale Ola O Mohouli Affordable Residential Project. A TIAR for the County of Hawaii Fire Administration Support Complex was completed by M&E Pacific, Inc dated February 2008.

Hilo Hillside Phase II – This project is located along the Puainako Street Extension, east of Puainako Heights. Phase I of the development includes 56 single-family homes, the majority of which were constructed and occupied at the time of data collection. Phase II proposes to construct an additional 56 single-family homes.

Puainako Heights – This project is located along the Puainako Street Extension, east of Wilder Road. The project proposes to construct 49 single family homes under Phase 1A and 1B. The remaining phases of the project do not currently have a timeframe for completion.

Kaiaulu O Kapiolani Apartments – This project proposed to construct 64 affordable multi-family residential units bordered by Kukuau Street, Kapiolani Street and Kupukupu Street.

HMC MOB2 Building (HMC Oncology Center Expansion and Rural Health and Telehealth Center Building) – At the time of the traffic count, HMC was constructing this new 17,295 SF MOB2 building adjacent to the existing HPOC.

HMC Campus Expansion – This project is an expansion of the main HMC campus facility on the north side of Waianuenue Avenue. In total, this expansion would expand the existing campus facility by 18,900 SF in phase 1 (anticipated completion by Year 2025) and 43,000 SF in phase 2 (anticipated completion by Year 2029). This project would relocate and expand the ICU and Family Birthing Center facilities and provide future programmable space.

Table 4.1: Base Year Background Development Trip Generation

Background Development	AM			PM		
	Enter	Exit	Total	Enter	Exit	Total
Wailani Development	511	368	879	777	917	1,694
Hale Ola O Mohouli Affordable Residential Project	10	38	48	44	24	68
County of Hawaii Fire Administration Support Complex	51	6	57	23	50	73
Hilo Hillside Phase II	11	34	45	34	20	54
Puainako Heights Phase I	10	30	40	30	17	47
Kaiaulu O Kapiolani Apartments	7	25	32	25	15	40
HMC MOB2 Building	9	4	13	5	9	14
HMC Campus Expansion Ph. I & II	39	18	57	20	39	59
Total	**648**	**523**	**1,171**	**958**	**1,091**	**2,049**

Notes:
1. Majority of trips shown in Table 3.1 will not travel through the study area due to the location of each background development and forecast trip distribution throughout the Hilo region.

4.3 Base Year 2025 Analysis

For Base Year 2025, traffic will increase over existing conditions; Waianuenue Avenue 15% (40-65 vehicles/hour/direction), Kaumana Drive 6-8% (10-50 vehicles/hour/direction) and Komohana Street 13 to 18% (65-115 vehicles/hour/direction).

Under Base Year 2025 conditions, most movements at the study intersections are expected to continue operating similar to existing conditions during the AM and PM peak hours of traffic. All movements will operate adequately at LOS D or better with most vehicular delays only increasing

by 1-3 seconds, with the exception of the westbound approach along Punahele Street at its intersection with Komohana Street, which worsens from LOS C(C) to LOS E(D) for Base Year 2025 during the AM(PM) peak hours of traffic. This westbound approach will continue to service a relatively low left-turn/through movement volume between 20-30 vehicles per peak hour and the approach will still operate below capacity. As discussed in Section 3.4, westbound approach queues will continue to be aided by gaps in flows along Komohana Street due to signals at Waianuenue Avenue and Ponahawai Street, and the higher westbound right-turn movement in the AM peak hour will be able to complete its turn generally unimpeded with little to no impacts from queued westbound left-turn/through vehicles due to the skewed westbound approach alignment.

Figure 4.2 shows the Base Year 2025 lane configuration, traffic volumes, and LOS for each study intersection, respectively. Table 4.2 summarizes the Base Year 2025 LOS at the study intersections. LOS worksheets are provided in Appendix C.

