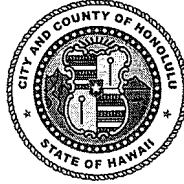


DEPARTMENT OF PLANNING AND PERMITTING  
KA 'OIHANA HO'OLĀLĀ A ME NĀ PALAPALA 'AE  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 768-8000 • FAX: (808) 768-6041 • WEBSITE: honolulu.gov/dpp

RICK BLANGIARDI  
MAYOR  
MEIA



DAWN TAKEUCHI APUNA  
DIRECTOR  
PO'O

May 16, 2024

2024/ED-4 (MAK)

Ms. Mary Alice Evans  
Director  
State of Hawai'i  
Office of Planning and Sustainable Development  
Environmental Review Program  
235 South Beretania Street, Room 702  
Honolulu, Hawai'i 96813

Dear Director Evans:

**SUBJECT:** Revised Ordinances of Honolulu (ROH) Chapters 25  
Draft Environmental Assessment (EA)  
**Project:** Kahena Wai Estates  
**Applicant:** Multiple Landowners  
(Point of Contact - Charles Hew-Lew)  
**Agent:** 5Ks ENV - Island Resource Solutions LLC (Karl Bromwell)  
**Address:** 53-424, 53-428, 53-432, 53-437, 53-438, 53-440, 53-450,  
53-452, and 53-458 Kamehameha Highway - Hau'ula  
**Tax Map Key:** 5-3-005: 070  
**Request:** Special Management Area (SMA) Use Permit  
**Proposal:** Programmatic 10-year development plan that includes  
the construction of new single-family dwellings for the  
11 condominium property regime units, which comprise  
the subject site, and are located within the SMA.

With this letter, the Department of Planning and Permitting hereby transmits the Draft EA and Anticipated Finding of No Significant Impact (AFONSI) for the programmatic 10-year development plan for the above-referenced parcel in the Ko'olauloa District, on the island of O'ahu, for publication in the next edition of *The Environmental Notice*.

We have uploaded an electronic copy of this letter and the Draft EA to your online submittal site.

Ms. Mary Alice Evans, Director  
May 16, 2024  
Page 2

Should you or the public have any questions, please contact Michael Kat, of our Zoning Regulations and Permits Branch, at (808) 768-8013 or via email at michael.kat@honolulu.gov.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Dawn Takeuchi Apuna', written in a cursive style.

For: Dawn Takeuchi Apuna  
Director



**From:** [webmaster@hawaii.gov](mailto:webmaster@hawaii.gov)  
**To:** [DBEDT OPSD Environmental Review Program](#)  
**Subject:** New online submission for The Environmental Notice  
**Date:** Thursday, May 16, 2024 12:16:55 PM

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**Action Name**

Kahena Wai Estates

**Type of Document/Determination**

ROH Ch 25 Draft EA and AFNSI

**Judicial district**

Ko'olauloa, O'ahu

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

(1) 5-3-005:070

**Action type**

Applicant

**Other required permits and approvals**

Special Management Area Use Permit, IWS Permit, Building Permits, etc. [see document]

**Discretionary consent required**

Special Management Area Use Permit

**Approving agency**

City & County of Honolulu, Department of Planning and Permitting

**Agency contact name**

Michael Kat

**Agency contact email (for info about the action)**

[michael.kat@honolulu.gov](mailto:michael.kat@honolulu.gov)

**Email address or URL for receiving comments**

[michael.kat@honolulu.gov](mailto:michael.kat@honolulu.gov)

**Agency contact phone**

(808) 768-8013

**Agency address**

650 South King Street  
Honolulu, Hawaii 96813  
United States  
[Map It](#)

**Applicant**

Kahena Wai Estates

**Applicant contact name**

Charles Hew-Lew

**Applicant contact email**

[karlbromwell.5KsENV@gmail.com](mailto:karlbromwell.5KsENV@gmail.com)

**Applicant contact phone**

(808) 542-4261

**Applicant address**

53-452 Unit 2 Kamehameha Highway  
Hauula, Hawaii 96717  
United States  
[Map It](#)

**Is there a consultant for this action?**

Yes

**Consultant**

5Ks ENV - Island Resource Solutions LLC

**Consultant contact name**

Karl Bromwell

**Consultant contact email**

[karlbromwell.5KsENV@gmail.com](mailto:karlbromwell.5KsENV@gmail.com)

**Consultant contact phone**

(808) 542-4261

**Consultant address**

2019 Puowaina Drive  
Honolulu, Hawaii 96813  
United States  
[Map It](#)

**Action summary**

The Applicant seeks a Major Special Management Area (SMA) Use Permit to allow a programmatic 10-year development plan that includes the construction of new single-family dwellings for the 11 condominium property regime units, which comprise the subject site, that are located within the SMA in Hau'ula, O'ahu. The site is split zoned between the R-5 Residential District (R-5) and AG-2 General Agricultural (AG-2). The Proposed Action can be divided into three general programmatic efforts: (1) construction of new single-family dwellings and their respective individual wastewater systems on vacant R-5 lots; (2) permitting of existing dwellings for cesspool conversion, additions, AG-2 waiver, and future minor improvements; and (3) the potential options for development and permitted use of the units associated with the AG-2 and wetland setback areas.

**Attached documents (signed agency letter & EA/EIS)**

- [DPP-Submission\\_DEA-SMA-Programmatic\\_KahenaWaiEstates\\_TMK-5-3-0050070\\_4MAY241.pdf](#)
- [OPSD-Transmittal-Letter1.pdf](#)

**Action location map**

- [Kahena-Wai-Estate1.zip](#)

**Authorized individual**

Michael Kat

**Authorization**

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

# Draft Environmental Assessment

## SMA Major Use Permit for the Improvements of Eleven Condominium Property Regime Units on Residential and Agricultural Zoned Land

TMK: (1) 5-3-005:070  
53-452 Kamehameha Highway  
Kamehameha Highway Hau'ula, O'ahu, Hawaii

5/4/2024



5Ks ENV - Island Resource Solutions LLC  
2019 Puowaina Drive  
Honolulu HI 96813

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**DRAFT REPORT**

**ENVIRONMENTAL ASSESSMENT IN SUPPORT OF A SMA MAJOR USE PERMIT**

**AND**

**For the Improvements of Eleven Condominium Property Regime (CPR) Units on Residential (R-5) and Agricultural (AG-2) Zoned Land**

**TMK: (1) 5-3-005:070  
53-424 to 53-458 Kamehameha Highway  
Hau'ula, O'ahu O'ahu, Hawaii**

Prepared for:

**Hawaii Engineering Group, Inc.  
108 Bishop Street, Suite 2506  
Honolulu, HI 96813**

**And**

**Kahena Wai Estates  
Charles Hew-Len  
53-452 Unit 2 Kamehameha Hwy  
Hau'ula, HI 96717**

**And Kahena Wai Estates  
Units 1-11 Owners**

Prepared by:

**5Ks ENV - Island Resource Solutions LLC  
2019 Puowaina Drive  
Honolulu HI 96813**

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## PROJECT SUMMARY

<b>Project Name:</b>	<b>Kahena Wai Estates SMA Major Use Permit &amp; EA for Improvements of the CPR Units within the TMK</b>
<b>Applicant/Fee Owner:</b>	<b>Point of Contact: Charles Hew-Len 53-452 Unit 2 Kamehameha Hwy Hau'ula, O'ahu, HI 96717</b>
<b>Approving Agency:</b>	<b>City and County of Honolulu Department of Planning and Permitting 650 South King Street, 7<sup>th</sup> Floor Honolulu, Hawaii 96813</b>
<b>Tax Map Key Parcel(s):</b>	<b>(1)5-3-005:070 (Kahena Wai Estates), Acres = 4.76</b>
<b>Roads / Address</b>	
<b>Potentially Affected:</b>	<b>53-452 to 53-458 Kamehameha Highway, Hau'ula</b>
<b>State Land Use District:</b>	<b>District 0-11, Kahana Quadrangle (Urban)</b>
<b>Existing County Zoning:</b>	<b>Residential (R-5 [58,353 SF]) and Agriculture (AG-2 [139,494 SF])</b>
<b>City Development Plan:</b>	<b>Koolau Loa Sustainable Communities Plan</b>
<b>Flood Insurance Rate</b>	<b>AE / VE / X</b>
<b>Map Zone:</b>	<b>SMA and UIC - Yes</b>
<b>Special Designation:</b>	<b>Special Management Area [SMA]</b>
<b>Determination:</b>	<b>Finding of No Significant Impact [FONSI]</b>

**Summary:** This Draft EA examines the environmental consequences of the Proposed Action alternatives on environmental resources associated with the TMK in accordance with applicable ordinances, administrative rules, and statues associated with the. The , and zoned as a split R-5 (Residential)/AG-2 (General Agricultural) district, in Hau'ula, O'ahu. The Proposed Action can be divided into three general programmatic efforts: (1) construction of new single-family dwellings and their respective individual wastewater systems on vacant R-5 lots; (2) permitting of existing dwellings for cesspool conversion, additions, AG-2 waiver, and future minor improvements; and potential the options for development and permitted use at the units associated with AG-2 and wetland setback areas.



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## EXECUTIVE SUMMARY

### Draft Environmental Assessment – Kahena Wai Estates

This Environmental Assessment (EA) analyzes the environmental consequences of the programmatic Proposed Action and reasonable alternatives in accordance with Chapter 25, Revised Ordinances of Honolulu (ROH), Title 11, Chapter 200:1, and Chapters 11-55 and 11-54 Hawaii Administrative Rules (HAR) and Chapter 343 and 205A, Hawaii Revised Statutes (HRS). This EA demonstrates that the Proposed Action would not result in any significant effects to the following resource areas: air quality, noise, infrastructure, climate, visual resources, recreational resources, land use, geological and soil resources, and socioeconomic resources. With the implementation of Best Management Practices (BMPs) and mitigation measures the Proposed Action would not result in significant impacts on the following resource areas: historic and cultural resources, biological and water resources. Mitigation measures include a wetland delineation performed in December of 2023, and any requests for Archeological Monitoring and/or Archeological Inventory Survey (AIS) by the State Historic Preservation Divisions (SHPD) prior to groundbreaking. The Proposed Action is not anticipated to adversely affect cultural and historic properties, with an archeological observer on-site during subsurface preparation activities, however an AIS will be performed for each CPR Unit, as requested by SHPD through comments on the DEA.

Based on the analysis of information in this EA, it has been determined that the Proposed Action will have no significant impacts to the natural, built, or social environment. The Proposed Action potential effects are expected to be short-term and temporary in nature, related to construction activities (e.g., stormwater, noise, dust, and traffic), no long-term impacts are anticipated. Efforts to minimize any effects from the Proposed Action on resources include, but are not limited to, the following:

- A wetlands delineation performed for USACE determination and concurrence, so the wetland location can accurately be visualized and assessed for potential effects. A figure was created, establishing a 50-foot setback line from the wetland's boundary, as required by Chapter 25-2.1 Special Management Area (SMA), and applies to all development that would affect wetlands within the SMA, i.e. "that area that is a wetland and the area within 50-feet of a wetland," regardless of the size of the wetland, which will be incorporated into future development and construction plans.
- An archeological observer will be present during any subsurface site preparation work (i.e. grubbing & grading, trenching, or drilling activities, etc.), and/or an AIS will be performed, if recommended by SHPD, prior to groundbreaking activities.
- Properly permitted projects, including CPR Unit Individual Wastewater System (IWS), and
- The implementation of construction Best Management Practices (BMPs), to the maximum extent practicable (MEP).

Therefore, 5Ks ENV has determined that the Proposed Action would not result in cumulative impacts to

any environmental resources and would not have any reasonably foreseeable direct or indirect effects on any coastal use or resource of the State's coastal zone. Pursuant to Chapter 25, ROH, Title 11, Chapter 200:1, and Chapter 343, HRS, should an anticipated Finding of No Significant Impact (FONSI) be determined, an Environmental Impact Statement would not be required.

The results of the EA were compared with the significance criteria established by the State under HRS 343 (HAR Chapter 11- 200.1-13). It is concluded that the construction of the Proposed Action does not meet any of the thirteen criteria, therefore, by not meeting these criteria, it is appropriate that the Proposed Action be issued a Finding of No Significant Impacts (FONSI) and that an EIS will not be required.

## **PURPOSE AND NEED OF THE PROPOSED ACTION**

**Proposed Action and Location:** The scope of this EA is to provide a programmatic evaluation of the Kahena Wai Estates (KWE) 10-year development plan, which is summarized in the Conceptual Master Site Plan (CMSP) (**Table ES-1 and Figure ES-1a, 1b**). The CMSP includes potential development and improvement options for the eleven (11) CPR Units/Lots within the Koolau Loa District and Special Management Area (SMA) of the KWE from address 53-428 to 53-458 Kamehameha Hwy, Hau'ula, HI 96717, TMK: (1) 5-3-005:070.

The CSMP (Table and Figure ES-1A, 1B) describe the Proposed Action, which can be summarized into three (3) general efforts taking place within the TMK, and is listed below:

- (1) Permitted construction of four (4) new single-family dwellings and IWS installation on vacant R-5 lots at unit 4, 5, 7, and 9.
- (2) Permitting of existing R-5 dwellings cesspools and future additions at unit 1, 2, 3, and 8, along with other minor improvements (rock walls/fencing, plantings, walking paths, etc.) on the TMK; and
- (3) Proposed permitted options for the AG-2 and wetland setback associated units, and whether these areas will be developed with permitted uses.

**Purpose and Need:** The owners of CPR Units 1-11 wish to perform permitted improvements to their split R-5 / AG-2 zoned properties. The owners of CPR Units 4, 5, 7, and 9 desires to build new single-family dwellings on their vacant lots, while the owners of CPR Units 9, 10 and 11 require an understanding of what permitted uses and options they have for additions or development on AG-2 lots and/or near boundaries of adjacent wetland areas. The existing structures (CPR Units 1, 2, 3, 6, and 8) wish to permit existing structures perform cesspool conversions, as needed, whereas all KWE owners want the option for future new additions and/or other minor improvements on their property, which will be covered by the EA and SMA Major Use Permit.

As discussed, the Proposed Action takes place within the SMA district (**Figure ES-2**), and since

construction costs exceed \$500,000, it is agreed that a SMA Major Use Permit will be submitted separately after DPP concurs to a Finding of No Significant Impacts (FONSI) and issues a file number for Final EA (FEA) filing for the *Environmental Notice*. **Figure ES-2** also depicts the 40- and 60-foot shoreline setback lines, showing where it is now and the future (1JUL2024) setback line of 60-ft. under the new regulations. Although the new 60-ft. shoreline setback may touch the Kahena Wai Estates TMK, it doesn't appear that any of the structures are encroaching in the shoreline setback, and even if they were as long as they were legally established the encroach would just be nonconforming, so the shoreline setback variance would not be necessary under the current scope "Proposed Action" <sup>1</sup>. The 2011 Certified Shoreline Survey can be viewed in **Appendix A-1**.

As part of the required pre-consulting process, a Pre-Consulting Package (**Appendix C**) was provided for review and comment to interested and affected parties, including state, city and federal agencies and organizations, abutting properties, and the Hau'ula Community Association (HCA) and Ko'olau Loa Neighborhood Board (KNB), for which an April and May 2023 meeting was attended. Over Twenty Federal, State, City and County (CCH) agencies and community organizations were notified during the preconsulting process and have been notified with a request for comments on the DEA. The distribution section of this DEA will contain the records of agency mailings as well as answers to the few responses received. The SMA Major process requires a public hearing. Both HCA and KNB will receive notice of the public hearing, which will be scheduled by DPP after acceptance of the SMA application. DPP will make recommendations to the Honolulu City Council.

The DEA was prepared by 5Ks ENV – Island Resource Solutions LLC (5Ks ENV) and was based on information provided and/or readily available. The KWE management provided their 10-year plan and CPR documents, and Hawaii Engineering Group Inc. (HEG) provided architectural conceptual and survey drawings and overlays for the R-5 and AG-2 Proposed Action, SMA Major permitting, and NOV information for CCH DPP.

Comments on DEA by DPP:

Comments were received from DPP on the DEA and responses were provided by 5Ks ENV in Appendix C, after a collaborative effort between 5Ks ENV, HEG and Owners to resolve DPP comments, which in general included the following.

- Revision of the Purpose and Need of the Proposed Action section, after developing a more comprehensive 10-year plan, then taking a more programmatic look for future buildout options of the site and should include existing dwelling additions and agriculture lot options for development. Table ES-1 should include a comprehensive summary for each of the CPR units.
- Table ES-1 should detail the improvements which are shown on a comprehensive master site plan vs. separate multiple plans in the appendices. The master plan should conceptually capture

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<sup>1</sup> Communication with DPP Planner, Zoning Regulations & Permits Branch, e-mail dated April, 24, 2024.

all the intended buildout of the site, including alternative actions, separating each alternative as needed.

- Correct the zoning and State Land use districts error on page 12, and double check that proper designations are listed throughout document.
- The Cultural Resource Section should be revised to clarify mitigation measures prior to groundbreaking and take SHPD recommendations into consideration, and such comments that SHPD may have on any AIS performed into future development plans.
- A wetland delineation was recommended to verify spatial information provided by USFWS in the DEA.
- A DPP investigation has revealed that unauthorized dwellings currently occupy three CPR units, that has resulted in NOV's. The units need to be reflected in the existing conditions section of the EA for the proposed buildout of the site and whether these units are to be retained for the final plan.

**Alternatives Analyzed:** To accomplish the KWE Proposed Action and address comments provided by DPP on the Draft EA, the EA has taken a programmatic look at the effort, considered other possible improvement options, adding options for existing dwelling new additions, and discussing AG-2 permitted use opportunities. The Draft EA has expanded the Proposed Action and evaluated the environmental consequences of the action at a programmatic level.

Analysis of the alternatives action is a key aspect of the Hawaii EIS Law (also known as HEPA [Hawai'i's environmental policy act]) process. This analysis begins with establishing a set of possible alternatives and then separating those into the ones that were considered but dismissed from further analysis and the ones that were considered and brought forward for analysis. The no-action alternative represents the baseline and is addressed throughout the HEPA process. This section summarizes the alternatives that have been considered to accomplish the Proposed Action.

**Alternatives Considered and Dismissed:** Since the Proposed Action is an analysis of all reasonable potential programmatic improvements, and because the CPR Units are already constricted by the size of the lots and adjacent properties, the new dwelling designs are already significantly limited in their possibilities for reasonable alternative. Additionally, improvements options on the entire TMK are restricted due to an SMA classification, floodplain limitations, wetlands, and agricultural zoned lands.

The four (4) alternatives were assessed against the following Evaluation Criteria:

Criterion A: Schedule Relative to Project Costs and Permitting Efforts

Criterion B: Owners' Planned Improvements Relative to Potential Programmatic Improvements, Relative to Timeline, Permitting Challenges, and Project Cost, and

Criterion C: Field Conditions/Location of Improvements Near Sensitive Environments Relative to Space Available and Design Challenges associated with Permitting Restrictions and Notice of Violations (NOV's).

Based on the alternatives analysis below, only Alternative 3 – Considering Owner-Planned Improvements and a Programmatic Level of Potential Improvements Options met all the Proposed Action objectives, and therefore was retained, along with the No-Action Alternative for impact analysis in the DEA.

Alternative 1 – Proposed Action Considering New Dwelling Construction and Potential Future Minor Improvements:

This alternative was previously the preferred alternative. It considered new dwelling design and construction for Units 4, 5, 7, and 9 and their permitted IWS, and existing units permitting of existing cesspools, and potential future minor improvements to the TMK (i.e., walking paths, fencing/rock walls, and plantings, etc.). The cost of the project included professional architect and engineering (A/E) efforts (survey, permitting, EA, and other site-specific design and construction costs), and was divided accordingly between the 11 owners. The respective owners did not identify any specific additions for existing dwellings nor where there any plans or desire to build on the agriculture-zone lands.

This preferred alternative was based on the KWE 10-year plan, as it met their project expedited timelines for construction, anticipated project costs, and their near-term goals for their property (**Evaluation Criterion A**). During DEA review, the approving agency (DPP) requested a broader approach, identifying that the DEA should take a programmatic look at site improvements and incorporate any potential existing dwelling additions, along with AG-2 lot permitted uses. Therefore, **Alternative 1** was considered and subsequently rejected by the approving agency (**Appendix C**) with concurrence from 5Ks ENV and the KWE Owners. Because it didn't meet the objectives of Evaluation **Criteria B** by not considering programmatic improvement options at the site, and **Evaluation Criterion C**, by not developing an accurate boundary for the wetland area that may be impacted by the Proposed Action.

Alternative 2 – Proposed Action Considering New Construction and Limited Potential Future Additions for Existing Dwellings and Permitted Use Options for Agricultural Lots:

For the revised DEA, **this Alternative 2 considered** everything proposed under Alternative 1 and added several expanded owner identified existing unit improvements and additions, along with general potential additions over the next 10-years. All existing dwellings, especially Units 1, 2, and 3 fronting Kamehameha Highway, will likely process building permits to raise their existing dwellings, which may vary from 10 feet plus, depending upon permitting approvals. The design and methodology used will depend upon owners' preference, site conditions and permit allowances. Other existing dwelling permitted improvement requests may include but are not limited to (as identified by Unit 3 owners), small room additions, and underneath garage for two cars, and/or storage areas sided with breakaway walls, and removal of walls facing ocean. Additionally, the conversion of their cesspools will take place before the 2030 deadlines established by the Hawaii Cesspool Working Group, Priority 1 zones<sup>2</sup>, and will conform with State of Hawaii Department of Health (HDOH) and/or City and County of Honolulu (CCH) recommendations for

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<sup>2</sup> Cesspool Conversion Working Group, Final Report to the 2023 Regular Session Legislature, Prepared by the State Department of Health In response to Act 170 Session Laws of 2019, November 2022.

alternative IWS for nearshore environments. The only agriculture zone consideration under this Alternative identified by the owner was potentially leasing out the wetland / AG-2 portion of Unit 11 (100,531 SF) for *Kalo* or taro farming on approximately 86,000 SF (0.6 acre) of wetland area. The native Hawaiian's built lo'i (wetland kalo fields) in this region using loose rock walls around them near the freshwater source, so that water could flow around them, ensuring the kalo corms do not rot, but constantly replenish nutrients. A one-acre lo'i can produce 3 to 5 tons of *kalo* per year and during harvesting process, the *huli* (cuttings) are replanted by plunging them back down into the muddy water<sup>3</sup>.

The Alternative 2 options included the scoping of a wetland delineation as did Alternative 3. Considering this added scope, Evaluation Criterion A's project schedule and increased cost and effort relative to permitting requirements were shifted to accommodate these studies, therefore Evaluation Criterion A was met for Alternative 2. For Evaluation Criterion B, Alternative 2 took a preliminary look at possible permitted options for additions within the R-5 and uses of the AG-2 zone / wetlands area. Possible options were identified for existing dwelling additions, including possible IWS issues with sea level rise, and a kalo lo'i as an option for the joint AG-2/wetland property, which would likely entail Army Corp permitting for proper lo'i development to aerate the kalo corm. See Section 2.3.3 for further details on potential Corps requirements. **Alternative 2** was considered, but subsequently rejected for not meeting the full programmatic intentions of **Criterion B**. Under Alternative 2, **Evaluation Criterion C**, which considered field conditions and location of improvements near sensitive areas (i.e. the wetland in this case) and current NOV's at the site, the wetland delineation produced a more refined 50-foot wetland setback overlay of the TMK Units 9, 10, and 11. Although the wetland setback constricted the usable portion of the lots even more than anticipated, offering design challenges for single-family dwellings construction. So, although a portion of **Criterion C** was met, the NOV's at the site were not addressed.