HILO MEDICAL CENTER MOB3 TIAR

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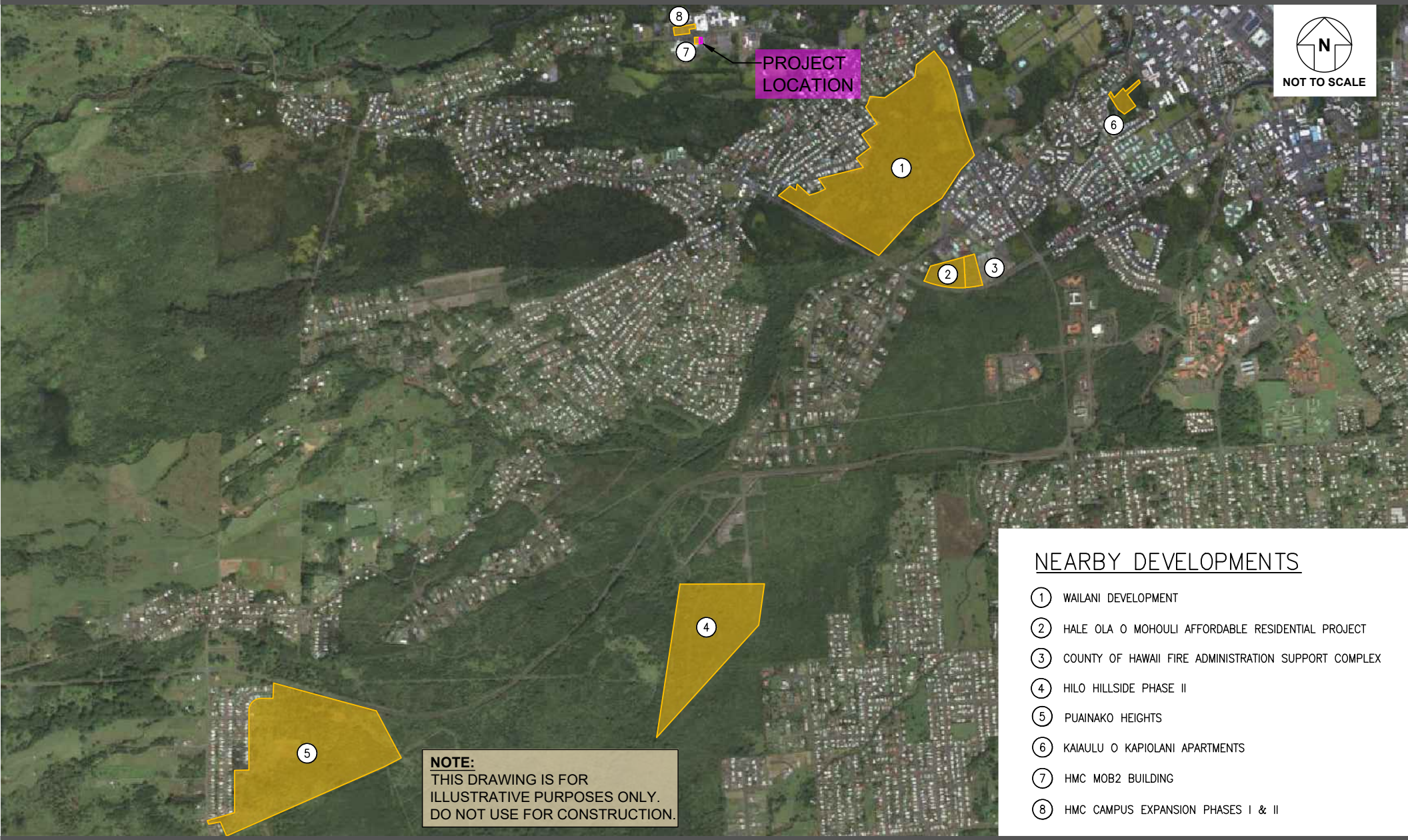

FIGURE 4.1

BACKGROUND PROJECTS

HILO MEDICAL CENTER MOB 3
EXPANSION TIAR

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FIGURE 4.2.1

BASE YEAR 2025 CONDITIONS, LANE CONFIGURATIONS, TRAFFIC VOLUMES AND LOS - 1

HILO MEDICAL CENTER MOB 3 TIAR

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FIGURE 4.2.2

BASE YEAR 2025 CONDITIONS, LANE CONFIGURATIONS, TRAFFIC VOLUMES AND LOS - 2

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TABLE 4.2: LOS SUMMARY TABLE
EXISTING CONDITIONS AND BASE YEAR 2025

Intersection	Existing 2021 Conditions						Base Year 2025					
	AM			PM			AM			PM		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
1: HMC North Parking Lot - West Dwy & Waianuenue Ave												
EB LT	7.6	0.01	A	7.7	0.00	A	7.7	0.01	A	7.7	0.01	A
WB LT	7.6	0.01	A	7.5	0.01	A	7.6	0.01	A	7.6	0.01	A
SB LT/RT	11.0	0.05	B	11.3	0.12	B	11.4	0.06	B	12.0	0.15	B
OVERALL	1.4	-	-	2.2	-	-	1.4	-	-	2.3	-	-
2: HMC Cancer Center Dwy/HMC North Parking Lot - East Dwy & Waianuenue Ave												
NB LT/TH/RT	0.0	0.00	A	9.9	0.01	A	9.4	0.00	A	10.0	0.03	B
EB LT	7.7	0.00	A	7.7	0.00	A	7.8	0.00	A	7.8	0.01	A
WB LT	7.6	0.01	A	7.7	0.01	A	7.7	0.02	A	7.8	0.01	A
SB LT/TH/RT	12.3	0.04	B	12.9	0.10	B	13.4	0.06	B	14.4	0.13	B
OVERALL	0.8	-	-	1.5	-	-	1.1	-	-	1.8	-	-
3: HMC South Parking Lot - West Dwy & Waianuenue Ave												
NB LT/RT	9.9	0.09	A	10.9	0.12	B	10.5	0.12	B	12.1	0.22	B
WB LT	7.8	0.06	A	7.9	0.02	A	8.0	0.10	A	8.0	0.04	A
OVERALL	2.1	-	-	1.7	-	-	2.6	-	-	2.6	-	-
4: Waianuenue Ave & YOSVH - West Dwy												
EB LT	8.0	0.00	A	7.8	0.00	A	8.2	0.00	A	8.0	0.00	A
SB LT/RT	12.8	0.05	B	13.2	0.06	B	14.3	0.06	B	15.3	0.08	C
OVERALL	0.6	-	-	0.6	-	-	0.5	-	-	0.5	-	-
5: HMC South Parking Lot - West Dwy/YOSVH - East Dwy & Waianuenue Ave												
NB LT/TH/RT	9.7	0.01	A	13.3	0.32	B	10.1	0.02	B	15.9	0.42	C
WB LT	8.1	0.11	A	8.1	0.00	A	8.4	0.14	A	8.3	0.00	A
SB LT/TH/RT	17.2	0.01	C	20.4	0.05	C	20.9	0.01	C	28.1	0.08	D
OVERALL	1.7	-	-	3.5	-	-	1.7	-	-	3.9	-	-
6: Waianuenue Ave & HMC Long-Term Care Facility Dwy												
NB LT/TH/RT	9.6	0.00	A	0.0	0.00	A	10.0	0.00	B	0.0	0.00	A
EB LT	8.4	0.01	A	7.7	0.01	A	8.8	0.02	A	7.9	0.01	A
WB LT	7.8	0.00	A	8.6	0.00	A	7.9	0.00	A	9.0	0.00	A
SB LT/TH/RT	14.5	0.05	B	14.2	0.14	B	16.9	0.06	C	17.1	0.17	C
OVERALL	0.5	-	-	1.0	-	-	0.5	-	-	1.0	-	-
7: Waianuenue Ave & Rainbow Dr.												
EB LT	8.6	0.00	A	7.9	0.00	A	8.9	0.00	A	8.1	0.01	A
SB LT/RT	15.9	0.05	C	18.8	0.17	C	18.6	0.06	C	23.8	0.22	C
OVERALL	0.3	-	-	1.0	-	-	0.3	-	-	1.1	-	-
8: Puuhina St & Waianuenue Ave												
NB LT/RT	17.2	0.20	C	18.3	0.08	C	20.9	0.24	C	22.5	0.11	C
WB LT	7.9	0.01	A	9.0	0.01	A	8.0	0.01	A	9.4	0.02	A
OVERALL	1.5	-	-	0.6	-	-	1.5	-	-	0.6	-	-