Alternative 3 – Proposed Action Considering New Dwelling Construction Along with A Programmatic Level Assessment of Existing Dwelling Additions and Agricultural Permitted Use Options:

For the revised DEA, Alternative 3 considered everything proposed under Alternative 2, with an expanded look at alternatives, potential impacts, and improvement opportunities at the site. This included new dwelling design alternatives for dwellings associated with wetlands and AG-2 lots, existing dwelling addition options to be considered from more existing owners, and agricultural development alternatives.

The new dwelling design for Unit 7 and 9 included a decrease in their footprint due constricted buildable space (i.e., Unit 7 was split R-5 and AG-2 and Unit 9 within the 50-foot wetland setback, respectively). The new designs are summarized in **Table ES-1** and depicted in **Figure ES-1** as part of the Kahena Wai Estates (KWE) Comprehensive Master Site Plan (KWE CMSP). **Alternative 3** will discuss existing dwelling room additions as described in Alternative 2, and the AG-2 permitted uses to be explored include the following, which may be considered in combination of each other, as allowed by permitting, at the site:

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<sup>3</sup> Hawaii Ulu Cooperative <https://hawaii-ulu-coop>.

**Option A - Self-Managed Agricultural Activities:** Agricultural zone land (AG-2) to be utilized as Orchard, Crop and/or Pastoral Farming/Ranching (i.e., Fruits, Nuts, *Kalo* [taro], livestock, etc.) or other agriculturally related activities to be managed by the KWE Association. Terms and Conditions (T&C), for sale of Unit 10 or 11 would apply accordingly.

**Option B – Leased Land Agricultural Activities:** AG-2 land to be utilized for Orchard, Crop, and/or other agriculturally related activities to be managed by other farmers. T&C for sales of Unit 10 and 11 would apply accordingly.

**Option C – Community Garden or Wildlife Preserve:** AG-2 lands will be divided appropriately into a KWE community garden or wetland wildlife preserve to be managed by the KWE Association and/or Unit owner.

**Option D – Combination of A-C above:** AG-2 lands maybe managed and permitted for a combination of Options A-C. For example, the KWE owners may create a community garden (Option C) for a portion of the Unit 11 lot, lease the wetlands portion of for pastoral and/or wetland kala farming, or perform these activities themselves.

**Option E – No Action:** The AG-2 lands will remain open with no development or agricultural activities, and maybe maintained through mowing within the CPR unit to maintain a boundary.

The **Alternative 3** options included the scoping of a wetland delineation and the revised project schedule and cost relative to permitting efforts were shifted to accommodate these studies, therefore **Evaluation Criterion A** was met for **Alternative 3**. Only the existing owners at Unit 3 had ideas for potential future for their dwelling, so, **Alternative 3** took a programmatic look at the other Unit and developed possible permitted additions as an option within the R-5 and uses of the AG-2 zone / wetlands area. Therefore, **Evaluation Criterion B** was met for **Alternative 3**, which considered both existing unit additions on the R-5 lots and permitted use options for the AG-2 lots in the DEA.

**Alternative 3** considered field conditions and location of improvements near the wetland areas and AG-2 lots and addressed the current NOV's at the site. **Alternative 3** studied alternative designs for the units associated with the wetland 50-foot setback and AG-2 zoned lots (i.e., units 7, 9, 10, and 11), therefore, **Criterion C** was met for **Alternative 3**.

Considering **Alternative 3** met all three Evaluation Criteria, it was retained as the Preferred Alternative for further analysis in the Draft EA and will be discussed further as the Proposed Action below.

Alternative 4 - The No-Action Alternative, No Improvements or Additions on the Site

Under **Alternative 4 – The No Action Alternative**, the current residents/existing home owners, and future owners would not benefit from improvements to the general TMK, their personal property, and use of that space that is available for single-family residential development in their R-5-zoned site for usage and family expansion. Additionally, the existing dwelling owners would not be able to improve their homes with



additions, address their IWS permit issues, or develop the AG-2 lots with potential permitted uses. Considering that Alternatives 1 – 3 are anticipated to have only minor short-term impacts associated with construction activities, as described below. The environmental consequences of **Alternative 4 – The No Action Alternative** will be evaluated as a baseline for comparison with the environmental consequences of the Proposed Action (Preferred Alternative).

Again, the Proposed Action is summarized in **Table ES-1 and Depicted in Figure ES-1** includes into three (3) general efforts within the TMK:

- Permitted construction of four (4) new single-family dwellings and IWS installation on vacant R-5 lots at unit 4, 5, 7, and 9;
- Permitting of existing R-5 dwellings cesspools and future additions at unit 1, 2, 3, and 8, along with other minor improvements (rock walls/fencing, plantings, walking paths, etc.) on the TMK; and
- Proposed permitted options for the AG-2 and wetland setback associated units, and whether these areas will be developed with permitted uses.

**Environmental Effects.** The Proposed Action is anticipated to have minor, short-term, (10 - 18 months) and episodic negative, but less than significant, construction-related effects on localized traffic, and ambient noise. These potential effects, including impacts to the Proposed Action from sea level rise, will be mitigated with construction BMPs implemented to the maximum extent practicable (MEP), proper planning, along with compliance with the rules and regulatory policies of the State and City and County of Honolulu, that provide proven techniques for protection of natural, built, and social environment.

Beneficial socio-economic effects are anticipated by increase housing and property values in the area through development of vacant lots and beautification of those R-5 lots at Kahena Wai Estates. The AG-2 lots may have mix permitted agricultural uses (Option A – Option D) as identified in **Table ES-1 and Figure ES-1 (Callout #'s 6, 10, and 11)**. No significant adverse impacts are anticipated to natural or human environment. The following resources: biological, water and wetlands, traffic and noise, air quality, geology and soils, land use, socioeconomics, and traditional cultural practices or archaeological, utilities and public services are **not** anticipated to be significantly impacted with adherence to existing laws and regulations. Moreover, this EA demonstrates that the Proposed Action will **not** have reasonably foreseeable direct or indirect effects on any coastal use or resource of the State's coastal zone.

Based on the review of potential environmental resource impacts and significance criteria evaluation (**Table 7.1-1**), the dwelling construction and owner-occupied minor improvement activities as part of the Proposed Action would **not** result in any significant environmental impacts. Therefore, the Proposed Action is **not** anticipated to contribute to any significant cumulative effects or reasonably foreseeable direct or indirect effects to coastal use or resources of the state's coastal zone.

### Anticipated Determination

This section summarizes the potential impacts of the Proposed Action. The purpose of and need for the Proposed Action has been presented in this DEA. It is anticipated that the Proposed Action would **not** have a significant impact on the environment for the following reasons:

There would be no irrevocable loss or destruction of any natural or cultural resource. The impact on flora and fauna and other natural resources is minimal considering the area is already a cultivated lot with mainly barren grass areas and ornamental plants. The wetland area was delineated to identify boundaries and the designs for unit lots that may impact this area (unit 9) will either be revised to remain outside the 50-foot wetland setback area demarcated on **Figure ES-1** or a waiver will be requested. All dwellings, especially those to be constructed near sensitive areas, will utilize construction BMPs to further reduce any potential for impact to the wetland areas. No native and/or T&E species were encountered during the site visit survey or wetland delineation by biologists or other potential work areas, and T&E or sensitive species are not anticipated in the area. The AG-2 areas were assessed for permitted uses and will not be impacted by the Proposed Action for similar reasons identified above. Unit 7's design has been revised, so the foot print remains on the R-5 portion of this AG-2/R-5 split lot. Only AG-2 permitted uses would take place within the agricultural portions of the TMK.

The range of beneficial uses of the environment would not be curtailed. The current use of the environment for residential and adjacent areas for recreation would remain unchanged by the Proposed Action. The Proposed Action is consistent with State and Federal environmental and planning policies, and the economic and social welfare of nearby communities, and the State of Hawaii would not be adversely affected. It is anticipated that the Proposed Action at KWE and would improve the current housing market, and therefore, the social welfare of Hau'ula and consequently the State of Hawaii. The action is consistent with long-term planning policies and objectives of the General Plan and the Ko'olauloa Sustainable Communities Plan (SCP).

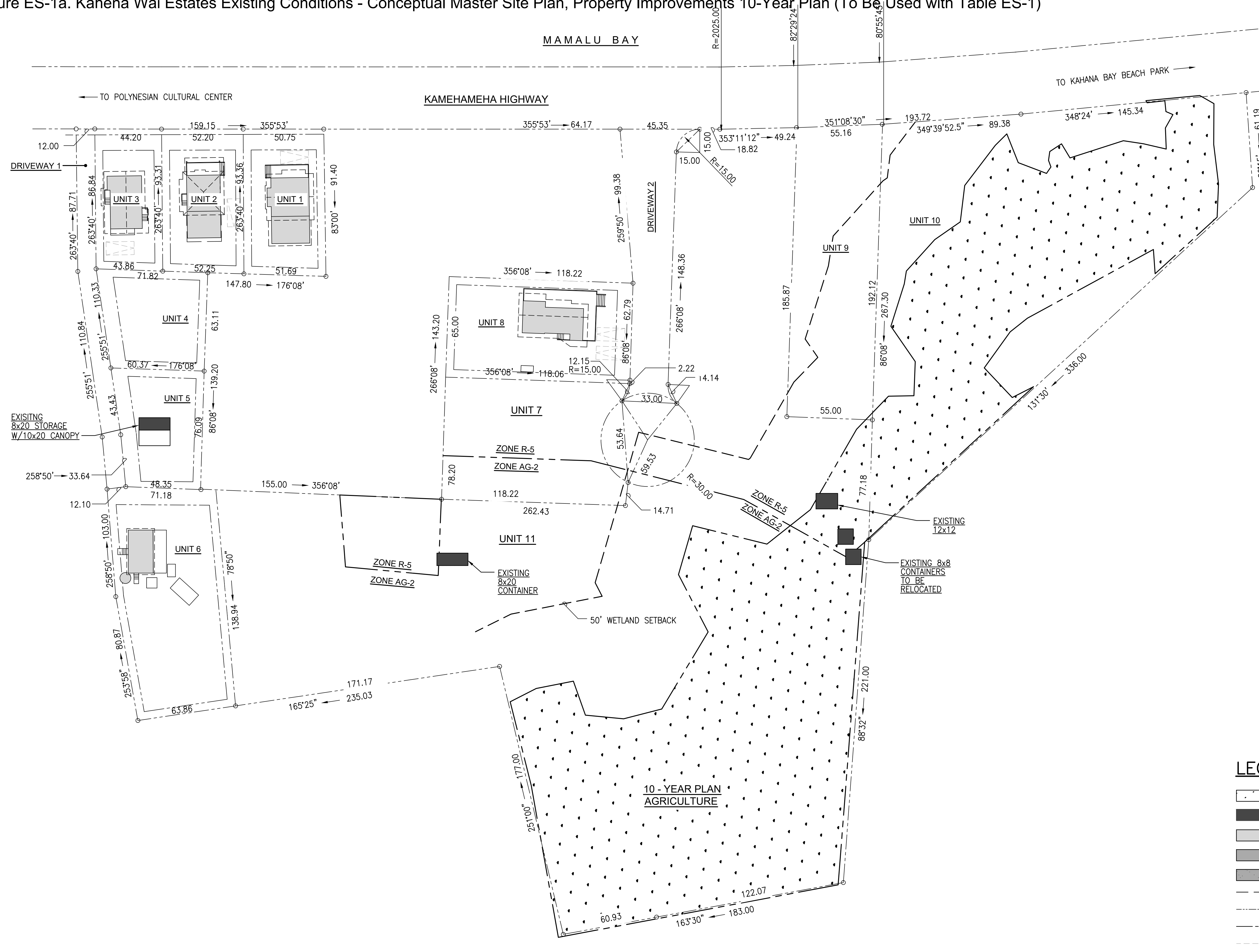
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**Table ES-1 Kahena Wai Estates Conceptual Master Site Plan, Property Improvements 10-Year Plan (To Be Used with Figure ES-1a and 1b)**

	C	D	E	F	G	H	I	Existing Conditions			Proposed Action and Agricultural Use Alternatives			Q	
	CPR / Unit	Owner / Occupied	TMK	Kamehameha Hwy. Hauula Address	CPR Unit Size (SF)	Zoning	Structure	Dwelling	Structure Area (SF)	Year Built	Description	Structure Area (SF)	Estimated Cost (\$180/SF)	Parcel Info	
1															
2															
3															
4															
5															
6	1	Harding, Robert and Jalene	530050700001	53-450 Unit 1	4,841	R-5	YES	tot living area carport open porch total % of lot = 7.5	360 342 144 846	1949	No design options proposed. DEA text describes potential future options similar to Units 2 and 3.	TBD		CPR1	
7	2	Belluomini, Cary	530050700002	53-452 Unit 2	4,820	R-5	YES	tot living area stairs/landing porch	552 26 55	1939	new combined covered lanai area new exterior stairs Tot Bldg Footprint Area	595 22 1,195	\$107,100	CPR2	
8	3	Haines, Carola	530050700003	53-458 Unit 3	3,997	R-5	YES	tot living area	678	1939	raise dwelling 10+ ft. new addition = bathroom = lanai (wrap) = Total Living Area (No Increase)	200 24 80 678	\$50,000 \$36,000	CPR3	
9	4	Brahmbhatt	530050700004	53-424 Unit 4	4,171	R-5	NO	vacant	plans	2024	two story, dwelling incl 3 decks = two carport =	1874 350	\$337,320	CPR4	
10	5	Nicholson	530050700005	53-424 Unit 5	4,099	R-5	YES	container	300	2025	new dwelling, 1 bath = open deck = 1-parking = storage container = impervious area = container to be permitted as storage =	400 120 144 160 945 200	\$72,000	CPR5	
11	6	Clark	530050700006	53-424 Unit 6	10000	AG-2	YES	mobile shelter	733	n/a	owner declaring compliance with HRS § 46-88, relating to exempted agricultural structures, if not approved structure will be removed.	733	\$7,500	CPR6	
12	7	Wang	30050700007	53-450 Unit 7	3284.84 / 5123.46 = 8408	AG-2 / R-5	NO	vacant	plans	2024	two story dwelling = 1st floor = 2nd floor = 3 1/2 bath total parking: 3 uncovered (2 required)	3,329 2,500 540	\$599,220	CPR7	
13	8	Oba Shannon and Dayne	530050700008	53-440 Unit 8	7,684	R-5	YES	tot living area carport conc. fl	738 270	1942	new deck area new total	528 1,516	\$272,860	CPR08	
14	9	Nguyen	530050700009	53-428 Unit 9	10,333	R-5	NO	vacant	plans	TBD	Dwelling Proposed within Wetland 50-foot setback: two story dwelling, 3 1/2 bath (building area) = 1st floor = 2nd floor = total = total parking: 3 uncovered (2 required)  No design drawing outside wetland 50-foot setback as it's too close to road, not enough space, and costly. Owner is researching options, including waiver.	2,540 2,500 829 3,329	\$599,220	CPR09	
15	10	Kahena Wai Estates	5300507000010	53-424 Unit 10	38,963	R-5	NO	open-space / wetland	no plans	n/a	development options are very limited due to wetland location within unit. Owner has no design plans. EA text describes general development options.	TBD	TBD	CPR10	
16	11	Kahena Wai Estates	5300507000011	53-424 Unit 11	97562.88 / 2968.12 = 100531	AG-2 / R-5	YES	unpermitted tiny home/ guard shack 3 storage containers total =	300 400	n/a	existing dwellings (2 storage containers and tiny home/guard shack) to be move outside wetland areas and permitted or removed from property  *Ag Alternatives: A: Self-Managed Ag B: Lease-Land Ag C: Community Garden D: No Action Summarized in Executive Summary, Figure ES-1, Purpose and Need for Proposed Action Section (pg. vi), and Section 2.3.2. Unit 11.	150-200 (x2) 200-300	TBD	CPR11	
17	Total SF Disturbed Area (including estimated staging areas) =				10460 SF							Total Estimated Cost for the Proposed Action (Construction Only)		\$1,995,240	
18												Total Estimated for the Proposed Action (A&E)		\$300,000	

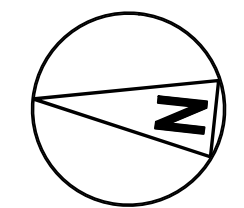
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Figure ES-1a. Kahena Wai Estates Existing Conditions - Conceptual Master Site Plan, Property Improvements 10-Year Plan (To Be Used with Table ES-1)

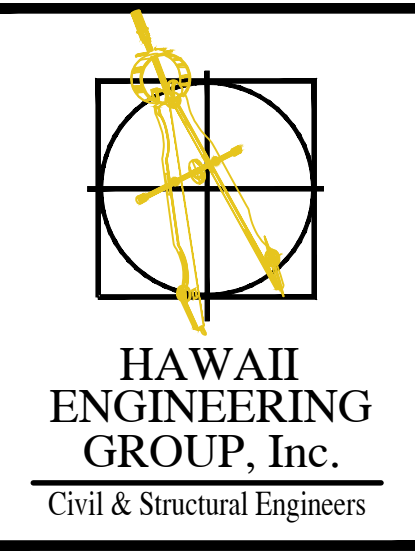
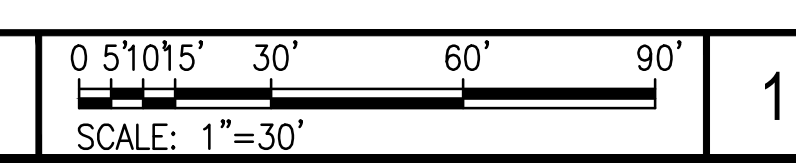


**LEGEND**

- 10 YEAR PLAN AGRICULTURE
- EXISTING STRUCTURES
- FIRST STORY STRUCTURE
- SECOND STORY STRUCTURE
- ROADWAY/DRIVEWAY
- ROOF EAVE/OVERHANG
- PROPERTY LINE
- AG DESIGNATION
- VEHICLE DESIGNATION



EXISTING PLOT PLAN



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PROJECT  
KAHENA WAI ESTATES  
53-440 KAMEHAMEHA HIGHWAY  
HAUULA, HI 96717

T.M.K. : 5-3-005:070

SHEET TITLE  
EXISTING PLOT PLAN

ISSUANCE/REVISIONS

NO.	DATE	DESCRIPTION

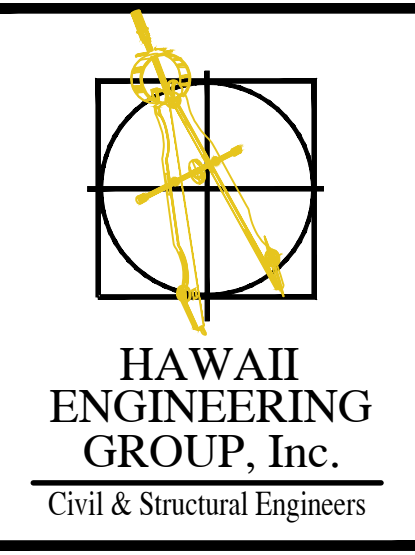
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Figure ES-1b. Kahena Wai Estates Proposed Build Out - Conceptual Master Site Plan, Property Improvements 10-Year Plan (To Be Used with Table ES-1)



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KAHENA WAI ESTATES  
53-440 KAMEHAMEHA HIGHWAY  
HAUULA, HI 96717

T.M.K. : 5-3-005:070

SHEET TITLE  
PROPOSED  
PLOT PLAN

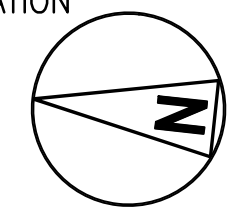
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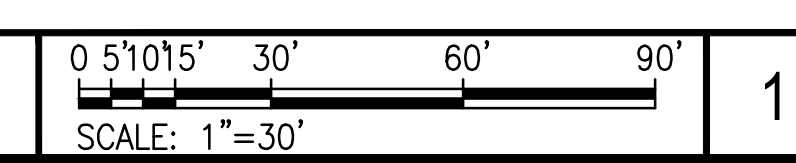
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**LEGEND**

- 10 YEAR PLAN AGRICULTURE
- EXISTING STRUCTURES
- FIRST STORY STRUCTURE
- SECOND STORY STRUCTURE
- TO BE PERMITTED
- ROADWAY/DRIVEWAY
- ROOF EAVE/OVERHANG
- PROPERTY LINE
- AG DESIGNATION
- VEHICLE DESIGNATION



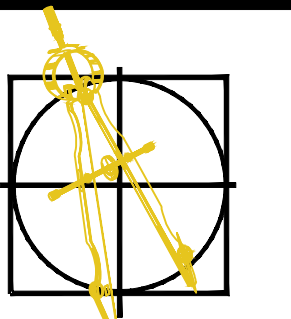
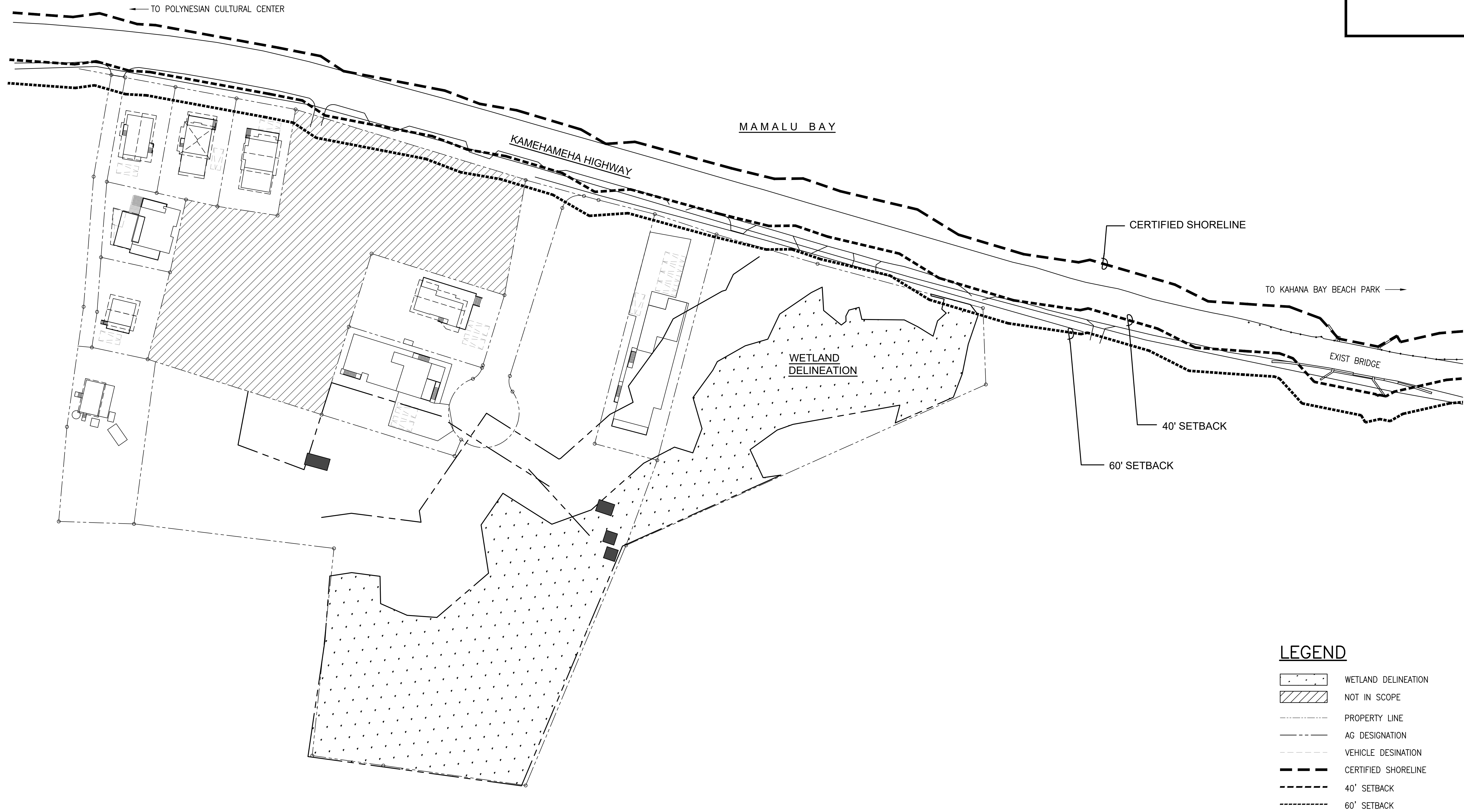
PROPOSED PLOT PLAN