TABLE 4.2: LOS SUMMARY TABLE
EXISTING CONDITIONS AND BASE YEAR 2025 CONT'D

Intersection	Existing 2021 Conditions						Base Year 2025					
	AM			PM			AM			PM		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
9: Kaumana Dr & Waianuenue Ave/Lele St												
NB LT	30.7	0.39	C	32.3	0.08	C	42.1	0.53	D	34.0	0.16	C
NB TH	10.4	0.55	B	11.3	0.21	B	11.4	0.59	B	11.5	0.24	B
EB LT	16.6	0.37	B	19.8	0.57	B	17.8	0.41	B	23.4	0.70	C
EB LT/TH/RT	15.4	0.15	B	18.2	0.44	B	16.5	0.21	B	19.6	0.55	B
WB LT	23.3	0.03	C	0.0	0.00	A	25.4	0.03	C	0.0	0.00	A
WB TH/RT	25.0	0.14	C	32.9	0.12	C	27.5	0.15	C	32.9	0.12	C
SB TH	12.0	0.28	B	19.2	0.63	B	12.2	0.28	B	20.7	0.68	C
OVERALL	12.9	-	B	18.1	-	B	14.0	-	B	19.9	-	B
10: Komohana St & Waianuenue Ave												
NB LT	16.7	0.76	B	11.4	0.55	B	30.5	0.92	C	14.0	0.59	B
NB RT	9.9	0.31	A	9.2	0.11	A	11.3	0.41	B	10.8	0.14	B
EB TH	20.0	0.76	C	8.9	0.46	A	20.3	0.77	C	10.7	0.51	B
EB RT	12.0	0.14	B	8.0	0.26	A	11.9	0.18	B	9.6	0.31	A
WB LT/TH	11.8	0.09	B	9.1	0.48	A	11.5	0.10	B	11.8	0.58	B
OVERALL	15.3	-	B	9.2	-	A	20.1	-	C	11.4	-	B
11: Kaumana Dr & Puuhina St/Hualilili St. & Punahele St												
NB LT	7.6	0.04	A	8.1	0.01	A	7.6	0.04	A	8.2	0.01	A
EB RT	9.0	0.01	A	10.5	0.01	B	16.2	0.13	C	13.2	0.16	B
WB LT/TH/RT	15.7	0.14	C	15.1	0.08	C	16.9	0.15	C	17.4	0.10	C
SB LT	8.8	0.02	A	7.8	0.02	A	9.0	0.03	A	7.8	0.02	A
OVERALL	1.9	-	-	1.4	-	-	2.3	-	-	2.4	-	-
12: Punahele St & Komohana St												
NB LT	7.7	0.02	A	8.6	0.03	A	7.9	0.02	A	9.0	0.03	A
EB LT/TH/RT	14.7	0.39	B	16.9	0.28	C	18.4	0.47	C	22.3	0.37	C
WB LT/TH/RT	23.1	0.54	C	22.1	0.16	C	52.8	0.79	F	35.6	0.26	E
SB LT	9.9	0.02	A	8.4	0.00	A	10.6	0.03	B	8.8	0.00	A
OVERALL	5.5	-	-	2.6	-	-	8.9	-	-	2.9	-	-

5. FUTURE YEAR 2025 TRAFFIC CONDITIONS

The Future Year 2025 was selected to reflect the anticipated completion year for the Project.

5.1 Project Description

The Project proposes to construct a new building on the south side of Waianuenue Avenue, immediately adjacent and to the east of the MOB2 building that is currently in construction. The Project is proposing a new 18,750 square foot (SF) building for medical-office use. These uses will include new healthcare programs not currently available on the existing HMC campus and will provide approximately 75 new healthcare jobs (registered nurses, medical assistants, LPN's, nurse practitioner/PA's, physicians, housekeepers and support staff). The Project is not adding any new beds and will only provide outpatient services. Vehicular access to the Project will occur via existing parking lot accesses identified above in Section 1.1.

5.2 Trip Generation & Distribution

The ITE Trip Generation Manual, 11th Edition was used to estimate the number of vehicular trips generated by the Project. Three land use codes were reviewed to determine the best fit for the Project's intent; Clinic (ITE 630), Hospital (ITE 610) and Medical Office Building (ITE 720). Since the Project is creating new healthcare jobs and not using existing staff, the Project was analyzed as a completely new standalone building. The Project is providing outpatient services only, so the Hospital use was not used. Both Clinic (630) and MOB (720) provide limited diagnostic and outpatient care, but Clinic (630) offers a wider range of services than MOB, so the Clinic (630) use was used. However, the Clinic (630) trip formulas provided generally comparable trips to the MOB (720) trip formulas, so the Clinic (630) trips should be accurate.

The Project is expected to generate 50(70) new external trips during the AM(PM) peak hours of traffic. Forecast Project trips were distributed based on existing traffic patterns, with about 10% east of Waianuenue Avenue, 10% on Kaumana Drive, 30% west of Waianuenue Avenue and 50% on Komohana Street. Table 5.1 and 5.2 shows the Project trip generation formulas and vehicle trip projections for the Project, respectively. Figures 5.1 shows the Project Trips generated.

Table 5.1 Project Trip Generation Rates

Land Use (ITE Code)	Independent Variable	AM Peak Hour		PM Peak Hour	
		Trip Rate	% Enter	Trip Rate	% Enter
Clinic (630)	1,000 SF GFA	[a]	81%	[b]	30%

[a] T = 2.19*(X) + 8.68 [b] T = 3.53*(X) + 2.98

Table 5.2: Project Trip Generation

Land Use (ITE Code)	Units	Variable	AM Peak Hour			PM Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
Clinic (630)	18.75	SF GFA	41	10	50	21	49	70

5.3 Future Year 2025 Analysis

It is anticipated that Project trips will have relatively minimal impacts to the overall roadway network. By Future Year 2025, the Project will increase traffic by 2 to 3% from Base Year 2025 conditions, or as much as 10-45 vehicles/hour/direction.