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Figure ES-2 Kahena Wai Estates 40-ft. and 60-ft. Shoreline Setback Lines



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GROUP, Inc.  
Civil & Structural Engineers

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PROJECT  
KAHENA WAI ESTATES  
53-440 KAMEHAMEHA HIGHWAY  
LAIE, HAWAII 96761

T.M.K. : 5-3-005:070

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PLOT PLAN

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Date 04/25/2022

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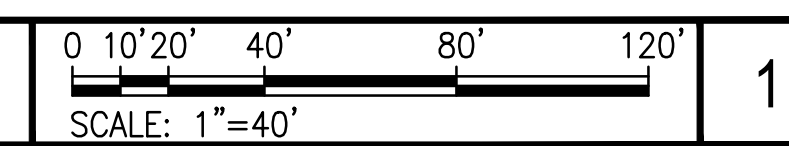
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PLOT PLAN



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\* National Weather Service, Sea, Lake, and Overland Surges from Hurricanes, Maximum of the Maximum

## **APPENDICES (separate stand-alone number)**

<u>APPENDIX</u>	<u>TITLE</u>
A	<i>Site Photographs and Figure 1 – TMK in Association with Wetland Area</i>
A-1	<i>2011 Certified Shoreline Survey</i>
B	<i>Drawings for Dwelling Construction and IWS</i>
C	<i>Draft Environmental Assessment Comments</i> <i>Pre-Consulting Package</i> <i>Pre-Consulting, Comments and Responses &amp; Community Presentations</i>
D	<i>Prior Archaeology Reports in Vicinity</i>
E	<i>Declaration of CPR for Kahena Wai Estates</i>
F	<i>Wetland delineation on TMK: 5-3-005:070 in Hau'ula, windward O'ahu</i>

## LIST OF ACRONYMS AND ABBREVIATIONS

<b><u>Acronym</u></b>	<b><u>Definition</u></b>
AAQS	Ambient Air Quality Standards
ac	acre(s)
amsl	above mean sea level
BFE	base flood elevation
bgs	below ground surface
BOD	Biochemical Oxygen Demand
BMPs	Best Management Practices
CAA	Clean Air Act
CCH	City and County of Honolulu
CFR	Code of Federal Regulations
Corps	U.S. Army Corp of Engineers (USACE or Corps)
CPR	Condominium Property Regime
CWB	Clean Water Branch
CZM	Coastal Zone Management
dBA	A-weighted decibel
DLNR	Department of Land and Natural Resources, State of Hawaii
DPP	Department of Planning and Permitting
EA	Environmental Assessment
EIS	Environmental Impact Statement
ERP	Environmental Review Program (of OPSD)
ESA	Endangered Species Act
°F	degrees Fahrenheit
FHAT	Flood Hazard Assessment Tool
FONSI	Finding of No Significant Impact
ft	feet/foot
GIS	Geographic Information System
gpd	gallons per day
HAR	Hawaii Administrative Rules
HCA	Hau'ula Community Association
HDOH	Hawaii Department of Health
HECO	Hawaiian Electric Company
HRS	Hawaii Revised Statutes
HSP	Hawaii State Plan
IPCC	Intergovernmental Panel on Climate Change
KLSCP	Ko'olau Loa Sustainable Communities Plan
KNB	Ko'olau Loa Neighborhood Board



KWE	Kahena Wai Estates
LBSP	Land-Based Source of Pollution
LSB	Land Study Bureau (of the University of Hawaii at Manoa)
LUO	Land Use Ordinance
MEP	Maximum Extent Practicable
mg/L	milligrams per liter
MOM	Maximum of the Maximum (in relation to SLOSH model)
MS4	Municipal Separate Storm Sewer System
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Registry of Historic Places
NWS	National Weather Service
OEQC	Office of Environmental Quality Control
OGP	Oahu General Plan
OPSD	Office of Planning and Sustainable Development
PacIOOS	Pacific Islands Ocean Observing System
ROH	Revised Ordinances of Honolulu SAAQS State Ambient Air Quality Standards
SDWB	Safe Drinking Water Branch
§	Section
SF	square foot
SFHA	Special Flood Hazard Area
SHPD	State Historic Preservation Division
SLOSH	Sea, Leak, and Overland Surges (from hurricanes model)
SLR	Sea Level Rise
SMA	Special Management Area
TMK	Tax Map Key
TSS	Total Suspended Solids
UIC	Underground Injection Control
U.S.	United States
USACE	U.S. Army Corp of Engineer
USFWS	U.S. Fish and Wildlife Service

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# 1.0 INTRODUCTION

The EA was prepared on behalf of Charles Hew-Len, Manager for Kahena Wai Estates, existing and future owners, and their representative Hawaii Engineering Group, Inc. (HEG) for submission of an SMA Major Permit Application. The Kahena Wai Estates resides is located on the windward side of O‘ahu (**Figure 1 and 1b**) and is located within the Hawaii Special Management Area (SMA) and FEMA flood zone (**Figure 2a, b**). The State of Hawaii Flood Hazard Assessment Report (FHAR) (**Figure 2c**) identifies the larger Tax Map Key (TMK) and the Special Flood Hazard Areas (SFHAs) that are subject to inundation by the 1% annual change of flood. **Figure 3** shows the CCH Property Assessment Division as TMK No. (1) 5-3-005:070 and describes the fee owners and CPR addresses and TMK details. The CCH Land Use Ordinance (LUO), has identified the TMK as zoned residential (R5), and Agriculture (Ag) and a portion of the Ag land is designated as wetlands, (Office of Planning, 2023) (**Figure 4**).

The purpose and intent of the LUO is to (a) regulate land use in a manner that will encourage orderly development in accordance with adopted land use policies, including the city's general plan, and development and sustainable communities' plans, and, as may be appropriate, adopted neighborhood plans, and to promote and protect the public health, safety and welfare, and (b) the intention of the council that the provisions of the LUO provide reasonable development and design standards for the location, height, bulk and size of structures, yard areas, off-street parking facilities, and open spaces, and the use of structures and land for agriculture, industry, business, residences or other purposes<sup>4</sup>.

The Proposed Action entails programmatic improvements to the 4.76-acre lot, located at Kahena Wai Estates (**Appendix A – Site Photos**). The Proposed Action is summarized in **Table ES-1 and Depicted in Figure ES-1** and can be summarized into three (3) general efforts taken place within the TMK:

- (1) Permitted construction of four (4) new single-family dwellings and IWS installation on vacant R-5 lots at unit 4, 5, 7, and 9.
- (2) Permitting of existing R-5 dwellings cesspools and future additions at unit 1, 2, 3, and 8, along with other minor improvements (rock walls/fencing, plantings, walking paths, etc.) on the TMK; and
- (3) Proposed permitted options for the AG-2 and wetland setback associated units, and whether these areas will be developed with permitted uses.

The EA addresses potential impacts associated with the 10-year plan for the Kahena Wai Estates property improvements (**Table ES-1 and Figure ES-1**). The *Declaration of Condominium Property Regime (CPR) of Kahena Wai Estates (KWE) (KWE Condo Docs.)* is provided in (**Appendix E**), pursuant to the Condominium Property Act, Chapter 514B, HRS<sup>5</sup> and is currently being revised, as needed, to be in

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<sup>4</sup> Revised Ordinances of Honolulu, Chapter 21-1.20 Purpose and Intent. (a), (b), (Added by Ord. 99-12; Am. Ord. 17-40)

<sup>5</sup> Declaration of Condominium Property Regime of Kahena Wai Estates, 13 June 2018, by Kahena Wai Estates, LLC, a Hawaii limited liability company, whose address is 87-070 Farrington Highway, Suite 303, Waianae, Hawaii 96717. (Appendix E)

agreement with the EA with regards to information for the property, including location, description of the land, description of the projects, 11 units, adjacent areas, common elements, and easements, land survey and dwelling plans, in addition to other pertinent administrative and legal information.

The EA analyzes the environmental consequences of the Proposed Action and reasonable alternatives in accordance with Chapter 25, Revised Ordinances of Honolulu (ROH), Title 11, Chapter 200.1, and Chapters 11-55 and 11-54 Hawaii Administrative Rules (HAR) and Chapter 343 and 205A, Hawaii Revised Statutes (HRS).

The applicant for construction of the development is Charles Hew-Len, Manager for the Kahena Wai Estates. The approving agency for the proposed activity is the CCH Department of Planning (DPP) and Permitting Land Use Permits Division, which is responsible for administering the Land Use Ordinance and other regulations pertaining to land use within the City and County of Honolulu. The EA is necessary because the project is within the SMA (**Figure 2**) and requires an SMA Use Permit. In accordance with ROH Chapter 25, an EA and FONSI are required prior to applying for the SMA Use Permit. The TMK is zoned as Urban by the State and as R-5 Residential and Agriculture by the County, and is located within a rural, mixed-use area in the Ko'olau Loa District of O'ahu. The area is developed with condominiums, single-family residences, small businesses, and agricultural farms. The Property is identified as uic\_code: 1 (Hawaii Statewide GIS Program)<sup>6</sup> and is located approximately 1000 feet northeast of and below the UIC line, at a surface elevation of approximately 7 feet above mean sea level (amsl). The TMK is adjacent Kamehameha Hwy and Pacific Ocean on its eastern boundary. Locally, the topographic surface gradient is relatively flat.

## 1.1 PURPOSE

This EA was undertaken to determine whether the Proposed Action has the potential to cause significant environmental impacts. The EA was conducted in accordance with the requirements of the Hawaii Environmental Impact Statement (EIS) Law, which are contained in Hawaii Revised Statutes (HRS) Chapter 343 (HRS 343; State of Hawaii Department of Health (HDOH), 1974a) and in Hawaii Administrative Rules [HAR] Title 11, Chapter 200.1 (HAR 11-200.1; DOH, 2019b).

## 1.2 GENERAL INFORMATION

The approving agency for the EA is the CCH DPP Land Use Permits Division, which is responsible for administering the LUO and other regulations pertaining to land use within the City and County of Honolulu. The EA is necessary because the project is located within the SMA and requires an SMA Use Permit. An EA and Finding of No Significant Impact (FONSI) are required prior to applying for the SMA Use Permit.

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<sup>6</sup> Underground Injection Control Lines (UIC) Hawaii Statewide GIS Program, Hawaii State Department of Health, Safe Drinking Water Branch <https://geoportals.hawaii.gov/datasets/HiStateGIS::underground-injection-control-lines-uic/explore?location=21.581270%2C-157.896076%2C14.79>

### 1.3 PROPERTY DESCRIPTION (LOCATION AND SETTING)

The Property (main TMK (1) 5-3-005-070) occupies 4.85 acres of land on the windward side of O‘ahu and lies within the SMA (**Figure 2a**). The TMK is bordered by residential property to the north, Kamehameha Highway and the Pacific Ocean adjacent to the east, Punalu‘u Stream to the south, and Agriculture land and wetland areas to the west (**Figures 1a/1b, 4a, 6a/6b, and Appendix A, Figure 1**). A site plan depicting the layout of the TMK, identifying Unit locations, is provided in **Figures 5a and 5b**. The TMK extends approximately 2,200 feet along Kamehameha Highway, from below Punalu‘u Stream at the south to roughly 500-ft from Haleaha Road to the north (**Figure 1a and 1b**). There are open grassed areas, trees and landscaped areas throughout the Property. Photographs depicting the current site conditions (February 2023) are provided in **Appendix A, Site Photographs**. The Kahena Wai Estates TMK is located off Kamehameha Highway in the town of Hau‘ula on the northeast coast of O‘ahu (**Figure 1a**), and identified as Kapano & Puheemiki Ko‘olau Loa, First Taxation Division, Zone 5, Section 3, PLAT 005, Parcel 007 or (1) 5-3-005:070 (**Figure 5a**). The TMK is located within a rural, mixed-use area in the Ko‘olau Loa District of O‘ahu. The area is developed with condominiums, single-family residences, small businesses, and agricultural farms. The Property is approximately 800 feet northeast of and below the underground injection control [UIC] line (**Figure 6a**), on the east coast of O‘ahu, at a surface elevation of approximately 4-6 feet above mean sea level [amsl]. The TMK is adjacent to Kamehameha Highway and Pacific Ocean on its eastern boundary. Locally, the topographic surface gradient is relatively flat (**Figure 1b, 2b**).

The KWE TMK is current located outside the shoreline setback, however under the new regulations (7/1/2024) may touch the site, but it appears that no structures are encroaching (**Figure 2a**). The TMK is located in the Special Flood Hazard Area (SFHA) Zone VE / AE / X<sup>7</sup> (**Figure 2b and 2c**). This area is subject to inundation by the 1% annual chance flood event. Mandatory flood insurance purchase applies in this zone. More information on the flood hazard zone is provided in **Section 4.6.2.2**.

### 1.4 PROJECT BACKGROUND

The design plans and conceptual drawings for all the CPR Units are included in **Appendix B. Appendix E** includes the *KWE CPR Docs.* that identifies information for the property, including description of the potential future projects, the 11 units and adjacent areas, the common area elements and easements, a land survey, and dwelling plans. The revised KWE CPR Docs. to align with the EA will be included in the Final EA and FONSI.

### 1.5 PARTIES CONSULTED DURING EA PROCESS

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<sup>7</sup> Office of Planning, 2023; Pacific Islands Ocean Observing System (PacIOOS) Map data, 2023, Flood Hazard Assessment Tool [FHAT]) Report

### 1.5.1 Pre-Assessment Consultation

During preparation of the Draft EA, a pre-consultation package was e-mailed to agencies listed below in April 2023 to request initial comments on the proposed project. Agencies with an asterisk responded with comments and are included in Appendix C with a response to their comment. USACE provided feedback regarding USACE jurisdiction regarding wetlands and activities triggering Section 401 and 404 (See Section 2.3.3 for details). The Corp is reviewing the wetland delineation performed and 50-foot setback area and a concurrence is anticipated. Additionally, SMA EA projects in the Ko‘olau Loa Region, focusing on the Hau‘ula / Punalu‘u area, were reviewed. Agency comments (pre-consulting and Draft EA) that were applicable to this Proposed Action, were addressed in the Kahena Wai Draft EA and included below, and in the footnotes and/or reference section.

#### City and County of Honolulu

- Department of Planning and Permitting (accepting agency) \*
- Board of Water Supply\*
- Department of Environmental Services
- Office of Climate Change, Sustainability and Resiliency
- Honolulu Fire Department
- Honolulu Police Department
- Department of Emergency Management
- Department of Transportation Services

#### State of Hawaii

- DOH, Environmental Management Division
  - Clean Water Branch
  - Safe Drinking Water Branch
  - Wastewater Branch
- Department of Land and Natural Resources
  - Division of Aquatic Resources
  - Engineering Division
  - Land Division
  - Division of Forestry and Wildlife
  - Office of Conservation and Coastal Lands
  - State Historic Preservation Division (SHPD)
  - Commission on Water Resources Management
- Office of Hawaiian Affairs
- Office of Planning
- Department of Transportation, Highways Division

#### Federal Agencies

- United States Fish and Wildlife Service (USFWS)
- U.S. Army Corps of Engineers (USACE) \*
- National Oceanic and Atmospheric Administration (NOAA)
- National Marine Fisheries Service (NMFS)

#### Community Organizations

- Koolau Loa Neighborhood Board No. 28\*
- Punalu'u Community Association\*
- Hau'ula Community Association\*

The agencies marked with an asterisk (\*) provided comments (or responded with no comments). Copies of the comments received from the agencies and community groups and the follow-up responses are included in **Appendix C**. Comments received from the agencies were addressed during preparation of the Draft EA.

### 1.5.2 Draft EA Review

Copies of the Draft EA (or notices of availability of the Draft EA) will be distributed to the following agencies and organizations to provide an opportunity for their review and comment:

#### City and County of Honolulu

- DPP
- Department of Design and Construction
- Board of Water Supply
- Department of Environmental Services
- Office of Climate Change, Sustainability and Resiliency
- Honolulu Police Department
- Honolulu Fire Department
- Office of the Mayor
- Councilmembers Office

#### State of Hawaii

- DOH
  - Clean Water Branch
  - Clean Air Branch
  - Environmental Planning Office
  - Wastewater Branch
- Office of Planning and Sustainable Development (OPSD) Environmental Review Program (ERP)
- Department of Land and Natural Resources
  - Division of Aquatic Resources

- Engineering Division
- Land Division – O‘ahu District\*
- Division of Forestry and Wildlife
- Commission on Water Resource Management
- SHPD

- Office of Hawaiian Affairs
- Office of Planning\*
- Hawaii State Library
- Kahuku Library

#### Federal Agencies

- USFWS
- USACE

#### Community Organizations

- Ko‘olau Loa Neighborhood Board No. 28
- Punalu‘u Community Association
- Hau‘ula Community Association

## 2.0 PROPOSED ACTION DESCRIPTION

As described in the Executive Summary, the Proposed Action is taking place within the Ko'olau Loa Residential District and Special Management Area, Kahena Wai Estates from 53-424 to 53-458 Kamehameha Hwy, Hau'ula, HI 96717, TMK: (1) 5-3-005:070. According to LUO Data this TMK has a Lot Area 211,397 SF with zoning R-5 / AG-2, (58,353 SF / 139,494 SF, respectively. See **Table ES-1** and **Figure ES-1** for Summary and Conceptual Master Site Plan.

The Proposed Action includes three general actions: (1) the construction of four new single-family dwellings and IWS installation on vacant R-5 lots at unit 4, 5, 7, and 9 (see Section 2.1 below), (2) the permitting of existing R-5 dwellings (Unit 1, 2, 3, and 8) cesspools and additions at these units (see Section 2.2 below), along with other minor improvements (rock walls/fencing, plantings, walking paths, etc.) on the TMK; and (3) proposed permitted options for the AG-2- and wetland-associated units, and whether they will developed with permitted uses (see Section 2.3 below).

### 2.1 DESCRIPTION OF VACANT UNITS AND NEW DWELLING CONSTRUCTION

All CPR existing dwellings, vacant lots, etc. are described in the KWE Condo Docs (**Appendix E**).

#### 2.1.1 Unit 4 (Lot Size 4,171 SF, R-5)

Project Data as described on design plans included in Appendix B:

53-424 Kamehameha Hwy, Unit 4

TMK 5-3-005:0700:004

Building Area: 2071 SF two story dwelling, three bedrooms and two bath (max allowed per Bill 57 / ORD 20-43) 4 baths/unit) with 3 decks.

Parking: Three (3) covered parking stalls (2 required),

Total Paved Area: 2,971 (3,128 SF Max = 75% of LOT Size).

An IWS in the form of an aerobic treatment unit (ATU) will service the house (**Appendix B**) and be located on the eastern side of the structure, including:

- New Fuji Clean NSF 245 Aerobic Treatment System (Sheet 1/C002)
- Norweco AT-1500 UV Disinfection System
- Distribution Box (Sheet 6/C002), which is connected to a
- New H2O High-Capacity Chambers Leach Field (Non-Traffic Rated) (Sheet 2/C002) with Inspection Port (Sheet 3/C002)



### 2.1.2 Unit 5 (Lot Size 4,099 SF, R-5)

Project Data as described on design plans included in Appendix B:

53-424 Kamehameha Hwy, Unit 5

TMK 5-3-005:0700:005

Building Area: new one-story house, with one bath (400 SF)

Open Deck: 120 SF

Parking: 1-uncovered parking stalls (1 required),

Total paved area of 945

An IWS in the form of an aerobic treatment unit (ATU) will service the house. A septic drainfield is located in the NE portion of the lot adjacent to the driveway (**Appendix B**)

### 2.1.3 Unit 7 (Lot Size 8,408 SF, R-5 / AG-2)

Project Data as described on design plans included in Appendix B:

53-424 Kamehameha Hwy, Unit 7

TMK 5-3-005:0700:007

Building Area: Two story house, 3 ½ Bath (2,540 SF)

First Floor: Family Room, Master Bedroom #2, (2,500 SF),

Second Floor: Master Bedroom #1 (829 SF) and Covered Deck

Total: 3,329 SF

Total Parking: 3-uncovered parking stalls (2 required)

An IWS in the form of an aerobic treatment unit (ATU) will service the house, letter from HDOH Wastewater Branch for conformance with HAR Title, 62. (**Appendix B**)

### 2.1.4 Unit 9 (10,333 SF, R-5)

The original Unit 9 design plans (data included below) encroach on the wetland 50-foot setback area required by **Section 25-2.1**, which applies to all development that would affect wetlands within the special management area, defined as special wetland area “that area that is a wetland and the area within 50-feet of a wetland,” regardless of the size of the wetland. The owner may request a hardship waiver for the design and development of this lot, since the setback limits the developable lot to less than half of the CPR unit within the northeastern most corner near the road (**Figure ES-1 or Appendix B**). The Unit 9 design will either be revised to remain outside the 50-foot wetland setback area demarcated on **Figure ES-1** or a waiver requested by the owner will be provided to CCH DPP for consideration.

Project Data as described on design plans is included in **Appendix B**:

53-424 Kamehameha Hwy, Unit 7

TMK 5-3-005:0700:007

Building Area: Two story house, 3 ½ Bath (2,540 SF)

First Floor: Family Room, Master Bedroom #2, (2,500 SF),

Second Floor: Master Bedroom #1 (829 SF) and Covered Deck

Total: 3,329 SF

Total Parking: 3-uncovered parking stalls (2 required)

## 2.2 DESCRIPTION OF EXISTING UNIT DWELLINGS AND THEIR PROJECTS

In addition to the site-specific proposed plans below, existing dwelling owners that do not have plans, may wish to perform permitted additions and improvements to their property in the future and may include those identified by other unit owners, but not limited to, raising their respective structures, adding open or covered parking, permitting a cesspool conversion, additional rooms, including bathrooms, covered or uncovered deck or lanai's, rock walls/fencing, plantings, walk paths, storage sheds, etc.

### 2.2.1. Unit 1 (4,481 SF, R-5)

The following assumptions are reasonable for future additions at Unit 1:

TMK: 530050700001

Lot Size: 4,481

Building Area: There is no current dwelling plan proposed, however Unit 1 may perform similar efforts identified by Unit 2 and 3, including the following future permitted additions:

The future cesspool conversion will be permitted based on recommendations from the Cesspool Conversion Working Group<sup>8</sup>. Cesspool conversion alternatives generally incorporate three options that include collection, treatment, and disposal. The Unit 1 owners will work with their consultant, HDOH and City entities to identify an IWS or possibly joint collection, treatment and disposal system (shared by Units 1-3 or more) that will conform with HDOH recommended alternative technologies that are more environmentally responsible waste treatment systems or a connection to sewer systems due to future sea level rise issues.

Raising the dwelling may also be included in future permitted design additions, which may include adding parking stalls beneath the dwelling, additional rooms, bathrooms, and/or lanai/deck areas. These additions may increase the living areas and/or footprint within the allowable percentages.

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<sup>8</sup> Cesspool Conversion Working Group, Final Report to the 2023 Regular Session Legislature, State of Hawaii Department of Health. In response to Act 170 Sessions Laws of 2019, November 2022.

### 2.2.2. Unit 2 (4,820 SF, R-5)

Project Data as described on design plans included in Appendix B:

TMK: 530050700002  
Lot Size: 4,820  
Building Area: Max Allowable footprint (105,698.5 SF)  
Existing: Living Area (552 SF), Exterior Stairs (26 SF),  
New: Exterior stairs (22 SF), Combined Covered Lanai (595 SF),  
Total Footprint Area: 1,195 SF (0.006%).  
Floor Area: Max Allowable (147,977.9 SF or 70% of Lot Size)  
Existing/Proposed: 552 SF/595 SF  
Total Floor Area: 1,147 SF or 0.005%  
Parking: 2 stalls (2 stalls required)

The future cesspool conversion will be permitted based on recommendations from the Cesspool Conversion Working Group<sup>9</sup>. Cesspool conversion alternatives general include three options that include collection, treatment, and disposal. The Unit 2 owners will work with their consultant, HDOH and City entities to identify an IWS or possibly joint collection, treatment and disposal system shared by Units 1-3 that will conform with HDOH recommended alternative technologies that are more environmentally responsible waste treatment systems or connected to sewer systems future sea level rise issues. Raising the dwelling may also be included in future permitted design additions.

### 2.2.3. Unit 3 (3,997 SF, R-5)

Project Data: Described by the owner on draft design layout and bullet list, provided in Appendix B:

TMK: 530050700003  
Lot Size: 3,997  
Building Area: 200 SF sunroom addition, with 24 SF bathroom, and 80 SF lanai wrap around.  
Dwelling to be raised by approximately 10-ft. based on permitting allowances and adding a space for two parking areas below with breakaway walls.  
Total Living Area: Space would increase by 308 SF with a total of approximately 1,060 SF.  
Cesspool Conversion: Permitted based on recommendations from the Cesspool Conversion Working Group<sup>10</sup>.  
Cesspool conversion alternatives general include three options that include collection, treatment, and

<sup>9</sup> Cesspool Conversion Working Group, Final Report to the 2023 Regular Session Legislature, State of Hawaii Department of Health. In response to Act 170 Sessions Laws of 2019, November 2022.

<sup>10</sup> Cesspool Conversion Working Group, Final Report to the 2023 Regular Session Legislature, State of Hawaii Department of Health. In response to Act 170 Sessions Laws of 2019, November 2022.

disposal. The Unit 2 owners will work with their consultant, HDOH and City entities to identify an IWS or possibly joint collection, treatment and disposal system shared by Units 1-3 that will conform with HDOH recommended alternative technologies that are more environmentally responsible waste treatment systems or connected to sewer systems to address future sea level rise issues.

Plantings: Include, but not limited to, ti leaves, papaya, orchids, palm trees, ginger, sweet potatoes, tomatoes, small (lime, grapefruit, and pomegranate), onions, other small vegetables, and flowers.

#### **2.2.4. Unit 6 (10,000 SF, AG-2)**

Project Data: Unit 6 is an existing structure within the AG-2 lot. As described and submitted by Unit 6 owner, declaring compliance with HRS Section (§) 46-88, relating to exempted agricultural structures and completing CCH DPP Documents #1 and #4, included within Appendix B:

Project: Agriculture Use 1  
Owner: Janet Clark  
Company: Ohana Yurts  
TMK: 5-3-005-070-006 of the larger 5-3-005-070  
Lot Size: 10,000

Existing Structures: Planting Shed (open air), Temp. Wheeled Workshop, Shed (x2), Solar Panels, and Canvas Yurt

Document # 1: Exemption No. 7 selected, Floor Area of 113.1 SF and Aggregate floor area of exempted structure of 497.1 SF.

HRS §46-88: Agricultural buildings and structures; exemptions from building permit and building code requirements. (a) Notwithstanding any law to the contrary, the following agricultural buildings, structures, and appurtenances thereto that are not used as dwellings or lodging units are exempt from building permit and building code requirements where they are no more than one thousand square feet in floor area:

(7) One-story masonry or wood-framed buildings or structures with a structural span of less than twenty-five feet and a total square footage of no more than one thousand square feet, including farm buildings used as: A. Barns; B. Greenhouses; C., Farm production buildings including aquaculture hatcheries and plant nurseries; D. Storage buildings for farm equipment or plant or animal supplies or feed; or E. Storage or processing buildings for crops; provided that the height of any stored items shall not collectively exceed twelve feet in height;

Document No. 4: CCH DPP “certifying that the building/structure meets the requirements of item No. 12 and has been constructed in accordance with applicable standards.”

#### **2.2.5. Unit 8 (7,684 SF, R-5)**

The following assumptions are reasonable for future additions at Unit 8:

TMK: 5-3-005-070-008

Lot Size: 7,684

Building Area: There is no current dwelling plan proposed, however Unit 1 may perform similar efforts identified by Unit 2 and 3, including the following future permitted additions:

The future cesspool conversion will be permitted based on recommendations from the Cesspool Conversion Working Group<sup>11</sup>. Cesspool conversion alternatives generally incorporate three options that include collection, treatment, and disposal. The Unit 8 owners will work with their consultant, HDOH and City entities to identify an IWS or possibly joint collection, treatment and disposal system (shared by Units 1-3 or more) that will conform with HDOH recommended alternative technologies that are more environmentally responsible waste treatment systems or a connection to sewer systems due to future sea level rise issues.

Raising the dwelling may also be included in future permitted design additions, which may include adding parking stalls beneath the dwelling, additional rooms, bathrooms, and/or lanai/deck areas. These additions may increase the living areas and/or footprint within the allowable percentages.

## **2.3 DESCRIPTION OF AG-2 AND WETLAND LOTS AND POTENTIALLY PROGRAMMATIC PERMITTED USES WITHIN SMA**

HRS Chapter 205A is the regulations and procedures that apply to all lands within the special management area of the city. As stated in 25-1.2, it is the city's policy to preserve, protect, and whenever possible, restore the natural resources of the coastal zone. Special controls on development within an area in proximity to the shoreline are necessary to avoid permanent loss of valuable resources and foreclosure of management options, and to ensure that adequate public access is provided to beaches, recreation areas, and natural reserves, by dedication or other means. It is also the policy of the city to avoid or minimize damage to wetlands whenever prudent or feasible; to require that activities not dependent upon a wetland location be located at upland sites; and to allow losses of wetlands only when all practicable measures have been applied to reduce those losses that are unavoidable and in the public interest. To ensure this policy is adequately implemented, no development, as defined in this chapter, may be undertaken within the special management area without special management area permit approval. Special management area permit approval is required prior to obtaining any other permits or approvals other than State land use district boundary amendments, zone changes, and amendments to the general plan and development plans, including the development plans entitled "sustainable communities plans".

Section 25-2.1 applies to all development that would affect wetlands within the special management area,

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<sup>11</sup> Cesspool Conversion Working Group, Final Report to the 2023 Regular Session Legislature, State of Hawaii Department of Health. In response to Act 170 Sessions Laws of 2019, November 2022.

defined as special wetland area “that area that is a wetland and the area within 50-feet of a wetland,” regardless of the size of the wetland.

A wetland delineation was performed in December of 2023 and a wetland overlay was prepared (Figure 5c), which shows the 50-ft wetland setback impacting original design plans for Units 9 and limiting Unit 10 and 11 development options, which are discussed below. The wetland delineation report, which is being reviewed by USACE for concurrence at this writing, and can be found in Appendix F.

Sections 2.3.1 and 2.3.2 describe only general development options that could be permitted and pursued by owner of these lots. Development within the SMA should promote the protection, use, and development of marine and coastal resources to ensure that these resources are ecologically and environmentally sound and economically beneficial. Impacts on water resources, beaches, coastal dunes, and scenic or recreational amenities resulting from the construction of structures must be minimized.

Note: The driveway No. 2 circle area within the 50-ft wetland setback will remain an unfinished, dirt road.

### **2.3.1. Unit 10 (38,963 SF, R-5)**

TMK: 5300507000010  
Lot Size: 38,963 SF

As of this writing, no structures are present within the Unit 10 lot. The special wetland area is centered within Unit 10 and occupies approximately 90% of the R-5 lot; therefore, since development options are significantly limited, the owner does not have plans for development. Any development within wetland area should be limited to activities that are dependent on or enhance wetlands or are otherwise approved by appropriate State and federal agencies.<sup>12</sup> Development examples include traditional Hawaiian agricultural uses such as wetland taro production, aquaculture, and fishpond management, as well as activities that clean and restore traditional wetland areas or create new wetlands in appropriate areas.

### **2.3.2. Unit 11 (100,532 SF)**

Unit 11 is AG-2 zoned with the special wetland area occupying approximately 50% of the lot located in the western portion of the unit.

TMK: 5300507000011  
Lot Size: 100,531

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<sup>12</sup> Chapter 25, Special Management Areas, Article 3: Objectives, Policies, and Guidelines, § 25-3.1(i) Marine and coastal resources.

**Table 2-1** is a modification of the CCH LUO, Section 21-5.30 Use Table<sup>13</sup> (please see this table for full list of potential AG-2 and Country uses) and identifies permitted agriculture activities within the AG-2 and Country zoned lots that might apply to the KWE owners and units or were identified as an interest (for personal or lease), otherwise they were omitted from **Table 2-1**. The owner does not have development plans, however, has identified potential AG-2 activities of interest. These include four (4) options:

Option A – Self-Managed Agricultural Activities: (Orchard, Crop and/or Pastoral Farming/Ranching (i.e., fruits, nuts, *kalo* [taro], livestock, etc.) or other agriculturally-related activities to be managed by the Kahena Wai Estate(KWE) Association. Terms and Conditions (T&C), for sale of Unit 10 or 11 would apply accordingly.

Option B – Leased Land Agricultural Activities: (orchard, crop, and/or other agriculturally related activities to be managed by other farmers. Terms and conditions for sales of Unit 10 and 11 would apply accordingly.

Option C – Community Garden or Wildlife Preserve: (AG-2 lands will be divided appropriately into a KWE community garden or wetland wildlife preserve to be managed by the KWE Association and/or Unit owner, and

Option D – Combination: AG-2 lands maybe managed and permitted for a combination of Options A-C. For example, the Kahena Wai Estate owners may create a community garden (Option C) for a portion of the Unit 11 lot, lease the wetlands portion of unit 11 for pastoral and/or wetland kala farming, or perform these activities themselves.

Option E – No Action: The AG-2 lands will remain open with no development or agricultural activities, and maybe maintained through mowing within the CPR unit to maintain a boundary.

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<sup>13</sup> City and County of Honolulu, Land Use Ordinance, Section 21-5.30 Use Table, Article 5: Use Regulations

Table 2-1 Table of Allowed AG-2 and Country Uses

Definition/Standards

AGRICULTURAL USES	AG-2	Country	Definition/Standards
Crop Production			
Aquaculture	P	P	§ 21-5.40(a)(1)
Composting (Minor / Major)	P*/C*	--	§ 21-5.40(a)(2)
Community Garden	P*	P*	§ 21-5.40(a)(3)
Crop Raising	P	P	§ 21-5.40(a)(4)
Forestry	P	--	§ 21-5.40(a)(5)
Plant Nursery	P	P	§ 21-5.40(a)(6)
Vertical Farm	P*	P*	§ 21-5.40(a)(8)
Livestock Keeping			
Animal Raising	P	P	§ 21-5.40(b)(1)
Animal Raising, Confined	P	--	§ 21-5.40(b)(2)
Accessory Agricultural			
Beekeeping	P*	P*	§ 21-5.40(d)(3)
Farm Dwelling	P*	--	§ 21-5.40(d)(5)
Farm Stand	P*	P*	§ 21-5.40(d)(6)
Farm Worker Housing, Farmer's Market	Cm*	--	§ 21-5.40(d)(7)
RESIDENTIAL USES			
Household Living			
Single Unit Dwelling	--	P	§ 21-5.50(a)(1)
Duplex-Unit or Two-Unit Dwelling	--	P*	§ 21-5.50(a)(2),(3)
Group Living (Small / Large)	Eu*	P*/C*	§ 21-5.50(b)(1) and (2)
Accessory Residential (dwelling unit, family childcare home, home occupation, <i>ohana</i> unit)	P*	P*	§ 21-5.50 (c) (1),(2),(3),(4)
Poultry Raising and Rooming	P*	P*	§ 21-5.50(c)(5), (6)
P = Permitted, C* = Major Conditional Use (CU), Cm = Minor CU, Eu = Existing Use Only, * Use Standards Apply			

Any development within wetland areas should be limited to activities that are dependent on or enhance wetlands or are otherwise approved by appropriate State and federal agencies. Examples include traditional Hawaiian agricultural uses such as wetland taro production, aquaculture, and fishpond management, as well as activities that clean and restore traditional wetland areas or create new wetlands in appropriate areas.<sup>14</sup> The Conceptual Master Site Plan (i.e. **Table ES-1 and Figure ES-1**) identifies potential locations for these permitted activities, including wetland taro production within the wetland area under leased land Option B. Based on initial consultation with the U.S. Army Corps of Engineers (USACE)

<sup>14</sup> Chapter 25, Special Management Areas, Article 3: Objectives, Policies, and Guidelines, Section 25-3.1(i) Marine and coastal resources.



or Corps<sup>15</sup>, clearing of vegetation above ground level is not regulated by the Corps. Therefore, mowing the California grass or other vegetation from the wetland above ground level would not require a Corps permit. However, removal of any roots such as root balls from trees or grubbing would require a Section 404 Corps permit. For the creation of a lo'i, initial determination is that it may require a Corps permit if it requires a discharge of fill (i.e. loose rock walls constructed around them as described above) or grubbing and root disturbance. There is an agricultural exemption, but only applies to on-going farming practices. The text for 33 CFR 323.4(a)(1)(ii) regarding agricultural exemptions is referenced below:

(ii) To fall under this exemption, the activities specified in paragraph (a)(1)(i) of this section must be part of an established (i.e., on-going) farming, silviculture, or ranching operation and must be in accordance with definitions in § 323.4(a)(1)(iii). Activities on areas lying fallow as part of a conventional rotational cycle are part of an established operation. Activities which bring an area into farming, silviculture, or ranching use are not part of an established operation. An operation ceases to be established when the area on which it was conducted has been converted to another use or has lain idle so long that modifications to the hydrological regime are necessary to resume operations. If an activity takes place outside the waters of the United States, or if it does not involve a discharge, it does not need a section 404 permit, whether or not it is part of an established farming, silviculture, or ranching operation.

An argument could be made, if the hydrological regime is still intact, and that operations could be reestablished, that since the general Punalu'u area (which includes Hau'ula), had extensive *loi kalo* and irrigation systems in the past, and that significant amounts of kalo were cultivated, considered the bread baskets of Koolau Loa, to grant this Corps waiver. The currently named Punalu'u Ditch system was originally constructed to irrigate sugarcane lands in Punalu'u around 1905, and concrete-lined irrigation channels were added to the ditch system in 1922 to transport water. Sugarcane was cultivated in Punalu'u until the 1970's, and there are still isolated farming taking place.

## 2.4 ESTIMATED COST AND TIMING PHASE OF CONSTRUCTION

The estimated cost of the Proposed Action is over \$1,600,00 (**Table ES-1**), including professional services. The source of funding for the project will be exclusively provided by the Kahena Wai Estates unit owners. Each of the individual projects within the Proposed Action will take approximately 4 to 6 months for existing dwellings and 6- 10 months for vacant units, after completion of the EA and receipt of the SMA Use Permit and all agency approvals. The Kahena Wai Estates unit members will coordinate with the CCH DPP for phase construction schedules, so as not to have significant cumulative impacts to the community.

## 2.5 ALTERNATIVES TO THE PROPOSED ACTION

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<sup>15</sup> E-mail correspondence with Jeremy Morgan, Biologist, Regulatory Office U.S. Army Corps of Engineers Honolulu District, Building 252 Fort Shafter, HI 96858-5440 ([Jeremy.k.morgan@usace.mil](mailto:Jeremy.k.morgan@usace.mil)), 28FEB2024 1502 hrs.

This EA analyzes the environmental consequences of the programmatic Proposed Action and reasonable alternatives in accordance with Chapter 25, Revised Ordinances of Honolulu (ROH), Title 11, Chapter 200:1, and Chapters 11-55 and 11-54 Hawaii Administrative Rules (HAR) and Chapter 343 and 205A, Hawaii Revised Statutes (HRS).

### 2.5.1 Alternatives Considered and Dismissed

Since the Proposed Action is an analysis of all reasonable potential programmatic improvements, and because most of the CPR Units are already constricted by the size of the lots and adjacent properties, the new dwelling designs are already significantly limited in their possibilities for reasonable alternative. Additionally, improvement options on the entire TMK are restricted due to an SMA classification, floodplain limitations, wetlands, and agricultural zoned lands.

Four alternatives were assessed against the following three evaluation criteria:

Criterion A: Schedule Relative to Project Costs and Permitting Efforts

Criterion B: Owners' Planned Improvements Relative to Potential Programmatic Improvements, Relative to Timeline, Permitting Challenges, and Project Cost, and

Criterion C: Field Conditions/Location of Improvements Near Sensitive Environments Relative to Space Available and Design Challenges associated with Permitting Restrictions and Notice of Violations (NOV's).

Based on the alternatives analysis below, only Alternative 3 – Considering Owner-Planned Improvements and a Programmatic Level of Potential Improvements Options met all the Proposed Action objectives, and therefore was retained, along with the No-Action Alternative for impact analysis in the DEA.

Alternative 1 – Proposed Action Considering New Dwelling Construction and Potential Future Minor Improvements:

This alternative was previously the preferred alternative. It considered new dwelling design and construction for Units 4, 5, 7, and 9 and their permitted IWS, and existing units permitting of existing cesspools, and potential future minor improvements to the TMK (i.e., walking paths, fencing/rock walls, and plantings, etc.). The cost of the project included professional architect and engineering (A/E) efforts (survey, permitting, EA, and other site-specific design and construction costs), and was divided accordingly between the 11 owners. The respective owners did not identify any specific additions for existing dwellings nor where there any plans or desire to build on the agriculture-zone lands.

This preferred alternative was based on the Kahena Wai Estates 10-year plan, as it met their project expedited timelines for construction, anticipated project costs, and their near-term goals for their property (**Evaluation Criterion A**). During DEA review, the approving agency (DPP) requested a broader approach, identifying that the DEA should take a programmatic look at site improvements and incorporate any potential existing dwelling additions, along with AG-2 lot permitted uses. Therefore, **Alternative 1** was considered and subsequently rejected by the approving agency (**Appendix C**) with concurrence from 5Ks

ENV and the Kahena Wai Estate Owners. Because it didn't meet the objectives of Evaluation **Criteria B** by not considering programmatic improvement options at the site, and **Evaluation Criterion C**, by not developing an accurate boundary for the wetland area that may be impacted by the Proposed Action.

Alternative 2 – Proposed Action Considering New Construction and Limited Potential Future Additions for Existing Dwellings and Permitted Use Options for Agricultural Lots:

For the revised DEA, this Alternative 2 considered everything proposed under Alternative 1 and added several expanded owner-identified existing unit improvements and additions, along with general potential additions over the next 10-years. All existing dwellings, especially Units 1, 2, and 3 fronting Kamehameha Highway, will likely process building permits to raise their existing dwellings, which may vary from 10 feet plus, depending upon permitting approvals. The design and methodology used will depend upon owners' preference, site conditions and permit allowances. Other existing dwelling permitted improvement requests may include but are not limited to (as identified by Unit 3 owners), small room additions, and underneath garage for two cars, and/or storage areas sided with breakaway walls, and removal of walls facing ocean. Additionally, the conversion of their cesspools will take place before the 2030 deadlines established by the Hawaii Cesspool Working Group, Priority 1 zones<sup>16</sup>, and will conform with State of Hawaii Department of Health (HDOH) and/or City and County of Honolulu (CCH) recommendations for alternative IWS for nearshore environments. The only agriculture zone consideration under this Alternative identified by the owner was potentially leasing out the wetland / AG-2 portion of Unit 11 (100,531 SF) for *Kalo* or taro farming on approximately 86,000 SF (0.6 acre) of wetland area. The native Hawaiian's built lo'i (wetland kalo fields) in this region using loose rock walls around them near the freshwater source, so that water could flow around them, ensuring the kalo corms do not rot, but constantly replenish nutrients. A one-acre lo'i can produce 3 to 5 tons of *kalo* per year and during harvesting process, the *huli* (cuttings) are replanted by plunging them back down into the muddy water<sup>17</sup>.

The Alternative 2 options included the scoping of a wetland delineation as did Alternative 3. Considering this added scope, Evaluation Criterion A's project schedule and increased cost and effort relative to permitting requirements were shifted to accommodate these studies, therefore Evaluation Criterion A was met for Alternative 2. For Evaluation Criterion B, Alternative 2 took a preliminary look at possible permitted options for additions within the R-5 and uses of the AG-2 zone / wetlands area. Possible options were identified for existing dwelling additions, including possible IWS issues with sea level rise, and a kalo lo'i as an option for the joint AG-2/wetland property, which would likely entail Army Corp permitting for proper lo'i development to aerate the kalo corm. See §2.3.3 for further details on potential Corps requirements. **Alternative 2** was considered, but subsequently rejected for not meeting the full programmatic intentions of **Criterion B**. Under Alternative 2, **Evaluation Criterion C**, which considered

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<sup>16</sup> Cesspool Conversion Working Group, Final Report to the 2023 Regular Session Legislature, Prepared by the State Department of Health In response to Act 170 Session Laws of 2019, November 2022.