All movements will operate adequately at LOS D or better will vehicular delays mostly increasing by about 1-3 second at the study intersections from Base Year conditions with the exception of the westbound approach along Punahele Street at its intersection with Komohana Street, which will operate at LOS F(E) for the Future Year 2025 scenario during the AM(PM) peak hours of traffic. This westbound approach will continue to operate below capacity. Westbound approach queues will continue to be aided by gaps in flows along Komohana Street due to signals at Waianuenue Avenue and Ponahawai Street, and the higher westbound right-turn movement in the AM peak hour will be able to complete its turn generally unimpeded with little to no impacts from queued westbound left-turn/through vehicles due to the skewed westbound approach alignment. Due to minimal increases in traffic, no major impacts are anticipated and no roadway improvements are recommended.

Figure 5.2 illustrates the Future Year 2025 lane configuration, traffic volumes, and LOS for each study intersection. Table 5.3 summarizes the Existing, Base Year and Future Year LOS at the study intersections. LOS worksheets are provided in Appendix C.

HILO MEDICAL CENTER MOB 3 TIAR

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FIGURE 5.1.1

PROJECT TRIPS 2025 - 1

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FIGURE 5.1.2

PROJECT TRIPS 2025 - 2

HILO MEDICAL CENTER MOB 3 TIAR

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FIGURE 5.2.1

FUTURE YEAR 2025 CONDITIONS, LANE CONFIGURATIONS, TRAFFIC VOLUMES AND LOS - 1

HILO MEDICAL CENTER MOB 3 TIAR

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FIGURE 5.2.2

FUTURE YEAR 2025 CONDITIONS, LANE CONFIGURATIONS, TRAFFIC VOLUMES AND LOS - 2

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TABLE 5.3: LOS SUMMARY TABLE
EXISTING CONDITIONS, BASE YEAR 2025, AND FUTURE YEAR 2025