<sup>17</sup> Hawaii Ulu Cooperative <https://hawaii-ulu-coop>.

field conditions and location of improvements near sensitive areas (i.e. the wetland in this case) and current NOV's at the site, the wetland delineation produced a more refined 50-foot wetland setback overlay of the TMK Units 9, 10, and 11. Although the wetland setback constricted the usable portion of the lots even more than anticipated, offering design challenges for single-family dwellings construction. So, although a portion of **Criterion C** was met, the NOV's at the site were not addressed.

Alternative 3 – Proposed Action Considering New Dwelling Construction Along with A Programmatic Level Assessment of Existing Dwelling Additions and Agricultural Permitted Use Options:

For the revised DEA, Alternative 3 considered everything proposed under Alternative 2, with an expanded look at alternatives, potential impacts, and improvement opportunities at the site. This included new dwelling design alternatives for dwellings associated with wetlands and AG-2 lots, existing dwelling addition options to be considered from more existing owners, and agricultural development alternatives.

The new dwelling design for Unit 7 and 9 included a decrease in their footprint due constricted buildable space (i.e., Unit 7 was split R-5 and AG-2 and Unit 9 within the 50-foot wetland setback, respectively). The new design for unit 7 outside the AG-2 lot is summarized in **Table ES-1** and depicted in **Figure ES-1** as part of the Kahena Wai Estates (KWE) Comprehensive Master Site Plan (KWE CMSP). The unit 9 designs will either be revised to remain outside the 50-foot wetland setback area demarcated on **Figure ES-1** or a waiver will be requested from CHH DPP. Alternative 3 will discuss existing dwelling room additions as described in Alternative 2, and the AG-2 permitted uses to be explored include the following, which may be considered in combination of each other, as allowed by permitting, at the site:

Option A - Self-Managed Agricultural Activities: Agricultural zone land (AG-2) to be utilized as Orchard, Crop and/or Pastoral Farming/Ranching (i.e., Fruits, Nuts, *Kalo* [taro], livestock, etc.) or other agriculturally related activities to be managed by the Kahena Wai Estate (KWE) Association. Terms and Conditions (T&C), for sale of Unit 10 or 11 would apply accordingly.

Option B – Leased Land Agricultural Activities: AG-2 land to be utilized for Orchard, Crop, and/or other agriculturally related activities to be managed by other farmers. T&C for sales of Unit 10 and 11 would apply accordingly.

Option C – Community Garden or Wildlife Preserve: AG-2 lands will be divided appropriately into a KWE community garden or wetland wildlife preserve to be managed by the KWE Association and/or Unit owner.

Option D – Combination of A-C above: AG-2 lands maybe managed and permitted for a combination of Options A-C. For example, the Kahena Wai Estate owners may create a community garden (Option C) for a portion of the Unit 11 lot, lease the wetlands portion of unit 11 for pastoral and/or wetland kala farming, or perform these activities themselves.

Option E – No Action: The AG-2 lands will remain open with no development or agricultural activities, and maybe maintained through mowing within the CPR unit to maintain a boundary.

The Alternative 3 options included the scoping of a wetland delineation and the revised project schedule and cost relative to permitting efforts were shifted to accommodate these studies, therefore Evaluation

Criterion A was met for Alternative 3. Only the existing owners at Unit 3 had ideas for potential future for their dwelling, so, Alternative 3 took a programmatic look at the other Unit and developed possible permitted additions as an option within the R-5 and uses of the AG-2 zone / wetlands area. Therefore, Evaluation Criterion B was met for Alternative 3, which considered both existing unit additions on the R-5 lots and permitted use options for the AG-2 lots in the DEA.

Alternative 3 considered field conditions and location of improvements near the wetland areas and AG-2 lots and addressed the current NOV's at the site. Alternative 3 studied alternative designs for the units associated with the wetland 50-foot setback and AG-2 zoned lots (i.e., units 7, 9, 10, and 11), therefore, Criterion C was met for Alternative 3.

Alternative 3 met all three Evaluation Criteria, therefore it was retained as the Preferred Alternative for further analysis in the Draft EA and will be discussed further as the Proposed Action moving forward.

#### Alternative 4 - The No-Action Alternative, No Improvements or Additions on the Site

Under Alternative 4 – The No Action Alternative, the current residents/existing homeowners, and future owners would not benefit from improvements to the general TMK, their personal property, and use of that space that is available for single-family residential development in their R-5-zoned site for usage and family expansion. Additionally, the existing dwelling owners would not be able to improve their homes with additions, address their IWS permit issues, or develop the AG-2 lots with potential permitted uses. Considering that Alternatives 1 – 3 are anticipated to have only minor short-term impacts associated with construction activities, as described below.

The environmental consequences of Alternative 4 – The No Action Alternative will be evaluated as a baseline for comparison with the environmental consequences of the Proposed Action (Preferred Alternative) in the Draft EA.

Again, the Proposed Action is summarized in **Table ES-1 and Depicted in Figure ES-1** and includes into three (3) general efforts within the TMK:

- Permitting of 4 new single-family dwellings and IWS on vacant R-5 lots at unit 4, 5, 7, and 9;
- Permitting of existing R-5 dwellings cesspools and future additions at unit 1, 2, 3, and 8, and minor future improvements (rock walls/fencing, plantings, walking paths, etc.) on the TMK; and
- Proposed permitted options for the AG-2 and wetland setback associated units, and whether these areas will be developed with permitted uses.

### **3.0 PLANS, PERMITS, POLICIES, AND CONTROLS**

The Proposed Action is in compliance with required government and community plans, permits, policies,

and controls. These are described below.

### **3.1 ENVIRONMENTAL POLICIES, PLANS, PERMITS, AND CONTROLS**

#### **3.1.1 Environmental Review Policy**

The requirements for performing an EA are contained within the Hawaii EIS Law, which is set forth in HRS 343 (DOH, 1974a) and HAR Chapter 11-200.1 (DOH, 2019b). According to HRS 343, the purpose of the Hawaii EIS Law (also known as HEPA [Hawai'i's environmental policy act]) is to establish a system of environmental review to ensure that environmental concerns are considered in decisions made by the State of Hawaii. HEPA foundation was created based on requirements of the federal National Environmental Policy Act (NEPA).

HEPA is administered and regulated by the State of Hawaii, OPSD ERP, formerly the Office of Environmental Quality Control (OEQC). The ERP oversees the implementation of these regulations in order to assess the environmental, social, and economic consequences of a proposed development project prior to allowing construction to begin. The Hawaii EIS Law ensures the public the right to participate in planning projects that may affect their communities. The OEQC issued guidelines for the environmental review process (OEQC, 2012), which is still in effect.

Nine types of actions trigger the environmental review process under the Hawaii EIS Law. The Proposed Action's development is within the SMA, therefore subject to the regulations of Chapter 25, Revised Ordinances of Honolulu (ROH), related to the SMA. In accordance with §25-3.3(c)(1), "any proposed development within the special management area requiring a special management area use permit shall be subject to an assessment by the agency in accordance with the procedural steps set forth in HRS Chapter 343" (CCH, 2018a). The IWS, since it serves less than 50 single family dwellings, is exempt from HEPA per §343-5(a)(9A), however requires an SMA Use Permit; therefore, the project is subject to the requirements of the Hawaii EIS Law.

#### **3.1.2 Project Consistency with CCH Department of Planning and Permitting Land Use Ordinance**

The following discussion includes an analysis of the Proposed Action consistency with the applicable CCH LUO included in Chapter 21, ROH: Land Use Ordinance for the R-5 Residential District (~120,357 SF) and the "split-zoned" R-5 / AG-2 General Agricultural District (~91,040 SF), associated with Unit 6, 7, and 11.

##### *Article 3: Establishment of Zoning Districts and Zoning District Regulations*

§21-3.70 of the ROH establishes the purpose and intent of the Residential Districts. The Property is zoned for R-5: district for urban residential development and will be applied extensively throughout the city (ROH

21-3.70(c). The proposed residential construction would not affect the existing residential unit density or land use at the Property, or within the surrounding area. Therefore, the Proposed Action would be consistent with ROH § 21-3.70(c).

§21-3.50 of the ROH establishes the purpose and intent of the Agricultural Districts. The larger TMK is split-zoned R-5 / AG-2. Per § 21-3.50(a) “The purpose of the agricultural districts is to maintain a strong agricultural economic base, to prevent unnecessary conflicts among incompatible uses, to minimize the cost of providing public improvements and services, and to manage the rate and location of physical development consistent with the city’s adopted land use policies. To promote the viability and economic feasibility of an existing agricultural operation, accessory agribusiness activities may be permitted on the same site as an adjunct to agricultural uses. These accessory activities must be compatible with the onsite agricultural operation and surrounding land uses.”

The intent of the AG-2 general agricultural district is to conserve and protect agricultural activities on smaller parcels of land (§ 21-3.50 (d)).

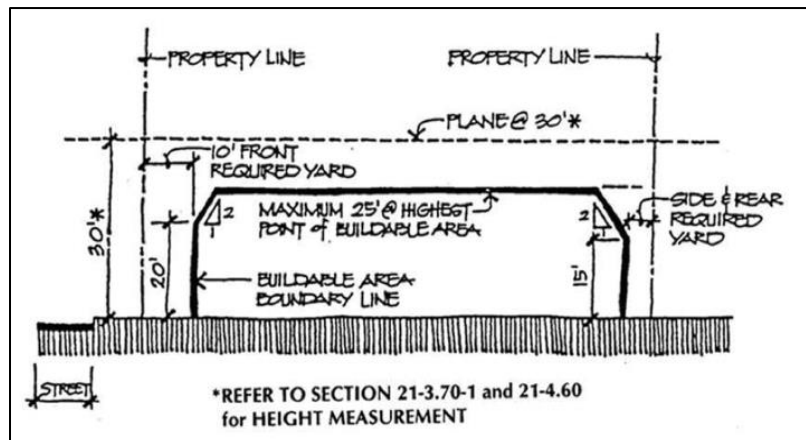
The proposed residential construction would not affect the existing residential unit density or land use at the Property, or within the surrounding area. Therefore, the Proposed Action would be consistent with ROH § 21-3.70(c).

§21-3.70-1 of the ROH establishes residential uses and development standards. [Table 21-3](#) of this ROH, establishes the residential district, permitted uses and structures enumerations. The proposed project(s) are allotted four (4) bathrooms/one dwelling unit on zoned lot or two (2) bathrooms/two or more dwelling units on zoning lot.

[Table 21-3.2](#) enumerates the

development standards within the R-5 districts. The Proposed Action would not include any changes to the existing lot area, lot width or depth, and would not include any changes to the existing yard sizes. Additionally, the project would not include additional improvements that would result in a total building area greater than the maximum allowed building area for R-5 zoning included in Table 21-3.2 of ROH 21-3.70.-1. The Proposed Action would not exceed the allowable maximum height, height setbacks, or maximum floor area ratio density established for R-5 zoning<sup>18</sup>

#### Article 4. General Development Standards



Source: ROH LUO, § 21-3.70—1, Figure 21-3.10

<sup>18</sup> § 21-3.70-1 Residential Uses and Development Standards, ROH LUO.

The Proposed Action would comply with applicable sections of ROH 21-4: General Development Standards. The Proposed Action components are planned to be sited within each respective unit property boundaries, and would not encroach into yard or street setbacks, or conflict with any landscaping/screening requirements. All proposed structures would comply with the maximum height allowed under R-5 zoning. **Appendix B** shows how the proposed development components would comply with the provisions of the ROH §21-4 standards, and the *KWE CPR Condo Docs*. (**Appendix E, Exhibit L**) show the existing unit plans. Additionally, Section 3, of the *KWE CPR Condo Docs*, describes the existing Project, Units and Adjacent Areas. BFE in VE is 10 feet, see attached FHAT report (**Figure 2c**).

Articles 5 through 8 of the ROH are not applicable to the Proposed Action.

#### *Article 9. Special District Regulations*

The Property is located in the SFHA (SMA and Zone VE/AE/X), subject to inundation by the 1% annual chance flood. The 1% annual chance event, also known as the base flood (100-year) has a 1% chance of being equaled or exceeded in any given year. Mandatory flood insurance purchase applies in this zone. More information on the flood hazard zone is provided in **Section 4.6.2.2**. The permit application for the Proposed Action would be submitted to DPP and reviewed for compliance with the flood hazard areas ordinance in accordance with ROH 21-9.10: Developments in Flood Hazard Areas.

#### **3.1.3 Special Management Area**

The SMA is administered and regulated by the CCH DPP. The requirements and regulations can be found in HRS 205A and Chapter 25, ROH. The purpose of these requirements is to regulate development along shorelines to avoid permanent losses of valuable resources and to ensure that access to publicly owned and publicly used beaches, recreational areas, and natural reserves is provided. As noted above, projects within the SMA must undergo the procedural steps set forth in HRS 343 prior to an SMA Use Permit being issued.

Kahena Wai Estates Unit owners and their consultant (Hawaii Engineering Group) are in the process of preparing an SMA major permit application for the Proposed Action described in Section 2. The permit application will be submitted following acceptance of the Final EA and issuance of a FONSI.



### Special Requirements Applicable to Shoreline Lots

Construction or activity on land within the shoreline area is subject to the regulations of Chapter 23, ROH, related to Shoreline Setbacks. In accordance with §23-1.2(b), "it is the specific purpose of this chapter to establish standards and to authorize the department of land utilization to adopt rules pursuant to HRS Chapter 91, which generally prohibit within the shoreline area any construction or activity which may adversely affect beach processes, public access along the shoreline, or shoreline open space" (CCH, 2018a). The Property is subject to a 40-foot shoreline setback as a result of the approval of Subdivision File No. 2015/SUB-132. The shoreline setback waiver line established by Chapter 23, ROH is defined as 75 feet inland from the presumed shoreline. The Proposed Action will be approximately 430 feet from the shoreline (see Figures 5b). The Proposed Action is not within 75 feet of the presumed shoreline and therefore meets the shoreline setback requirements. The property and the shoreline is separated by Kamehameha Highway and utility right of way.

In accordance with ROH §25-6.3(a), "All exterior lighting on a shoreline lot shall be shielded to reduce the possibility that seabirds and other marine life forms may become disoriented and harmed by the lighting. Shielded exterior lighting shall be implemented both during and after any construction work on a shoreline lot. Any wall-mounted exterior lighting on buildings on a shoreline lot shall be shielded by wall directors or other acceptable shielding, and all shielding shall be specified on building permit plans. Artificial light from exterior lighting fixtures, including, but not necessarily limited to floodlights, uplights, or spotlights used for decorative or aesthetic purposes on a shoreline lot shall be prohibited if the light directly illuminates or is directed to project across property boundaries toward the shoreline and/or ocean waters, except as may otherwise be permitted by HRS §205A-71(b)" (CCH, 2018a). The project may include small lights around dwelling. All exterior lighting associated with the project will be shielded and will be indicated on building permit plans. No artificial light will be directed to travel across the property boundary toward the shoreline and ocean waters.

In accordance with ROH §25-6.3(b), "All landscaped areas, landscaping, and irrigation on or for any shoreline lot shall be contained and maintained within the property boundaries of the shoreline lot of origin, and shall under no circumstances extend: (1) seaward of the shoreline as depicted on the current shoreline survey for the shoreline lot; or, in the event there is no current shoreline survey for the lot, seaward of the presumed shoreline; and (2) into any adjoining beach access right-of-way, public or private" (CCH, 2018a). The project does not include landscaping near the shoreline or a beach access right-of-way.

#### **3.1.4 Water Pollution Control**

Water pollution control requirements and regulations governing the Property are administered and regulated by the DOH Clean Water Branch (CWB). The requirements and regulations are contained in HAR, Title 11, Chapters 11-54, 11-55, and 11-56 (DOH, 2014b, 2019a, 2021). The purpose of these

regulations is to prevent the discharge of contaminated water into the waters of the U.S. (WOTUS) or adjoining shorelines. The Property and the planned construction activities meet the State's Antidegradation Policy (HAR §11-54-1.1), which states that "existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." By "existing uses," the policy refers to the existing uses of the receiving State water. In addition, the Proposed Action, including planned construction activities comply with the State's water quality standards<sup>19</sup> (HAR Chapter 11-54), and the planned construction activities will not adversely impact water quality. The project does not require a Section 401 Water Quality Certification (Title 40 CFR §122.2; HAR Chapter 11-54).

In addition to State water pollution control requirements and regulations, the City and County of Honolulu Rules Relating to Water Quality apply to all Development and Land Disturbing Activities within the CCH and establish minimum requirements for the selection, design, implementation and maintenance of Best Management Practices (BMPs) to protect the Municipal Separate Storm Sewer System (MS4) and Receiving Waters from Pollutants that are associated with land disturbance, surface hardening, and land use activities. The pollutants of concern addressed by these Rules include, but are not limited to, sediment, nutrients, trash, pathogens, pesticides, oil, grease, hazardous waste, toxic waste, metals, and organic compounds (CCH, 2018b).

During construction of the residential dwelling, erosion control measures and land-based sources of pollution (LBSP) barrier measures will be implemented to prevent sediment from leaving the site and entering a receiving water. These measures may include cleaning of vehicles tires before leaving the site, since the driveway is concrete a construction entrance is not required, however, proper sediment control devices including fences and socks and/or dust screens can be used as needed.

The project will comply with the prevailing Rules Relating to Water Quality. Appropriate BMPs will be used during construction to prevent the discharge of LBSP into receiving waters. Specific mitigation measures to prevent pollution and protect water quality are discussed in Section 4.2.2. The project site is not connected to the CCH MS4.

### Water Quality

Water quality in the State of Hawaii is under the oversight of the HDOH CWB. According to the CWB (<http://health.hawaii.gov/cwb>), its mission is as follows.

"The mission of the CWB is to protect the public health of residents and tourists who recreate in and on Hawaii's coastal and inland water resources, and to also protect and restore inland and coastal waters for

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<sup>19</sup> HAR, Title 11, DOH Chapter 11-54 Water Quality Standards (OCT 22, 2021), 11-55 Water Pollution Control JUN 26, 2023, and 11-56 Nonpoint Source Pollution Control (JUN 25, 2021). [HAR-Title 11](#)

marine life and wildlife. The mission is to be accomplished through statewide coastal water surveillance and watershed-based environmental management through a combination of permit issuance, monitoring, enforcement, sponsorship of polluted runoff control projects, and public education.”

The objectives of the CWB are as follows.

1. Control point source discharges by issuing the appropriate National Pollutant Discharge Elimination System [NPDES] permits to maintain the designated uses of State receiving waters.
2. Ensure that permitted activities under Section 404 of the Clean Water Act will not adversely impact the designated uses of the State receiving waters.
3. Identify impaired water bodies and restore them to their designated uses.
4. Ensure expeditious compliance with the State water pollution rules.
5. Control LBSP runoff through public and private partnerships.
6. Improve water quality in priority watersheds.
7. Develop appropriate Water Quality Standards.

The CWB is particularly concerned with the beneficial uses of State waters. Some examples include the capturing and re-use of stormwater runoff so that (1) important groundwater resources can be replenished, rather than having stormwater discharge directly to the ocean, and (2) landscaping and crops can be irrigated, rather than using potable water resources for irrigation. Other examples include the re-use of greywater and the protection of coastal waters from contamination caused by non-point source runoff.

The Proposed Action will be in accordance with state and federal water quality regulations, therefore will not cause an increase in runoff quantities.

#### *Stormwater Associated with Construction Activity*

The Proposed Action will disturb less than an acre of land, (approximately 10,406 SF, including staging areas) and, therefore, does not require an NPDES permit for discharges of stormwater associated with construction activity or need to follow the CCH DPP Storm Water BMP Guidelines.<sup>20</sup> Additionally, although this EA considers the Proposed Action as one development, however the individual project schedule will be staggered and non-contiguous from unit to unit, so less than 5,000 SF is anticipated to be disturbed at any given time.

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<sup>20</sup> Storm Water BMP Guide for New and Redevelopment for the CCH DPP, Permit No. HI S000002, July 2017. [CCH DPP BMP-Guide, July 2017.pdf](#)

### Drinking Water Sources

The protection of Hawaii's drinking water sources is under the oversight of the HDOH SDWB. According to the SDWB ([DOH SDWB Website](#)) its mission is as follows.

“The mission of the SDWB is to safeguard public health by protecting Hawaii's drinking water sources (surface water and groundwater) from contamination and assure that owners and operators of public water systems provide safe drinking water to the community. This mission is accomplished through the administration of the Safe Drinking Water Program, UIC Program, Groundwater Protection Program, and the Drinking Water State Revolving Fund.”

The UIC program serves to protect the quality of Hawaii's underground sources of drinking water from chemical, physical, radioactive, and biological contamination that could originate from injection well activity. Underground injection wells are wells used for injecting water or other fluids into a groundwater aquifer. HAR Chapter 11-23 (DOH, 1992) provides conditions governing the location, construction, and operation of injection wells so that injected fluids do not migrate and pollute underground sources of drinking water.

The TMK is located below (*makai*) of the UIC line, indicating that the underlying aquifer is not considered a drinking water source. Approval from the SDWB's UIC program was obtained for installation and operation of the nine existing injection wells associated with the Proposed Action (UIC permit No. UO-1342).

As identified by early consultation with the CCH Board of Water Supply (BWS) (Appendix C), the existing water system is adequate to accommodate the proposed development. This information was based upon current data, and therefore, the BWS reserves the right to change any position or information stated until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval. When water is made available, the applicant will be required to pay the BWS water system facilities charges for resource development, transmission, and daily storage.

Water conservation measures are required for all proposed developments and include utilization of nonpotable water for irrigation using gray water, rain catchment, drought tolerant plants, xeriscape landscaping, efficient irrigation systems, such as a drip system and moisture sensors, and the use of “Water Sense” labeled ultra-low flow water fixtures and toilets.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department. There is an existing fire hydrant (W751) fronting the property on Kamehameha Highway.

#### **3.1.5 Wastewater System**

Wastewater system requirements and regulations are administered and regulated by the HDOH Wastewater Branch. The requirements and regulations can be found in HAR Chapter 11-62 (DOH, 2016a). The purpose of these regulations is to ensure that the use and disposal of wastewater and wastewater sludge do not contaminate or pollute valuable water resources, do not give rise to public nuisance, and do not become a hazard or potential hazard to public health, safety, and welfare. The proposed IWS design plans and specifications must be reviewed and approved by the DOH Wastewater Branch prior to construction and must conform to applicable provisions of HAR Chapter 11-62.

The DOH granted the request for: Variance Application No. WW 736, Docket No. 22-VWW-23, Final Decision Regarding Individual Wastewater System for Mr. Nishal Brahmhatt, 53-424 Kamehameha Highway Hau'ula, Hawaii 96717 TMK (1) 5-3-005-070:004 per a Decision and Order dated October 28, 2022, for five (5) years. Other units scheduled for development have also received state and local permitting or waivers for their individual project. The HDOH also included the Department's Findings of Fact and Conclusions of the Law; letters and Plans are included in **Appendix B**.