	Existing 2021 Conditions						Base Year 2025						Future Year 2025					
	AM			PM			AM			PM			AM			PM		
Intersection	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
1: HMC North Parking Lot - West Dwy & Waianuenue Ave																		
EB LT	7.6	0.01	A	7.7	0.00	A	7.7	0.01	A	7.7	0.00	A	7.7	0.01	A	7.7	0.01	A
WB LT	7.6	0.01	A	7.5	0.01	A	7.6	0.01	A	7.5	0.01	A	7.6	0.01	A	7.6	0.01	A
SB LT/RT	11.0	0.05	B	11.3	0.12	B	11.3	0.05	B	11.7	0.14	B	11.4	0.06	B	12.0	0.15	B
OVERALL	1.4	-	-	2.2	-	-	1.4	-	-	2.2	-	-	1.4	-	-	2.3	-	-
2: HMC Cancer Center Dwy/HMC North Parking Lot - East Dwy & Waianuenue Ave																		
NB LT/TH/RT	0.0	0.00	A	9.9	0.01	A	9.3	0.00	A	9.9	0.02	A	9.4	0.00	A	10.0	0.03	B
EB LT	7.7	0.00	A	7.7	0.00	A	7.8	0.00	A	7.8	0.00	A	7.8	0.00	A	7.8	0.01	A
WB LT	7.6	0.01	A	7.7	0.01	A	7.7	0.01	A	7.8	0.01	A	7.7	0.02	A	7.8	0.01	A
SB LT/TH/RT	12.3	0.04	B	12.9	0.10	B	12.8	0.05	B	13.6	0.11	B	13.4	0.06	B	14.4	0.13	B
OVERALL	0.8	-	-	1.5	-	-	0.9	-	-	1.6	-	-	1.1	-	-	1.8	-	-
3: HMC South Parking Lot - West Dwy & Waianuenue Ave																		
NB LT/RT	9.9	0.09	A	10.9	0.12	B	10.1	0.09	B	11.1	0.13	B	10.5	0.12	B	12.1	0.22	B
WB LT	7.8	0.06	A	7.9	0.02	A	7.9	0.06	A	7.9	0.02	A	8.0	0.10	A	8.0	0.04	A
OVERALL	2.1	-	-	1.7	-	-	2.1	-	-	1.7	-	-	2.6	-	-	2.6	-	-
4: Waianuenue Ave & YOSVH - West Dwy																		
EB LT	8.0	0.00	A	7.8	0.00	A	8.0	0.00	A	7.9	0.00	A	8.2	0.00	A	8.0	0.00	A
SB LT/RT	12.8	0.05	B	13.2	0.06	B	13.2	0.06	B	13.8	0.07	B	14.3	0.06	B	15.3	0.08	C
OVERALL	0.6	-	-	0.6	-	-	0.5	-	-	0.5	-	-	0.5	-	-	0.5	-	-
5: HMC South Parking Lot - West Dwy/YOSVH - East Dwy & Waianuenue Ave																		
NB LT/TH/RT	9.7	0.01	A	13.3	0.32	B	9.9	0.01	A	13.9	0.35	B	10.1	0.02	B	15.9	0.42	C
WB LT	8.1	0.11	A	8.1	0.00	A	8.2	0.12	A	8.1	0.00	A	8.4	0.14	A	8.3	0.00	A
SB LT/TH/RT	17.2	0.01	C	20.4	0.05	C	18.2	0.01	C	22.3	0.06	C	20.9	0.01	C	28.1	0.08	D
OVERALL	1.7	-	-	3.5	-	-	1.7	-	-	3.5	-	-	1.7	-	-	3.9	-	-
6: Waianuenue Ave & HMC Long-Term Care Facility Dwy																		
NB LT/TH/RT	9.6	0.00	A	0.0	0.00	A	9.8	0.00	A	0.0	0.00	A	10.0	0.00	B	0.0	0.00	A
EB LT	8.4	0.01	A	7.7	0.01	A	8.5	0.01	A	7.8	0.01	A	8.8	0.02	A	7.9	0.01	A
WB LT	7.8	0.00	A	8.6	0.00	A	7.8	0.00	A	8.7	0.00	A	7.9	0.00	A	9.0	0.00	A
SB LT/TH/RT	14.5	0.05	B	14.2	0.14	B	15.2	0.05	C	15.1	0.15	C	16.9	0.06	C	17.1	0.17	C
OVERALL	0.5	-	-	1.0	-	-	0.5	-	-	1.0	-	-	0.5	-	-	1.0	-	-
7: Waianuenue Ave & Rainbow Dr.																		
EB LT	8.6	0.00	A	7.9	0.00	A	8.7	0.00	A	8.0	0.01	A	8.9	0.00	A	8.1	0.01	A
SB LT/RT	15.9	0.05	C	18.8	0.17	C	16.7	0.05	C	20.3	0.18	C	18.6	0.06	C	23.8	0.22	C
OVERALL	0.3	-	-	1.0	-	-	0.3	-	-	1.0	-	-	0.3	-	-	1.1	-	-
8: Puuhina St & Waianuenue Ave																		
NB LT/RT	17.2	0.20	C	18.3	0.08	C	18.3	0.21	C	19.5	0.09	C	20.9	0.24	C	22.5	0.11	C
WB LT	7.9	0.01	A	9.0	0.01	A	7.9	0.01	A	9.1	0.02	A	8.0	0.01	A	9.4	0.02	A
OVERALL	1.5	-	-	0.6	-	-	1.5	-	-	0.6	-	-	1.5	-	-	0.6	-	-

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TABLE 5.3: LOS SUMMARY TABLE
EXISTING CONDITIONS, BASE YEAR 2025, AND FUTURE YEAR 2025 CONT'D

Intersection	Existing 2021 Conditions						Base Year 2025						Future Year 2025					
	AM			PM			AM			PM			AM			PM		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
9: Kaumana Dr & Waianuenue Ave/Lele St																		
NB LT	30.7	0.39	C	32.3	0.08	C	33.6	0.42	C	32.3	0.08	C	42.1	0.53	D	34.0	0.16	C
NB TH	10.4	0.55	B	11.3	0.21	B	11.1	0.59	B	11.5	0.24	B	11.4	0.59	B	11.5	0.24	B
EB LT	16.6	0.37	B	19.8	0.57	B	17.6	0.39	B	20.5	0.60	C	17.8	0.41	B	23.4	0.70	C
EB LT/TH/RT	15.4	0.15	B	18.2	0.44	B	16.3	0.18	B	18.5	0.48	B	16.5	0.21	B	19.6	0.55	B
WB LT	23.3	0.03	C	0.0	0.00	A	24.9	0.03	C	0.0	0.00	A	25.4	0.03	C	0.0	0.00	A
WB TH/RT	25.0	0.14	C	32.9	0.12	C	26.8	0.15	C	32.9	0.12	C	27.5	0.15	C	32.9	0.12	C
SB TH	12.0	0.28	B	19.2	0.63	B	12.0	0.28	B	20.7	0.68	C	12.2	0.28	B	20.7	0.68	C
OVERALL	12.9	-	B	18.1	-	B	13.5	-	B	18.8	-	B	14.0	-	B	19.9	-	B
10: Komohana St & Waianuenue Ave																		
NB LT	16.7	0.76	B	11.4	0.55	B	20.1	0.82	C	13.3	0.58	B	30.5	0.92	C	14.0	0.59	B
NB RT	9.9	0.31	A	9.2	0.11	A	10.8	0.39	B	10.4	0.14	B	11.3	0.41	B	10.8	0.14	B
EB TH	20.0	0.76	C	8.9	0.46	A	20.2	0.77	C	9.9	0.46	A	20.3	0.77	C	10.7	0.51	B
EB RT	12.0	0.14	B	8.0	0.26	A	12.0	0.18	B	9.0	0.29	A	11.9	0.18	B	9.6	0.31	A
WB LT/TH	11.8	0.09	B	9.1	0.48	A	11.6	0.10	B	10.8	0.54	B	11.5	0.10	B	11.8	0.58	B
OVERALL	15.3	-	B	9.2	-	A	16.4	-	B	10.6	-	B	20.1	-	C	11.4	-	B
11: Kaumana Dr & Puuhina St/Hualilili St. & Punahele St																		
NB LT	7.6	0.04	A	8.1	0.01	A	7.6	0.04	A	8.2	0.01	A	7.6	0.04	A	8.2	0.01	A
EB RT	9.0	0.01	A	10.5	0.01	B	9.0	0.01	A	10.8	0.01	B	16.2	0.13	C	13.2	0.16	B
WB LT/TH/RT	15.7	0.14	C	15.1	0.08	C	16.9	0.15	C	15.9	0.09	C	16.9	0.15	C	17.4	0.10	C
SB LT	8.8	0.02	A	7.8	0.02	A	9.0	0.02	A	7.8	0.02	A	9.0	0.03	A	7.8	0.02	A
OVERALL	1.9	-	-	1.4	-	-	1.8	-	-	1.4	-	-	2.3	-	-	2.4	-	-
12: Punahele St & Komohana St																		
NB LT	7.7	0.02	A	8.6	0.03	A	7.9	0.02	A	8.9	0.03	A	7.9	0.02	A	9.0	0.03	A
EB LT/TH/RT	14.7	0.39	B	16.9	0.28	C	17.3	0.45	C	20.5	0.34	C	18.4	0.47	C	22.3	0.37	C
WB LT/TH/RT	23.1	0.54	C	22.1	0.16	C	41.4	0.72	E	31.6	0.23	D	52.8	0.79	F	35.6	0.26	E
SB LT	9.9	0.02	A	8.4	0.00	A	10.3	0.03	B	8.7	0.00	A	10.6	0.03	B	8.8	0.00	A
OVERALL	5.5	-	-	2.6	-	-	7.7	-	-	2.8	-	-	8.9	-	-	2.9	-	-

6. CONCLUSION

The existing HMC Campus is located on approximately 33 acres of land along Waianuenue Avenue. The existing HMC Campus is comprised of various buildings and facilities totaling approximately 390,800 SF of building space. HMC is currently constructing a new Oncology Center Expansion and Rural Health and Telehealth Center Building (MOB2) next to the existing HMC Hawaii Pacific Oncology Center (HPOC) on the south side of Waianuenue Avenue and is preparing a separate EA for a larger Campus Expansion on the north side of Waianuenue Avenue.

The Project proposes to construct a new building on the south side of Waianuenue Avenue, immediately adjacent and to the east of the aforementioned MOB2 building that is currently in construction. The Project is proposing a new 18,750 square foot (SF) building for medical-office use. These uses will include new healthcare programs not currently available on the existing HMC campus and will provide approximately 75 new healthcare jobs (registered nurses, medical assistants, LPN's, nurse practitioner/PA's, physicians, housekeepers and support staff). The Project is not adding any new beds and will only provide outpatient services. Vehicular access to the Project will occur via existing parking lot accesses identified above in Section 1.1. The Project is expected to open by Year 2025

6.1 Existing Conditions

Turning movement counts were collected on Thursday, August 26, 2021. At this time, all DOE schools and UH Hilo were in session however, traffic increases were applied at various intersections based on comparison to historic counts.

Adjustments were made to the 2021 count to account for various discrepancies such as slightly higher parking occupancy compared to average 2020 data, no trips generated at the HMC Cancer Center Driveway (closed at the time of count for construction) and lower volumes compared to historic 2008 and 2016 counts. These adjustments resulted in overall increases of 0-35 vehicles along Waianuenue Avenue (west of Komohana Street), 50-80 vehicles along Waianuenue Avenue (east of Komohana Street), 30-130 vehicles along Kaumana Drive and 30-100 vehicles along Komohana Street.