### **3.1.6 Air Quality Standards**

Air quality standards are administered and regulated by the HDOH Clean Air Branch. The requirements and rules can be found in HAR Chapters 11-59 (DOH, 2001) and 11-60.1 (DOH, 2014a). The purpose of these standards is to protect public health and welfare and to prevent significant deterioration of air quality.

The Proposed Action is not anticipated to be a significant source of air pollution. Construction of the residential homes will be required to comply with all applicable air quality standards during construction, implementing BMPs as needed. The potential impacts to air quality are addressed in **Section 4.4**.

### **3.1.7 Coastal Zone Management**

The purpose of the Hawaii Coastal Zone Management (CZM) Program (HRS 205A; Office of Planning, 1977) is to provide for the effective management, beneficial use, protection, and development of the coastal zone. The CZM area encompasses all lands of the State and the offshore area out to the limit of the State's police power and management authority. The CZM Program's objectives and policies include recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, development management, public participation, beach protection, and marine resources.

The Proposed Action is within the CZM area, and therefore the unit design plans are required to conform to CZM Program objectives and policies, thus no significant impacts or conflict with the resources and activities associated with the CZM program are anticipated, as described below.

#### *Recreational Resources*

The Proposed Action will not generate additional demands on existing public parks or beaches. It will not restrict access to or adversely affect the existing coastal recreational resources or their uses by the public. Thus, the Proposed Action is not in conflict with the State's objective of providing coastal recreational opportunities that are accessible to the public. The potential impacts to recreational resources are addressed in **Section 5.5**.

#### *Historic, Archaeological and Cultural Resources*

The Proposed Action is not located in an area where there is a significant potential for the presence of man-made or natural historic resources. As described in Section 5.3, although such resources have been identified within a mile and of the Proposed Action, these locations were across Kamehameha Hwy in sandy soils near the beach. During mapping efforts, only small areas of Jaucas soils were identified, i.e. "small areas of very deep, well-drained soils in drainageways<sup>21</sup>, which were preferred for burials. Nevertheless, the SHPD will provide guidance and suggest mitigation recommendations, as needed, during construction activities within the Proposed Actions Area of Potential Effect (APE). This may include recommendations for an archeological Inventory Surveys (AIS) prior to groundbreaking or have an archeologist performing on-site monitoring during ground disturbing activities (i.e. trenching and excavation, etc.). Therefore, any potential adverse effects the Proposed Acton may have on this resource will be mitigated to no adverse effects, hence the Proposed Action is not anticipated to be in conflict with the State's objective of protecting, preserving, and restoring historic and prehistoric resources that are significant in Hawaiian and American history and culture. The potential impacts to historical and cultural resources are addressed in **Section 5.3**.

#### *Scenic and Open Space Resources*

The Proposed Action is not located along the coastline where there are intermittent open views to the ocean. Therefore, the Proposed Action will not interrupt the intermittent visual continuity and rural character of the area. The Proposed Acton is not in conflict with the State's objective of protecting, preserving, restoring, or improving the quality of coastal scenic and open space resources. The potential impacts to visual and aesthetic appeal and mitigation measures are addressed in **Section 5.4**.

#### *Coastal and Wetland Ecosystems*

The majority of the Proposed Action (Units 1-8) are not located in an area where there are sensitive ecosystems that could be impacted by new or existing dwelling construction activities, which include the wetland areas to the southwest, west, or coastal areas to the east due to topography and distance.

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<sup>21</sup> Soil Survey of State of Hawaii. August 1972. U. S. Department of Agriculture, Soil Conservation Service in cooperation with University of Hawaii Agricultural Experiment Station, General Soils Map. See also Reference Section Foote, D.E., ... and University of Hawaii, 1972.

However, the Proposed Action associated with Units 9, 10, and 11, which are located near the wetland area to the southwest (Unit 9 and 10), and west (unit 11) have the potential to affect the wetland areas. Chapter 25-2.1 Special Management Area, applies to all development that would affect wetlands within the special management area, defined as special wetland area “that area that is a wetland and the area within 50-feet of a wetland,” regardless of the size of the wetland. The unit 9 lot is adjacent to a wetland area and the 50-foot wetland setback area bisects the lot. The unit owners are working with their architect and consultant to come up with design options that will work, or they may opt to apply for waiver consideration with CCH DPP.

All development activities will be properly permitted and include the implementation of construction BMPs, reducing the potential effects to natural resources or water quality to less than significant, acceptable levels. Thus, the Proposed Action is not in conflict with the State’s objective of protecting valuable coastal ecosystems from disruption and minimizing adverse impacts to coastal ecosystems. The potential impacts to coastal and wetland ecosystems are addressed in **Section 4.3**.

#### Economic Uses

The Proposed Action is not located in an area where there are significant economic uses that could be threatened. Thus, the Proposed Action is not in conflict with the State’s objective of providing public or private facilities and improvements important to the State’s economy in suitable locations. Land use and economic issues are addressed in **Sections 5.1 and 5.2**.

#### Coastal Hazards

The Proposed Action is in an area where there are coastal hazards nearby, and therefore could be potentially threatened by tsunamis or by potential hazards related to climate change, such as sea level rise (SLR). The Proposed Action may become increasingly affected by storm surges/waves, flooding, erosion, subsidence, and/or pollution from coastal sources in the future because of SLR. Design alternatives to address these hazards have been incorporated into the plans as required by CCH DPP and building permits, including raised structures, retaining walls, and properly permitted IWS, among others.

The Proposed Action is not in conflict with the State’s objective of reducing the hazards to life and property posed by tsunami, storm waves, stream flooding, erosion, subsidence, and pollution. The potential impacts posed by coastal hazards, including sea level rise, are addressed in **Section 4.6**.

#### Managing Development

The Proposed Action is located in an area where there is little ongoing development, and is not defined as a significant coastal development, and is not in conflict with the State’s objective of improving the development review process, communication, and public participation in the management of coastal

resources and hazards.

### Public Participation

State and CCH permits and approvals required by the Proposed Acton include provisions for public participation and ensure protection of coastal resources. The public was provided the opportunity to participate in the review of the Pre-Consulting Package regarding the Proposed Action and will be afforded the opportunity to review the Draft EA and provide comments. Thus, the Proposed Acton is not in conflict with the State's objective of stimulating public awareness, education, and participation in coastal management. A list of the recipients who were provided a copy of the Pre-Consulting Package and planned for DEA distribution is provided in **Section 1.7. Appendix C** includes comments received public agencies and community groups, and the respective responses from pre-consulting and community outreach efforts.

### Beach Protection

The Proposed Action is *mauka* of Kamehameha Hwy, therefore will not adversely impact beaches for public use and recreation. Thus, the Proposed Acton is not in conflict with the State's objective of protecting beaches for public use and recreation. The potential impacts to coastal waters and recreational resources are addressed in **Sections 4.2 and 5.5**.

### Marine Resources

The Proposed Action is *mauka* of Kamehameha Hwy, therefore is not anticipated to affect marine resources, thus, is not in conflict with the State's objective of promoting the protection, use, and development of marine and coastal resources to ensure their sustainability. The potential impacts to these resources are addressed in Sections 4.2 and 4.3.

### **3.1.8 State Environmental Policy**

The State Environmental Policy was developed to establish a policy that will encourage productive and enjoyable harmony between people and their environment, promote efforts to prevent or eliminate damage to the environment and the biosphere, stimulate the health and welfare of humanity, and enrich the understanding of the ecological systems and natural resources important to the people of Hawaii (HRS 344; DOH, 1974b). One of the mandates of the policy is to conserve natural resources so that natural resources, such as land, water, mineral, visual, and air, are protected by controlling pollution, by preserving or augmenting natural resources, and by safeguarding the State's natural environmental characteristics.

The Proposed Action does not conflict with the State Environmental Policy. The environmental resources



identified in the area and the potential impacts to these resources are addressed in **Section 4**.

### **3.1.9 Flood Hazard Areas**

Because the Proposed Action is located in an SFHA (Zone VE / AE / X), it is subject to the provisions of Chapter 21A, ROH (Flood Hazard Areas), which imposes restrictions on construction in areas subject to flood hazards in order to protect life and property and reduce public costs for flood control, rescue, and relief efforts. The Proposed Action will comply with the applicable provisions and development standards of Chapter 21A, ROH. Specific mitigation measures to minimize damage from flood hazards are discussed in **Section 4.6.2.3**.

## **3.2 SOCIAL AND ECONOMIC POLICIES, PLANS, AND CONTROLS**

### **3.2.1 Hawaii State Plan**

The Hawaii State Plan (HSP), which is set forth in the *Hawaii State Planning Act* (HRS 226; Office of Planning, 1978), is a comprehensive, long-term plan that identifies the goals, objectives, policies, and priorities for the State of Hawaii. It provides guidelines for growth, development, and the allocation of State resources. The plan contains diverse policies and objectives on topics of State interest, including the population, the economy (e.g., agriculture, the visitor industry), the physical environment (e.g., natural resources, historic resources, quality of the environment), facility systems (e.g., solid and liquid wastes, water, energy), socio-cultural advancement (e.g., housing, health, culture), and sustainability.

The Proposed Action is consistent with the goals, objectives, policies, and priority guidelines listed in the HSP, and directly supports multiple objectives and policies of the HSP by decreasing the risk of wastewater spills and protecting environmental resources. The most relevant sections of the HSP in relationship to the Proposed Action include the following: land-based, shoreline, and marine resources (HRS 226-11); land, air, and water quality (HRS 226-13); and facility systems – solid and liquid wastes (HRS 226-15). These sections are described below.

#### *Land-Based, Shoreline, and Marine Resources*

The Proposed Action is not in conflict with the State's two objectives.

- Prudent use of Hawaii's land-based, shoreline, and marine resources.
- Effective protection of Hawaii's unique and fragile environmental resources.

The Proposed Action will have no long-term negative impact on land-based, shoreline, or marine resources. No unique and fragile environmental resources have been identified in the area. The potential impacts to these resources are addressed in **Section 4**.

### Land, Air, and Water Quality

The Proposed Action is not in conflict with the State's two objectives.

- Maintenance and pursuit of improved quality in Hawaii's land, air, and water resources.
- Greater public awareness and appreciation of Hawaii's environmental resources.

The Proposed Action will have no negative impact on land, air, or water resources. The potential impacts to these resources are addressed in Section 4.

### Facility Systems - Solid and Liquid Wastes

The Proposed Action is not in conflict with the State's two objectives.

- Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.
- Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.

The Proposed Action will utilize an on-site IWS to treat wastewater and disposal of solid and liquid wastes. The IWS has been approved by the DOH and meets the requirements of HAR Chapter 11-62. See **Appendix B** plans, permits and approvals.

### **3.2.2 Hawaii State Land Use Controls and City and County of Honolulu Zoning Regulations**

Land in the State of Hawaii is divided into the following four classifications: (1) urban, (2) agriculture, (3) rural, and (4) conservation. The project location is designated as an urban district. The urban district generally includes lands characterized by "city-like" concentrations of people, structures, and services. This district also includes vacant areas for future development. Generally, lot sizes and uses permitted in the district area are established by the respective county through ordinances or rules. The CCH zoning designation for the project location is mix R-5 and AG-2 residential community. According to the CCH LUO (Chapter 21, ROH), the intent, policies and guidelines related to residential communities are to maintain sufficient inventory of land within the community growth boundary to accommodate existing and future housing needs of residents within the Ko'olau Loa area. It allows for limited expansion of residential areas in Kahuku and Lā'ie to meet existing pent-up demand and anticipated future housing needs related to the expansion of employment opportunities in the region. The existing inventory of residential land for the communities of Ka'a'awa, Hau'ula and Punalu'u will be maintained, and future residential needs in these communities will be met through infill residential development on appropriately-zoned vacant lots within existing neighborhoods. No new housing areas are designated in these areas. The importance of respecting and preserving the natural setting of the Ko'olau Loa region is stressed by requiring

development in residential areas to be sensitive to physical constraints and to have minimal impact on the area's rural character. Finally, rural design considerations for zoning and subdivisions approvals are supported, as is affordable housing that meets the need for the region's pent-up demand and overcrowding. The Proposed Action is consistent with the prescribed land use classification and zoning regulations for the area.

### 3.2.3 O'ahu General Plan

The O'ahu General Plan (OGP) is a comprehensive statement of objectives and policies that outline the long-range aspirations of O'ahu's residents and the strategies to achieve them. It is the first tier of and lays the foundation for a comprehensive planning process that addresses physical, social, cultural, economic, and environmental concerns affecting the City and County of Honolulu. The OGP was adopted in 1977 (CCH, 1977) and has since been amended on numerous occasions (e.g., CCH, 2002). In December 2017, a proposed revised OGP was released (CCH, 2017). In April 2018, a resolution to adopt the 2017 edition of the OGP was submitted to the City Council and the resolution is pending review (CCH, 2018c).

The OGP seeks to protect and enhance O'ahu's natural beauty and environmental attributes by mitigating the degradation of these assets (CCH, 2002). The Proposed Action is consistent with the goals of the OGP, the Natural Environment subject area (specifically, Objective A, protecting and preserving the natural environment). Similarly, the Proposed Action is consistent with the goals of the Culture and Recreation subject area (specifically, Objective D, Policy 12, provide for safe and secure use of public parks, beaches, and recreation facilities). The Proposed Action is not anticipated to impact natural resources of the nearby shoreline and ocean and the scenic vistas enjoyed in this area of O'ahu's north shore communities.

### 3.2.4 Ko'olau Loa Sustainable Communities Plan

O'ahu is divided into eight geographic planning areas and each area has developed a Development Plan or Sustainable Communities Plan that has been adopted by City Council ordinance. The Koolau Loa Sustainable Communities Plan (SCP) presents the vision for the long-range future of the Koolau Loa region, which is to preserve the region's rural character and its natural, cultural, scenic, and agricultural resources (CCH, 1999). In determining whether a proposed development is consistent with the Koolau Loa SCP, the responsible agency shall primarily take into consideration the extent to which the development is consistent with the vision, policies, and guidelines set forth in the Koolau Loa SCP; "vision" means *the future outlook for the Koolau Loa region extending out to the year 2035 and beyond, which seeks to preserve the region's overall rural character and its natural, cultural and scenic resources. Some growth in housing and related support services is envisioned to support the planned expansion of the Brigham Young University-Hawaii. Nevertheless, the future of the Koolau Loa region is to remain country, characterized by small towns and villages with distinctive identities that exist in harmony with the natural*

*settings, defined by mountain ridges and scenic open spaces.*<sup>22</sup> (CCH, 2020).

In context, the vision of the Koolau Loa SCP is to maintain and enhance the man-made and natural elements that make Ko'olau Loa's character so unique and special, in contrast to the urbanized areas of O'ahu. Consistent with the General Plan policies to preserve the region's open space and country atmosphere of the rural areas, the Koolau Loa SCP allows for limited growth to accommodate existing and future housing and employment needs, maintaining a population that is consistent with the General Plan.

Based on the Ko'olau Loa SCP, land use policies for existing and new residential communities that are applicable to the Proposed Action include the following (§3.5.1; CCH, 2020):

- Respect and help preserve the natural setting of the Ko'olau Loa region by requiring development in residential areas to be sensitive to physical constraints and have minimal impact on the area's rural character.
- Maintain sufficient inventory of land within the Community Growth Boundary to accommodate existing and future housing needs of residents within the Ko'olau Loa area by supporting limited expansion of residential areas in Kahuku and Lā'ie to meet existing pent-up demand and provide land for affordable work force housing.
- Increase housing affordability to Ko'olau Loa residents.
- Maintain the existing inventory of residential land for the communities of Ka'a'awa, Hau'ula and Punalu'u. Future residential needs in these communities will be met through infill residential development on appropriately zoned vacant lots within existing neighborhoods. No new housing areas are designated in these areas.
- Adopt zoning, subdivision and related project design regulations which foster a rural character in new residential developments and improvements to existing residential areas.
- Encourage and support the development of affordable housing in the region in order to address existing pent-up demand for housing and overcrowded housing conditions.

The guidelines of the Ko'olau Loa SCP (Section 3.5.2, CCH 2020) place an emphasis on the single-family homes, classified as "rural residential" and the importance of exhibiting the physical characteristics of a rural context, including:

- Small building footprints, less lot coverage, relatively narrow roadway widths, and greater open space than encountered in more urbanized areas;
- Alternative development patterns, such as clustering and traditional compact layouts to preserve open space and minimize infrastructure demands;
- Low-rise structures, general not exceeding two stories with minimal amount of paved driveway surfaces, and a landscaping design that reduces impervious surfaces, such as grassed swales

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<sup>22</sup> CCH, 2020, Koolau Loa Sustainable Communities Plan, Department of Planning and Permitting, November 2020

- rather than curbs and gutters; and
- Building, landscaping, and fencing design elements that impart an informal, open feeling.

The Proposed Action, is considered a “rural residential” development, intended to consist of single-family homes in a “country” setting from 3,500 SF to just under an acre, with new rural residential development occurring through infill development on existing residential-zoned parcels. The intent of this rural residential classification is to designate and distinguish it from urban residential development. The Proposed Action would be consistent with the Ko’olau Loa SCP’s general policies and guidelines for land use, rural development standards, scale and character, and, since development is on level terrain, the site densities can approach the higher range of rural residential use, however with the shared driveway concept, architectural details providing visual interest and individual identity accentuate the rural setting, which will have beneficial impacts on the area’s rural character with an aesthetically pleasing dwelling design.

### **3.3 BUILDING, GRADING, AND FIRE PERMITS**

Prior to construction of the residential dwellings at the TMK, the necessary permits will be obtained from the appropriate State of Hawaii and CCH Agencies. Building permits are required per ROH Sec. 18-3.1. All work completed, whether or not a permit is required, shall comply with all building codes and regulations<sup>23</sup>. A grading permit is required when excavation or filling earth materials (rock, coral, gravel, soil, recycled asphalt pavement) meets the following: (a) greater than 3 feet in height, or (b) greater than 50 CY in volume (excavation or fill, not net), or to re-redirect existing surface run-off patterns with respect to adjacent properties<sup>24</sup>. Effective January 19, 2021, the 2012 National Fire Protection Association 1 Fire Code was adopted as the Fire Code of the CCH to reflect the following permits issued by the Honolulu Fire Department (HFD) and their applicable permit fees. A permit or license shall be obtained from the HFD Fire Prevention Bureau or designated agency prior to engaging in the following activities, operations, practices, or functions: (Section 1.12.8, as amended).<sup>25</sup>

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<sup>23</sup> <https://www.honolulu.gov/dpp/permitting/building-permits.html>

<sup>24</sup> <https://www.honolulu.gov/dpp/permitting/site-development-permits/civil-engineering/grading-permits.html>

<sup>25</sup> <https://fire.honolulu.gov/fire-code/permits/>

## **4.0 PHYSICAL ENVIRONMENT AND POTENTIAL IMPACTS**

This section describes the environmental setting and baseline conditions of the physical environmental resources within the project site(s) associated with the Proposed Action. These include Land (geology and soils), Water Resources, Biological Resources, Air Quality, Noise, Infrastructure and Climate. To analyze how the Proposed Action would potentially impact resources within the Proposed Action APE, the existing conditions of the area must be described and defined.

This section then evaluates the probable consequences on environmental resources of the Proposed Action and any Alternatives carried forward.

Cumulative impacts on environmental resources can result from the incremental effects of development; and other actions when evaluated in conjunction with other past, present, and reasonably foreseeable future actions. No cumulative impacts have been identified for the Proposed Action.

An analysis of a wide range of resources indicated that the Proposed Action is unlikely to affect or be affected by the environmental resources as described in Section 4.1 through 4.6.

### **4.1 GEOLOGY AND SOILS**

Single residential family home construction that follows CCH and State approvals and permits typically has less than significant negative impacts on the natural, built, or social environment in which they are constructed and on the surrounding area. One of the principal objectives of an EA is to assess whether such impacts could be significant. The areas of potential concern that have been identified regarding the residential (R-5) and potential agricultural (AG-2) construction in the SMA and Flood Zone VE/AE/X are as follows: (1) climate change (flooding and sea-level rise); (2) receiving water/wetland impacts; (3) biological impacts; and (4) construction-related air quality and noise effects.

#### **4.1.1 Definition of Resource**

Geology describes the surface and subsurface materials of which a land area is composed, including soils and rocks. The characteristics of soils and underlying rocks include stability, slope, compatibility, shear strength, and productivity. Discussions of this resource area typically identify existing geological conditions and determine how action alternatives would likely affect geological and soil resources.

#### **4.1.2 Affected Environment**

The TMK is located on a relatively flat coastal plain, at a surface elevation ranging from approximately 3 to 6 feet amsl. There is no significant elevation change across the Property and no unique topographical features are located on the Property.

O‘ahu consists of the eroded remnants of three shield volcanoes, Kaena, Waianae, and Koolau. Kaena is the oldest of the three volcanoes and it was predominantly submarine<sup>26</sup>. The TMK is located near the coastline on the eastern side of the Koolau volcanic shield. Lavas erupted during the shield-building phase of the volcano belong to the Koolau Volcanic Series. Following formation of the Koolau shield, a long period of volcanic quiescence occurred, during which the shield was deeply eroded. Following this erosional period, eruptive activity resumed. Lavas and pyroclastic material erupted during this period belong to the Honolulu Volcanic Series<sup>27</sup>.

The site-specific information provided below is from the 1972 USDA, SCS Soil Survey<sup>28</sup>, unless otherwise indicated.

The general soil associations in the area of the Proposed Action belongs to the Kaena-Waialua association: Deep, mainly nearly level and sloping, poorly drained to excessively drained soils that have a fine- to course-textured subsoil or underlying material; or coastal plains and talus slopes and in drainageways.

The principal lithologic unit underlying the TMK is Mokuleia clay loam (Mt). The Mokuleia series consists of well-drained soils along the coast This series consists of well-drained soils along the coastal plains on the islands of O‘ahu and Kauai. These formed in recent alluvium deposited over coral sand.

They are shallow and nearly level. Elevations range from nearly sea level to 100 feet. The annual rainfall amounts to 15 to 10 inches on O‘ahu and 50 to 100 inches on Kauai. The mean annual soil temperature is 74° F. Mokuleia soils are geographically associated with Hanalei, Jaucas, and Keaau soils. In this survey area a poorly drained variant of the Mokuleia series was mapped. This soil, Mokuleia clay, poorly drained variant, is described in alphabetical order, along with other mapping units of this series. These soils are used for sugarcane, truck crops, and pasture. The natural vegetation consists of kiawe, klu, koa haole, and bermudagrass in the drier areas and napier-grass, guava, and joe in the wetter areas.

Mokuleia clay loam (Mt). This soil occurs as small areas on the coastal plains. It is nearly level, included in mapping were small areas of Jaucas soils; small areas of very deep, well-drained soils in drainageways; and small areas of poorly drained clay soils underlain by reef limestone.