Currently, between 7:15 AM to 8:00 AM on school days, the westbound lane along Waianuenue Avenue is used as an additional eastbound travel lane to service heavy traffic generated by the nearby Hilo Union Elementary School, Hilo Intermediate and Hilo High School. All vehicular traffic along Waianuenue Avenue during this period is restricted to only eastbound flows from Kamehameha Avenue to Komohana Street.

For about five (5) signal cycles between 7:30 AM and 7:45 AM, northbound queues were observed to briefly spill back along Komohana Street from its intersection with Waianuenue Avenue to Punahele Street. Northbound flows quickly dissipated, but Punahele Street westbound approach queued for a brief 10-minute period due to the northbound Komohana Street queue spillback. The combined westbound left-turn/through movement is relatively low with only 20-30 vehicles per hour during the AM peak hour, resulting in queues of only 1-2 vehicles long. Based on observations, the higher westbound right-turn movement from Punahele Street turning onto Komohana Street was generally able to complete its turn unimpeded with little to no impacts from the queued westbound left-turn/through vehicle(s) due to the skewed westbound approach alignment. There was no observed PM peak queuing at the Komohana Street/Punahele Street intersection. Turning movement volumes from Punahele Street onto Komohana Street is aided

by gaps in flows along Komohana Street due to signals on either end at Waianuenue Avenue and Ponahawai Street.

Traffic throughout the remaining study network was observed to generally flow smoothly along the study corridors, with no significant queues. All vehicles at the study intersections were generally able to clear within one signal cycle.

Fronting the existing HMC site, two (2) marked pedestrian crosswalks are provided at the HMC South Parking Lot – West Driveway and the YOSVH West Driveway. Approximately 120-150 pedestrians cross at the HMC South Parking Lot – West Driveway crosswalk and approximately 60 pedestrians cross at the YOSVH West Driveway during each of the peak hours. Due to relatively low vehicular volumes and low speeds, there were no observed vehicle-pedestrian conflicts.

6.2 Base Year 2025 Traffic Conditions

For Base Year 2025, traffic will increase over existing conditions; Waianuenue Avenue 15% (40-65 vehicles/hour/direction), Kaumana Drive 6-8% (10-50 vehicles/hour/direction) and Komohana Street 10 to 18% (65-115 vehicles/hour/direction).

Under Base Year 2025 conditions, most movements at the study intersections are expected to continue operating similar to existing conditions during the AM and PM peak hours of traffic. All movements will operate adequately at LOS D or better with most vehicular delays only increasing by 1-3 seconds, with the exception of the westbound approach along Punahele Street at its intersection with Komohana Street, which worsens from LOS C(C) to LOS E(D) for Base Year 2025 during the AM(PM) peak hours of traffic. This westbound approach will continue to service a relatively low left-turn/through movement volume between 20-30 vehicles per peak hour and the approach will still operate below capacity. Westbound approach queues will continue to be aided by gaps in flows along Komohana Street due to signals at Waianuenue Avenue and Ponahawai Street, and the higher westbound right-turn movement in the AM peak hour will be able to complete its turn generally unimpeded with little to no impacts from queued westbound left-turn/through vehicles due to the skewed westbound approach alignment.

6.3 Future Year 2025 Conditions

The Project proposes to construct a new building on the south side of Waianuenue Avenue, immediately adjacent and to the east of the MOB2 building that is currently in construction. The Project is proposing a new 18,750 square foot (SF) building for medical-office use and is expected to generate 50(70) new external trips during the AM(PM) peak hours of traffic. Forecast Project trips were distributed based on existing traffic patterns, with about 10% east of Waianuenue Avenue, 10% on Kaumana Drive, 30% west of Waianuenue Avenue and 50% on Komohana Street.

It is anticipated that Project trips will have relatively minimal impacts to the overall roadway network. By Future Year 2025, the Project will increase traffic by 2 to 3% from Base Year 2025 conditions, or as much as 10-45 vehicles/hour/direction.

All movements will operate adequately at LOS D or better will vehicular delays mostly increasing by about 1-3 second at the study intersections from Base Year conditions with the exception of the westbound approach along Punahele Street at its intersection with Komohana Street, which will operate at LOS F(E) for the Future Year 2025 scenario during the AM(PM) peak hours of traffic. This westbound approach will continue to operate below capacity. Westbound approach

queues will continue to be aided by gaps in flows along Komohana Street due to signals at Waianuenue Avenue and Ponahawai Street, and the higher westbound right-turn movement in the AM peak hour will be able to complete its turn generally unimpeded with little to no impacts from queued westbound left-turn/through vehicles due to the skewed westbound approach alignment. Due to minimal increases in traffic, no major impacts are anticipated and no roadway improvements are recommended.

7. REFERENCES

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