In a representative profile the surface layer is very dark grayish-brown clay loam about 16 inches thick. The next layer, 34 to more than 48 inches thick, is dark-brown and light-gray, single-grain sand and loamy

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<sup>26</sup> Sinton, John M., Eason, Deborah E. Eason, Tardona, Mary, Pyle, Douglas, van der Zander, Iris, Guillou, Herve, Clague, David A., and Mahoney, John J., 2014, Kaena Volcano – A Precursor Volcano of the Island of Oahu, Hawaii: Geological Society of America Bulletin, May 2, 2014.

<sup>27</sup> Stearns, H. T. and Vaksvik, K. N., 1935, Geology and Groundwater Resources of the Island of Oahu, Hawaii: Hawaii Div. Hydrogr. Bull. 1, 479 p.

<sup>28</sup> Soil Survey of State of Hawaii. August 1972. U. S. Department of Agriculture, Soil Conservation Service in cooperation with University of Hawaii Agricultural Experiment Station, General Soils Map. See also Reference Section Foote, D.E., ... and University of Hawaii, 1972.

sand. The surface layer is neutral in reaction, and the underlying material is moderately alkaline.

Permeability is moderate in the surface layer and rapid eroded in the subsoil. Runoff is very slow, and the erosion hazard is no more than slight. The available water capacity is about 1.8 inches per foot in the surface layer and about 1.0 inch per foot in the subsoil. In places roots penetrate to a depth of 5 feet or more.

As stated above, this soil is used for sugarcane, truck crops, and pasture, with a capability classification of II if irrigated, and VI if non-irrigated; sugarcane group 1; pasture group 3.

The Land Study Bureau (LSB) of the University of Hawaii at Manoa prepared an inventory and evaluation of the State's land resources during the 1960s and 1970s<sup>29</sup>. [Hawaii Statewide GIS LSB](#)

The LSB grouped undeveloped lands in the State into homogeneous units of land types; described their condition and environment; rated the land on its overall quality in terms of agricultural productivity; appraised its performance for selected alternative crops; and delineated the various land types and groupings based on soil properties and productive capabilities. From these criteria, overall ratings of A through E were created; with A having the overall highest soil productivity rating and E having the lowest (University of Hawaii, 1972). The TMK has LSB rated soils of B and C. The Proposed Action would involve localized lot soil disturbances to prepare each site for dwelling construction to appropriate SMA standards, however it is anticipated that soils excavated will be retained on site and utilized, therefore the Proposed Action would not result in permanent loss to LSB rated soils.

A Phase I Environmental Site Assessment is not warranted for the project since there is no reason to suspect hazardous substances listed under the Comprehensive Environmental Response, Compensation, and Liability Act to be present.

#### **4.1.3 Environmental Consequences**

Figures 1b (oblique aerial) and 5b (survey plans) show the lot areas of new dwelling construction and where soil disturbance will occur. The only area of subsurface excavation will be drilling and trenching to install poles for dwelling, IWS chamber and piping, and retaining walls. The temporary work area will be prepared so grass can easily take over the bare dirt areas after project completion. Clean soil will be imported, from an engineering design standpoint, to backfill as needed. The Proposed Action will increase impervious surfaces, meeting the criteria identified in the CCH building permit. The Proposed Action is not anticipated to include offsite export of soil.

Excavation and grading will be required for each lot during construction of the residential homes, so there

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<sup>29</sup> Hawaii Statewide GIS Program, Land Study Bureau's Detailed Agricultural land productivity ratings for Kauai, Oahu, Maui, Molokai, Lanai and Hawaii, 1965-1972.



will be short-term construction related impacts to localized ground topography and soils from the Proposed Action. The Proposed Action would implement standard construction BMPs described in **Table 4-1** and follow the CCH Stormwater Construction Best Management Practice Manual as applicable during construction, in addition to the provisions of the grading permit that will need to be obtained. Adherence to these regulatory guidelines, which would include protecting exposed soils from runoff through the use of filter socks, silt and dust fences, tarping soil stockpiles, and other appropriate BMPs, would mitigate potential significant impacts of soil erosion and fugitive dust during grading or excavation. Therefore, there is no significant long-term or cumulative adverse effects to site soils, topography or geological resources anticipated from the Proposed Action above the No Action Alternative baseline conditions described in **Section 4.1.2**.

Table 4-1. Best Management Practices

<b>BMPs</b>	<b>Purpose</b>	<b>Description</b>
<b>Silt Fencing</b>	Erosion Control	A silt fence consists of a length of filter fabric stretched between anchoring posts spaced at regular intervals along the site. Silt fences are used for construction sites with relatively small drainage areas.
<b>Filter Socks</b>	Erosion Control	The filter sock is typically a mesh tube filled with composted material that is placed perpendicular to the direction of sheet flow to control erosion and retain sediment in and/or near the disturbed areas. Filter Socks in conjunction with Silt Fencing offer an erosion control treatment train to keep stormwater from transporting materials from the property.
<b>Wind Breaks</b>	Dust Control	Wind breaks are barriers (either natural or constructed) that reduce wind velocity through a site and, therefore, reduce the possibility of suspended particles leaving the site
<b>Sprinkling/Irrigation</b>	Dust Control	Sprinkling the ground surface with water until it is moist controls dust on dirt roads and open spaces.

## 4.2 WATER RESOURCES

### 4.2.1 Definition of Resource

Water resources are sources of water available for use by humans, flora, or fauna, including surface water, groundwater, nearshore waters, and wetlands. Surface water resources, include but are not limited to stormwater, lakes, streams and rivers. Groundwater is classified as any source of water beneath the ground surface and is the primary source of potable water used to support human consumption.

Nearshore waters can be directly affected by human activity and are important for human recreation and subsistence. Wetlands are habitats that are subject to permanent or periodic inundation or prolonged soil saturation, and include marshes, swamps, and similar areas. Areas described and mapped as wetland communities may also contain small streams or shallow ponds, or lake edges.

#### 4.2.2 Affected Environment

In general, the TMK is bounded by residential homes, landscaped open-space and farmland to the north, Punalu'u Beach Park and the Pacific Ocean across Kamehameha Highway to the east. Punalu'u Stream and an estuarine wetland area is to the south/southwest and to the west towards the mountain (*mauka*) are agricultural lots and non-delineated freshwater emergent wetlands. The "UIC line" (boundary between exempted aquifers and underground sources of drinking water) is located approx. 300-feet *mauka* of the TMK's western-most boundary (**Figure 1b, 4a, 6a, 6b**).

##### Surface Water

In the 15<sup>th</sup> Century, Kalamakua, the ruling chief of O'ahu is credited with establishing numerous irrigation ditches and agricultural terraces for taro. In Koolau Loa, the development of these irrigation systems sustained a sizeable population for many generations. In Punalu'u, extensive loi kalo and irrigation systems existed and significant amounts of kalo were cultivated. Kahana and Punalu'u districts, were known as the bread baskets of Ko'olau Loa. The currently named Punalu'u Ditch system was originally constructed to irrigate sugarcane lands in Punalu'u around 1905, and concrete-lined irrigation channels were added to the ditch system in 1922 to transport water. Sugarcane was cultivated in Punalu'u until the 1970's.

The Punalu'u Stream and *ahupua'a* has been negatively impacted historically, including water diversions, non-native invasive aquatic, flora and fauna; stream channelization; unprotected stream crossings; land grading and alteration of natural drainage patterns; tillage; livestock grazing; aquaculture; and residential development. Currently, over 50-ac. of the lower Punalu'u Valley have flooded annually, causing economic hardship. The flooding in 2005 and heavy flooding on July 19, 2014, damaged roads, properties, fields and crops. Kamehameha Schools had identified the lower Punalu'u Stream Valley as an opportunity to implement a restoration project, incorporating it's *ahupua'a* management strategies to provide flood mitigation and restore natural ecological form and process, and initially reached out to the community in 2007 presenting concepts for a Punalu'u Ahupua'a Plan, including stream stewardship and flood mitigation planning. The primary objective of the Punalu'u Stream Restoration Project is to develop sustainable flood protection and restore hydrologic processes in the Punalu'u Watershed with an anticipated completion date of late 2023 to early 2024<sup>30</sup>.

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<sup>30</sup> Kamehameha Schools, Punalu'u Stream Restoration Project, Aina Pauahi website visited 23JUL2023 [ksbe.edu](https://www.ksbe.edu)

Punalu'u Stream or Punalu'u Ditch Intake (USGS 16301050) Latitude 21°33'23.0", Longitude 157°53'56.0" NAD83 Honolulu County, Hawaii, Hydrologic Unit 20060000, has a drainage area of 2.77 square miles and the datum of gage is 212 feet above LMSL. The USGS period of record is from October 1, 1953, to current year. No field or laboratory sampling data is available, however extremes for that period include maximum discharge of 6,900 ft<sup>3</sup>/sec (51,615 gallons/sec) on March 20, 1991, with a corresponding gage height of approximately 10 ft<sup>31</sup>.

The area of the Proposed Action associated with dwelling construction includes Units 4, 5, 7, and 9 on their respective vacant grassed lots (4171 SF, 4099 SF, 8408 SF, and 10333 SF, respectively), and Units 1-3, and 8 for potential new additions. Any stormwater associated with construction activities are anticipated to be contained and infiltrate into the surrounding grassy areas due to a slight topographic depression and neighboring CMU retaining walls. There are no storm drains located in the area and with minimal impervious surfaces, most of the stormwater on-site percolates due to natural topography and soils. Construction BMPs would be implemented at all locations, especially at units 7 and 9, which are closer to wetland general boundaries. The unit 9 owner will obtain a delineation concurrence (DC) as an alternative to a jurisdictional determination (JD), which can be used for planning purposes for the new dwelling and permit applications and approvals for construction outside the 50-foot special wetland setback area, if applicable. The unit 9 design described in Table ES-1 and DEA text, and depicted within Appendix B, Figure ES-1 will either be revised to remain outside the 50-foot wetland setback area demarcated on Figure ES-1 or a waiver will be requested from CCH DPP.

### Ground Water

Groundwater in Hawaii exists in two principal types of aquifers. The first and most important type, in terms of drinking water resources, is the basal aquifer. The basal aquifer exists as a lens of fresh water floating on and displacing seawater within the pore spaces, fractures, and voids of the basalt that forms the underlying mass of each Hawaiian island. In parts of O'ahu, including the area of the Proposed Action, groundwater in the basal aquifer is confined by the overlying caprock and is under pressure. Water that flows freely to the surface from wells that tap the basal aquifer is referred to as artesian.

The second type of aquifer is the caprock aquifer, which consists of various kinds of unconfined and semi-confined groundwater. The nearly impermeable sediments that form the caprock separate the caprock aquifer from the basal aquifer. The impermeable nature of these materials and the artesian nature of the basal aquifer severely restrict the downward migration of groundwater from the upper caprock aquifer. Groundwater in the area of the Proposed Action is part of a basal aquifer within the Ko'olau Loa Aquifer System of the Windward Aquifer Sector. The upper aquifer is classified as an unconfined aquifer that occurs in sedimentary nonvolcanic lithology. It is currently used and is ecologically important but is not

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<sup>31</sup> USGS operated in cooperation with State of Hawaii Commission on Water Resource Management (CMRM) <https://waterdata.usgs.gov> retrieved 23JUL2023.

used as a drinking water source. It is highly vulnerable to contamination, is irreplaceable, and has low salinity. The lower aquifer is classified as a confined aquifer that occurs in flank lavas. It is currently used and is ecologically important but is not used as a drinking water source. It has low vulnerability to contamination, is irreplaceable, and has low salinity<sup>32</sup>.

Based on well logs for deeper wells installed nearby, the caprock extends to 150 feet bgs (SSFM Engineers, Inc., 1993). Therefore, it is assumed that the basal drinking water aquifer in the area of the Proposed Action occurs at a depth of 150 feet or greater. The direction of groundwater flow in the area is most likely to the north-northeast, towards the Pacific Ocean. Shallow groundwater associated with the Proposed Action is likely tidally influenced owing to its proximity to the ocean.

The nearest drinking water supply well 02 is approximately 1,500 ft. west of the TMK across the UIC line within the Kaponu Ahupuaa. Water well 01 is approximately 2,500 ft. to the south along the coast near Punalu'u Beach Park (Figure 6). Based on the distance and direction to the nearest drinking water supply wells and the depth to the basal (drinking water) aquifer, it is unlikely that contaminants originating at the Property have impacted or could impact drinking water sources.

The coastal waters adjacent to the Property are classified as Class A, which precludes any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class. The specific criteria applicable to marine waters are included in HAR Chapter 11-54 (DOH, 2014b).

### Wetlands

As identified by the U.S. Fish and Wildlife Service (USFWS), wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes, (2) the substrate is predominantly undrained hydric soil, and (3) the substrate is "nonsoil" and is saturated with water or covered by shallow water at some time during the growing season of each year. Deepwater habitats are permanently flooded lands lying below the deepwater boundary of wetlands and defined as: Environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live<sup>33</sup>.

The USFWS Wetlands Inventory Mapper (USFWS, 2020b) was reviewed to identify the general boundaries and type of the wetland habitat present adjacent to Unit 10 and 11, which includes Punalu'u Stream and an estuarine wetland area to the south, and freshwater emergent wetlands associated with the agricultural areas of the TMK (Figure 1b, 4a, 6a, 6b). Figure 6 and Appendix A - Site Photos, Figure 1,

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<sup>32</sup> Mink, J. F. and Lau, L. S., 1990, Aquifer Identification and Classification for the Island of Oahu, Groundwater Protection Strategy for Hawaii: Water Resources Research Center Technical Report No. 179, February 1990.

<sup>33</sup> Classification of Wetlands and Deepwater Habitats of the United States, Cowardin, et al. 1979.

identifies a 6.11-acre Freshwater Emergent Wetland habitat (Classification code [Cc]: PEM1Cd) southwest and adjacent to Unit 11, and a Freshwater Forested / Shrub Wetland System (0.86 acres [Cc: PSS3C] and 0.14 acres [PFO3A]) and the Punalu'u Stream mouth (a 0.13 acre Estuarine and Marine Deepwater habitat (Cc: E1UBLx) to the south of Unit 10. Unit 10 and 11 are part of the larger TMK, however no development is currently planned for these larger Lots, and therefore not part of the Proposed Action. The shoreline areas of the Pacific Ocean are considered Estuarine and Marine Wetland habitat and according to the USFWS Mapper total approximately 19.53 acres [Cc:M2USN]). This habitat is over 300-ft. to the east across Kamehameha Highway from the Proposed Action. The protected marine species associated with this area are discussed in the Biological Resources Section 4.3.1.

A USACE jurisdictional wetland means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation. A Jurisdictional Determination (JD) is a two-step process of 1) identifying and locating aquatic resources (including wetlands) on a property, which is referred to as a Delineation, and 2) determining whether those areas are regulated by the USACE under section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act. Receiving a JD is optional and may be used during for planning purposes. A JD may also be used with submittals of Permit Applications.

A delineation is the process of identifying and locating aquatic resources (including wetlands) on a property. The Corps now offers "Delineation Concurrences" (DC) for delineations as an alternative to receiving Jurisdictional Determinations. A DC provides concurrence that the delineated boundaries of wetlands and other aquatic resources on a property are a reasonable representation of aquatic resources on-site. A DC does not address the jurisdictional status of the aquatic resources. A DC may be used for planning purposes and may also be used with submittals of Permit Applications. As part of the Proposed Action, and Unit 9 development, a wetlands delineation concurrence from the Corps is anticipated and design plans for the unit will have to take into consideration the 50-foot wetland setback area for this "special wetland" within an SMA or the owner must request a waiver to build within this area. This information has been incorporated into this EA and SMA Major Permitting process and building applications and approvals.

### 4.2.3 Environmental Consequences

Based on the description of potential water resource effects below, it has been determined that the Proposed Action with proper agency permitting and approvals, along with recommended construction BMPs, will not have significant impacts on the environment. The Proposed Action is not anticipated to include offsite export of soil. The Proposed Action would implement standard construction BMPs described in **Table 4-1** and follow the CCH Stormwater Construction Best Management Practice Manual as applicable during construction, in addition to the provisions of the grading permit that will need to be obtained. Adherence to these regulatory guidelines, which would include protecting exposed soils from

runoff through the use of filter socks, silt and dust fences, tarping soil stockpiles, and other appropriate BMPs, would mitigate potential significant impacts of soil erosion and fugitive dust during grading or excavation. Therefore, there is no significant long-term or cumulative adverse effects to water resources anticipated from the Proposed Action above the No Action Alternative baseline conditions described in **Section 4.2.2**.

### Surface Water

Less than significant short-term impacts from stormwater runoff are anticipated during construction. Construction BMPs as identified in **Table 4-1** and others (e.g., wheel/tire wash station) will be implemented to the MEP to prevent soil generated by construction activities from leaving the project site during rain events (i.e., stormwater runoff) or by vehicle (“tracking”). The grassed vegetation should be kept as much as possible to retain and filter the transport of sediment. Upon completion of construction activities, any construction-disturbed areas surrounding the residential home will be restored to its previous condition (e.g., grass). There will be less than significant impact in the long-term, as stormwater runoff quantities from the property will be minimal mostly being contained on-site, like existing conditions. All areas disturbed during construction will be landscaped with vegetation or covered with concrete (e.g., driveway and carport) in accordance with the building permits. The project will slightly increase impervious surfaces on-site, but the run-off will be contained on-site, percolating into the ground. Three parking spaces will be created, and the Proposed Action will comply with the landscaping requirement of a minimum five-foot landscape strip adjacent to any adjoining street right-of-way (§21-4, ROH). There will be no changes to existing surface water drainage patterns.

### Ground Water

The Proposed Action is anticipated to have no adverse impacts on shallow groundwater or the basal (drinking water) aquifer. The IWS planned for installation has been approved by the Department of Health (**Appendix B**), must meet the requirements of HAR Chapter 11-62, “Wastewater Systems” (DOH, 2016a).

The proposed IWS is anticipated to have no adverse impacts on groundwater during operation or coastal waters during construction. During construction, barriers (e.g., sediment fences, silt screens, bags, or environmental filter socks) will be used as needed to limit sediment and LBSP from discharging into the coastal waters.

### Wetlands

The Proposed Action would implement standard construction BMPs described in Table 1, which would significantly decrease the chance of stormwater associated with construction activities from reaching the wetland areas, especially at the unit 9 lot, which are grassed and relatively flat, but within 50-feet of the of the delineated special wetland area, which bisects the lot. Units 4 and 5 are over 1,000 feet from the

wetlands, topographically downgradient and stormwater would be retained on property by topography or the CMU walls. There are currently no plans for Unit 10 to construct, as the wetland area encompasses 90% of the area, and Unit 11, where the wetland consumes the entire western portion of the unit and 50% of the total lot area. Options for development are briefly discussed in Section 2. Therefore, considering the Proposed Action will be following state and CCH rules and regulations, acquiring applicable permits and approvals, and implementing construction BMPs, the special wetland area would not be impacted by the Proposed Action.

## 4.3 BIOLOGICAL RESOURCES

There are numerous recognized ecosystems in Hawaii. Because so many Hawaiian species are highly specialized, populations are small and many of Hawaii's plants and animals are listed as threatened or endangered species by the USFW. The definition of this resource and the four biological communities within (or near) the Proposed Action are described and evaluated.

### 4.3.1 Definition of Resource

Biological resources include native or naturalized plant and animal species and the vegetation communities within which they occur. Although the existence and preservation of biological resources are intrinsically valuable, these resources also provide aesthetic, recreational, and socio-economic values to society. This analysis focuses on species or vegetation communities that are important to the functions of biological systems, are of special public importance, or are protected under Federal or State law or statute. For purposes of the EA, these resources are divided into four categories: vegetation (floral) types, wildlife (faunal), marine (flora and fauna), and special-status species. Special-status species include those species listed by the USFWS under the ESA.

### 4.3.2 Affected Environment

#### Vegetation

Vegetation types include all existing terrestrial plant communities as well as their individual component species. The area of potential effect for vegetation includes only those areas potentially subject to ground disturbance. The entire TMK was grubbed during development in the mid-1970s. Existing properties have a variety trees and shrubs, including several palm species (i.e., *Cocos* and *Pandus* genus of monocots), Naupaka (*Scaevola sencea*) and other species present, herbaceous Musa banana plants, among others. Abandoned sugar cane (*Saccharum officinarum*) with other mixed Poaceae family grasses Para/Buffalo/California grass (*Brachiaria mutica*) grow in dense mats along the TMK mauka perimeter (i.e., Agricultural lots and non-delineated wetland boundary).

The units planned for home construction are vacant grassed lots, with some recent floral plantings of Hawaiian ti plant (*Cordyline minalis*), and the genus's *Hibiscus* and *Plumeria*, just to name a few of the ornamental flowering yard plantings.

## Wildlife

For the purposes of this EA, wildlife includes all animals except for those identified as special-status species, including amphibians, reptiles, birds, and mammals. Wildlife also includes those bird species that are not special-status species but are protected under the 1918 Federal Migratory Bird Treaty Act (MBTA). Wildlife in the area of the Property is limited to mammals and birds which have adapted to the urban environment. Species commonly found in coastal environments on the Windward side of the island include feral cats, rats, house mice, and Indian mongoose. Birds common to the Property and observed during the site visit include the common mynah, Red-crested Cardinal, Northern Cardinal, Java Sparrow, Spotted Dove, Zebra Dove, and Japanese White-eye.

The Pacific golden plover (kōlea) (*Pluvialis fulva*), although not seen during the biological survey, is a migratory bird that could potentially forage in the area. The kōlea breeds in Alaska and Siberia (May-July) and migrates to Asia, Australia, and Pacific Islands in August and September, and stays until April or May. The kōlea is a common MBTA species in Hawaii, adapting remarkably well to human presence and to human alteration of the natural environment, including backyards, parks, cemeteries, rooftops, pastures, and golf courses. Because kōlea are site-faithful, each bird returns to, and defends, the same territory year after year, resulting in people observing the comings and goings with special interest. Some observers name and feed their birds, and some birds become tame around their caretakers. The oldest kōlea recorded lived to be at least 21 years, 3 months; its age was unknown at banding<sup>34</sup>. Kōlea are the subject of a Hawaii Audubon Society's citizen science project called Kōlea Count. The birds' habit of returning to the same territory each year allows scientists in Hawai'i to attach tiny light level geolocator devices to the birds and retrieve them the following year in the same location. Such research showed that the birds made the 3,000-mile (4,800 km) nonstop flight between Alaska and Hawai'i in 3-4 days.<sup>35</sup>

The State of Hawaii GIS critical habitat map shows no Federal- or State-listed, or candidate threatened or endangered animal species currently associated with the Proposed Action (Office of Planning, 2023).

## Marine (Ocean Floral and Faunal Communities)

The coastal and offshore areas across Kamehameha Highway from the Proposed Action are characterized by expansive coral reefs. According to the State GIS benthic habitat map, just offshore, the benthic waters consist of unconsolidated channel sediment and a large 50-90% turf algae zone offshore. No live coral reefs are present in the shallow reef flat. The reef flats are classified as "Pavement." Live

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<sup>34</sup> Johnson, Oscar W.; Scott, Susan (2016). Hawaii's Kōlea: The Amazing Transpacific Life of the Pacific Golden-Plover. Honolulu: University of Hawai'i Press. [ISBN 978-0-8248-6696-9](https://doi.org/10.1086/69699).

<sup>35</sup> Johnson, O.W.; Fielding, L.; Fox, J.W.; Gold, R.S.; Goodwill, R.H.; Johnson, P.M. "Tracking the migrations of Pacific Golden-Plovers (*Pluvialis fulva*) between Hawaii and Alaska: New insight on flight performance, breeding ground destinations, and nesting from birds carrying light level geolocators". Wader Study Group Bulletin. 118 (1): 26–31.



corals in the coastal areas are not documented until approximately 0.25 miles offshore (Office of Planning, 2023). The Proposed Action will not impact Marine Flora or Fauna.

### Special-Status Species

Special-status species are defined as those plants and animal species listed as threatened, endangered, or proposed as such, including their associated critical habitat, by the USFWS under the ESA or by the State of Hawaii under the Hawaii ESA.

The biological survey of the project site did not find any plants or animals classified as threatened, endangered or specifically designated by any regulatory agency on the Proposed Action project site; therefore, the Proposed Action will not adversely affect endangered or threatened plant species.

The State of Hawaii Geographic Information System (GIS) “threatened and endangered plants map” and “critical habitat map” show no threatened and endangered species are currently found within the Property (Office of Planning, 2023).

According to the Final EA prepared for the Hau‘ula Well Replacement<sup>36</sup>, located approximately 2 miles north of the Proposed Action, the USFWS noted that federal data indicate the federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) may forage and roost in the vicinity.

The Hawaiian hoary bat is endemic to the islands of Hawaii and distributed only among the major volcanic islands of Hawaii, making it the only extant and native terrestrial mammal in the state. The Hawaiian hoary bat is nocturnal and can be found roosting in a multitude of forest vegetation, typically less than 15 feet tall<sup>37</sup>. Unlike some bats the Hawaiian hoary bat is a solitary species, meaning it roosts individually rather than in a colony, and will remember their roosts and foraging locations and return repeatedly. The TMK has potential roosting habitat (i.e. coconut palms [*Cocos nucifera*] and trees at the edge of the property. According to the Final EA prepared for the Hanohano Hale Wastewater Treatment System Replacement, located approximately 1.5 miles north and on the makai-side of Kamehameha Highway of the Proposed Action<sup>38</sup>, the USFWS provided a list of protected species that may occur in the vicinity of that Property. In addition to the Hawaiian hoary bat, the USFWS noted that the federally endangered band-rumped storm-petrel (*Oceanodroma castro*) and Hawaiian petrel (*Pterodroma sandwichensis*), and federally threatened green sea turtle (*Chelonia mydas*) and Newell’s shearwater (*Puffinus auricularis newelli*) may occur in the vicinity of that Property. The USFWS letter for the project mentioned above is included in **Appendix C**.

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<sup>36</sup> Shimabukuro, Endo & Yoshizaki, Inc., 2016, Hau‘ula Well Replacement Final Environmental Assessment, Hau‘ula, Oahu, Hawaii, Tax Map Key: 5-04-15:030, June 2016.

<sup>37</sup> Hawaiian hoary bat Guidance for Renewable Wind Energy Proponents

<sup>38</sup> ESI, 2019, Final Environmental Assessment, Hanohano Hale Wastewater Treatment System Replacement, 53-549 Kamehameha Highway, Hau‘ula, Oahu, Hawaii, TMK No. (1) 5-3-008:001, May 2019.

The USFWS Critical Habitat for Threatened and Endangered Species online GIS map was also reviewed. No critical habitats were present at or surrounding the Property (USFWS, 2020a). The USFWS Wetlands Inventory Mapper was also reviewed to identify the general boundaries and type of the wetland habitat present adjacent to Unit 10 and 11. **Figure 6 and Appendix A - Site Photos, Figure 1**, identifies a 6.11 acre Freshwater Emergent Wetland habitat (Classification code [Cc]: PEM1Cd) southwest and adjacent to Unit 11, and a Freshwater Forested / Shrub Wetland System (0.86 acres [Cc: PSS3C] and 0.14 acres [PFO3A]) and the Punalu'u Stream mouth (a 0.13 acre Estuarine and Marine Deepwater habitat (Cc: E1UBLx) to the south of Unit 10. Unit 10 and 11 are part of the larger TMK, however no development is currently planned for these larger Lots, and therefore not part of the Proposed Action (USFWS, 2020b). The shoreline areas of the Pacific Ocean are considered Estuarine and Marine Wetland habitat and according to the USFWS Mapper total approximately 19.53 acres [Cc:M2USN]). This habitat is over 300-ft. to the east across Kamehameha Highway from the Proposed Action. The protected marine species associated with this area are discussed below.

A wetland delineation was contracted for the Draft EA to depict wetland boundaries and portray the 50-foot setback area of this wetland within an SMA (i.e. special wetland) more accurately. The Wetland delineation report is presented in **Appendix F** and **Figure ES-1** shows wetland area with 50-foot setbacks overlain on the survey map as part of the Conceptual Master Site Plan.

#### 4.3.3 Environmental Consequences

The Proposed Action takes place on previously disturbed and manicured lots, with no observed wildlife or vegetation species or communities that are important to the functions of biological systems, are of special public importance, or are protected under Federal or State law or stature. On-site species (cats, rats, mongoose, and various common birds etc.) will be displaced if on-site, and existing grassed vegetation would be removed during construction of the single-family dwellings, but due to the small lot footprint, staggered scheduling of other actions, and on-site BMPs, there would be no significant direct, indirect or cumulative impact to biological resources from the Proposed Action.

The special-status species (e.g., Hawaiian Monk Seal, and the Green and Hawksbill Sea Turtles) that have the potential to be present at the marine shoreline community, are unlikely to cross Kamehameha Highway and enter the Proposed Action areas. Additionally, the special-status bird species associated with the marine shoreline community may pass through the Proposed Action area due to the proximity to the coastline but are also unlikely to be impacted by the Proposed Action. The same goes for the kōlea, which has been shown to adapt to human alterations of the environment.

While the larger TMK has potential roosting (and foraging) habitat for the Hawaiian hoary bat, units 4 and 5 of the Proposed Action do not. For the construction efforts at unit 9, mitigation measure will be employed (see below), to reduce any potential impact to less than significant. In addition, the TMK is insignificant with regards to the range of the Hawaiian hoary bat for possible foraging and roosting sites.

Therefore, based on the analysis above, there would be a less than significant impact to biological resources from the Proposed Action above the No Action Alternative baseline conditions described in

**Section 4.3.2.** The following mitigation measures will be implemented to minimize potential impacts to biological resources:

- 1) Construction activities will be limited to daylight hours to avoid the use of construction work lights which may attract and disorient migrating seabirds and sea turtles. All exterior lighting associated with the Proposed Action will be shielded (per Section 25-6.3(a), ROH). No artificial light will be directed to travel across the property boundary toward the shoreline and ocean waters (per Section 25-6.3(a), ROH). These mitigation measures will be implemented to avoid potential impacts to migrating seabirds and sea turtles.
- 2) During construction, barriers (e.g., sediment fences, silt screens, bags, or environmental socks) will be used as needed to limit sediment and land-based sources of pollution from leaving the site (in accordance with the State’s water quality standards [HAR Chapter 11-54] and City and County of Honolulu Rules Relating to Water Quality, (CCH, 2018b).
- 3) To protect Hawaiian hoary bats or birds that may use the trees on the TMK for roosting, (a) avoid trimming or removal of trees taller than 15 feet between June 1 and September 15 (Hawaiian hoary bat’s pupping season), when juvenile Hawaiian hoary bat that are not yet capable of flying may be roosting in the trees, and (b) restrict working at night under bright lights to avoid attracting insects that bats and birds feed on.

With these mitigation measures and other construction BMPs in place, the effect of the Proposed Action construction is expected to be short-term, resulting in no significant long-term direct, indirect or cumulative adverse impacts to biological resources.

Therefore, no significant long-term or cumulative adverse effects to biological resources are anticipated from the Proposed Action above the No Action Alternative baseline conditions described in **Section 4.3.2.**

## **4.4 AIR QUALITY**

### **4.4.1 Definition of Resource**

Air quality is defined by ambient air concentrations of specific pollutants of concern with respect to the health and welfare of the general public. Air quality can be affected by many different man-made and natural sources, including mobile sources, such as vehicular traffic, aircraft, or non-road equipment used for construction activities, and fixed or immobile facilities, referred to as “stationary sources.” Stationary sources can include combustion and industrial stacks and exhaust vents. To determine if emissions generated at the Property would adversely affect air quality conditions, potential air quality impacts were evaluated in accordance with national and state air quality standards.

The United States Environmental Protection Agency (USEPA), under the requirement of the CAA, as amended in 1977 and 1990 has establish National Ambient Air Quality Standards (NAAQS) for six contaminants, referred to as criterial pollutants (40 Code of Federal Regulations [CFR] 50): carbon

monoxide (CO), nitrogen dioxides (NO<sub>2</sub>), ozone (O<sub>3</sub>) (with nitrogen oxides [NO<sub>x</sub>]) and volatile organic compounds [VOCs] as precursors), particulate matter (PM) (PM<sub>10</sub> – less than 10 microns in particle diameter, PM<sub>2.5</sub> – less than 2.5 microns in particle diameter), lead (Pb), and sulfur dioxide (SO<sub>2</sub>) (**Table 4-2**).

Areas where concentrations levels are below the NAAQS for a criteria pollutant are designated as being in “attainment,” while areas that have NAAQS concentrations equal to or exceeding the NAAQS are designated as being in “nonattainment.”

In addition to NAAQS, The DOH Clean Air Branch has established the State Ambient Air Quality Standards (SAAQS). The DOH Clean Air Branch regularly samples ambient air quality at monitoring stations throughout the State, and annually publishes this information. On O’ahu, there are four monitoring stations. The closest station to the Property that measures multiple parameters is located in Kapolei in the Kapolei Business Park. This station measures sulfur dioxide, carbon monoxide, nitrogen dioxide, lead, ozone, and particulate matter.

#### **4.4.2 Affected Environment**

Air quality in the State of Hawaii continues to be one of the best in the nation, and criteria pollutant levels remain well below SAAQS. According to the *Annual Summary 2021 Hawaii Air Quality Data*, air Present air quality in the vicinity of the Property is primarily affected by emissions from motor vehicles and residential and agricultural sources. Air quality data from the nearest monitoring stations suggest that all National and State air quality standards are currently being met, although occasional exceedances of the more stringent State standards for carbon monoxide may occur near congested roadway intersections.

Table 4-2. Federal and State Ambient Air Quality Standards

Pollutant	Hawaii State Standard	Federal Primary Standard
<b>CO</b>		
1-hr	9 ppm	35 ppm
8-hr	4.4 ppm	9ppm
<b>NO<sub>2</sub></b>		
1-hr	---	100 ppb
Annual	0.04 ppm (40 ppb)	53 ppb
<b>O<sub>3</sub></b>		
8-hr	0.08 ppm	0.070 ppm
<b>PM<sub>10</sub></b>		
24-hr	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
Annual	50 µg/m <sup>3</sup>	---
<b>PM<sub>2.5</sub></b>		
24-hr	---	35 µg/m <sup>3</sup>
Annual		12 µg/m <sup>3</sup>
<b>Pb</b>		
Calendar Quarter	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>
<b>SO<sub>2</sub></b>		
1-hr	---	75 ppb
3-hr	0.5 ppm	---
24-hr	0.14 ppm	---
Annual	0.03 ppm	---
<b>H<sub>2</sub>S</b>		
1-hr	25 ppb	None

Sources: State of Hawaii 2021 Air Quality Data Summary, December 2022; Table 2-1 - State and Federal Ambient Air Quality Standards. State standards HAR §11-59; Federal standards 40 CFR

#### 4.4.3 Environmental Consequences

Impacts on air quality from the Proposed Action are anticipated to be less than significant and short-term during the 4–8-month construction period, due to the use of machinery that generates dust, and construction equipment and vehicles that generate emissions that may impact air quality in the immediate area. The prevailing northeasterly Tradewinds are expected to disperse emissions and prevent elevated concentrations.

The short-term effects on air quality during construction will be mitigated by compliance with the DOH rules on air pollution. Fugitive dust emissions will be controlled by implementing BMPs, such as watering active work areas, keeping adjacent paved roads clean, covering open-bodied trucks, and limiting the

area to be disturbed at any given time.

During the operational lifetime of the Proposed Action, air pollutants will be limited to those mobile sources produced from the operation of any combustion vehicles, which would be de minimis to air quality resource.

Therefore, no significant long-term or cumulative adverse effects to air resources are expected from the Proposed Action above the No Action Alternative baseline conditions described in **Section 4.4.2**.

## **4.5 NOISE**

### **4.5.1 Definition of Resource**

Noise is unwanted or annoying sound that is generated by both natural and manmade sources. Typically, human response to noise is annoyance, however noise pollution can have negative effects on physical and psychological health, affect workplace productivity, and degrade quality of life. Loudness is the relative measure of the magnitude of a sound and is typically measured in decibels (dB). Decibels are the ratio of the intensity of the sound to a reference intensity based on atmospheric pressure. The dB is a logarithmic unit of measurement that expresses the magnitude of a physical quantity, like sound, relative to a specified or implied reference level. Since it expresses a ratio of two quantities with the same unit, it is a dimensionless unit.

Noise pollution can result from construction activities and heavy equipment operation. The DOH has set maximum permissible sound levels (specified in HAR §11-46-4), which cannot be exceeded beyond the source's property line. These maximums vary based on zoning district, being the highest for industrially zoned parcels. These noise limits apply to "stationary noise sources; and equipment related to agricultural, construction, and industrial activities". "Construction equipment" means any device designed and intended for use in construction, including but not limited to any air compressor, pile driver, bulldozer, pneumatic hammer, steam shovel, derrick, crane, tractor, grader, loader, power saw, pump, pneumatic drill, compactor, on-site vehicle, and power hand tool (HAR §11-46-4(a)).

To determine if noise generated during the Proposed Action would adversely affect noise quality in the area, potential noise impacts were evaluated in accordance with HAR §11-46 established noise limits for Class A: Area's equivalent to lands zoned residential, conservation, preservation, public space, open space, or similar type. The maximum permissible sound level for areas zoned as residential is 55 A-weighted decibels [dBA] during the daytime (7 am to 10 pm) and 45 dBA during the nighttime (10 pm to 7 am) (DOH, 1996). The maximum permissible sound level can be exceeded for short periods but not for more than ten percent of the time within any twenty-minute period. The maximum permissible sound level for impulsive noise is 10 dBA above the maximum permissible sound level. Backup alarm devices on vehicles are exempt from the maximum permissible sound levels, where such devices are required by the

Occupational Safety and Health Administration (DOH, 1996).

#### **4.5.2 Affected Environment**

The existing environment is characterized by relatively low noise levels at the TMK, mainly associated with typical residential ambient sounds, including vehicular traffic from Kamehameha Highway, ocean waves, and periodic activity of the neighborhood occupants.

#### **4.5.3 Environmental Consequences**

The lots are already relatively level, therefore grading and construction involving the use of excavators, trucks, and other heavy equipment, often done in the first part of residential home construction, will be less involved than usual due to the existing level grade and relatively small size of the lot.

Therefore, construction-related noise from these inherently noisy sources will be short term, anticipated to be less than a month. Later construction noise will be saws, drills, and other common construction equipment and vehicle traffic, related to material deliveries, framing, and building a residential structure. Expected period is about 4-6 months of daytime generation.

There will be less than significant short-term intermittent noise impacts generated during the Proposed Action; and noise levels are not expected to adversely affect residents at or near the project site. All work is anticipated to be done during the daytime hours, between 7:00 am and 6:00 pm. Construction activities must comply with the provisions of HAR Chapter 11-46, "Community Noise Control." The contractor will be required to obtain a noise permit if the noise levels from construction activities are expected to exceed 55 dBA.

Therefore, no significant long-term or cumulative adverse effects from noise-related construction activities expected from the Proposed Action above the No Action Alternative baseline conditions described in **Section 4.5.2**.

### **4.6 CLIMATE**

#### **4.6.1 Definition of Resource**

Climate refers to meteorological conditions, including temperature, precipitation, and wind that characteristically prevail in a particular region. Climate change and sea level rise (SLR) is also addressed in this Section.

#### **4.6.2 Affected Environment**

O'ahu lies just south of the Tropic of Cancer in the belt of the northeast trade winds. Its climate is

generally mild and consistent. The annual average temperature is 76 degrees Fahrenheit (°F), although temperatures occasionally exceed 88 °F. With annual rainfall less than 20 inches near Honolulu, and in Kapolei the annual rainfall is approximately 5 inches, also known as the west side of O‘ahu which is the dry side of the island. In comparison, average annual rainfall is 45 inches on the North Shore and 400 inches on Waianae Mountain Range on the leeward side of the island. Trade winds prevail about 75 percent of the time and generally blow from the northeast at 5 to 15 miles per hour. Departures from normal trade wind weather, known as kona storms, tend to occur during winter months. Such storms are characterized by several days of variable winds blowing from the *south and west*.

The Proposed Action in Hau‘ula is on the Windward-side of O‘ahu, which has prevailing northeasterly trade winds, of warm to moderate temperatures and moderate to heavy rainfall. The average high temperature range is from 74.1 degrees Fahrenheit [°F] in February to September 81.3 °F in September, with the average low temperature range from 69.1°F in February to 76.1°F in September. Annual precipitation in Hau‘ula is approximately 60 inches, occurring mainly during the islands rainy season between November and April (Giambelluca et al., 2014). The adjusted mean pan evaporation rate is approximately 60 inches (DLNR, 1985). Although no detailed survey elevation or topographic data is available for the entire TMK, there are portions of the site within the wetland area in the southern portion of the site (unit 10 and the edge of unit 9’s western boarder) that will be affected by a relative 2.0-foot SLR according to PaclOOS (Figure 7). At 3.2-foot scenario the relative SLR scenario encompasses most of unit 10 and a portion of unit 9, and just outside the western boarder of the TMK. The TMK gradually increases to roughly 6.05 ft. amsl at the driveway entrance adjacent to Unit 3 and northeast.

As identified by the Hawaii SLR Vulnerability and Adaptation Report<sup>39</sup>, While the Earth’s climate experiences natural change and variability over geologic time, the changes that have occurred over the last century due to human input of greenhouse gasses (GHGs) into the atmosphere are unprecedented. The rapid build-up of GHGs, including carbon dioxide (CO), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and fluorinated gases, from humans, is causing global warming and climate disruption. The concentration of CO in the atmosphere is well outside the range of natural variability and is now approaching 410 ppm (Scripps Institution of Oceanography 2015); about 40% higher than pre-industrial levels. **(Figure 4.6-1)**

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<sup>39</sup> Hawai‘i Climate Change Mitigation and Adaptation Commission. 2017. Hawai‘i Sea Level Rise Vulnerability and Adaptation Report. Prepared by Tetra Tech, Inc. and the State of Hawai‘i Department of Land and Natural Resources, Office of Conservation and Coastal Lands, under the State of Hawai‘i Department of Land and Natural Resources Contract No: 64064. (HCCMAC, 2017)



Sea level is rising at increasing rates due to global warming of the atmosphere and oceans and melting of the glaciers and ice sheets. Rising sea level and projections of stronger and more frequent El Niño events and tropical cyclones in waters surrounding Hawaii all indicate a growing vulnerability to coastal flooding and erosion. While the Intergovernmental Panel on Climate Change

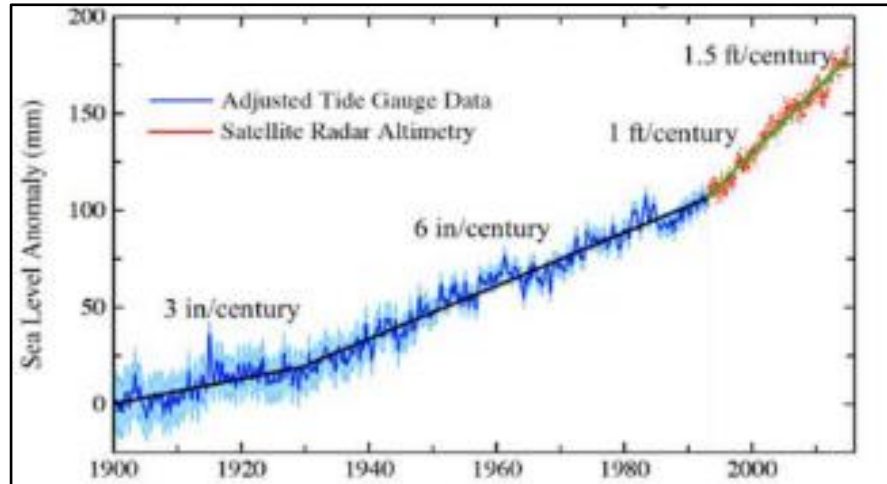


Figure 4.6-1: Observed global mean sea level change over the last century (Church and White 2001, Nerem et al. 2010, Yi et al. 2015, Hansen et al. 2016, Watson et al. 2015, Fasullo, Nerem, and Hamlington 2016)

(IPCC’s “business as usual” scenario, where GHG emissions continue at the current rate of increase, predicts up to 3.2 feet of global SLR by year 2100 (IPCC 2014), recent observations and projections suggest that this magnitude of SLR could occur as early as year 2060 under more recently published highest-end scenarios (Sweet et al. 2017). As such, questions remain around the exact timing of that rise due largely to uncertainties around future behavior of Earth’s cryosphere and global GHG emission trajectories. For this reason, it is vital that the magnitude and rate of SLR is tracked as new projections emerge, plan for 3.2 feet of SLR now, and be ready to adjust that projection upward. It is also important to recognize that global SLR will not stop at the year 2100 but will likely continue for centuries. (HCCMAC, 2017).

The potential impacts of climate change on Hawaii’s infrastructure and natural environment have become a significant concern, consequently O’ahu General Plan update (CCH, December 2017) included new policies that emphasize the need to recognize and prepare for long-term impacts of climate change. The General Plan now also contains an objective on climate change and sea level rise. It calls for all public and private organizations to prepare for the future problems caused by rises in sea level, rises in groundwater levels, and more frequent and severe storms, shifts in local rainfall patterns, and higher urban temperatures. The Climate Change Adaptation Policy Guidelines of the Hawaii State Planning Act, HRS §226-109, support planning and preparing for future disruptions and dislocations due to climate change.

### 4.6.3 Environmental Consequences

Two principal concerns have been identified that pose a potential hazard to the Proposed Action and larger TMK. First, a significant SLR due to climate change, also affects groundwater depth, which may impact coastal structures, infrastructure (e.g. buried powerlines, cesspools, and individual wastewater

systems, etc.), and properties. Second, changing weather patterns in the Pacific Ocean could result in localized severity and intensity storm events, creating larger storm surges, elevated levels of precipitation in shorter timeframes leading to increased localized flooding. Although not directly related to climate change, tsunami hazards and impacts are included below.

### Sea Level Rise

Planning for SLR is challenging due to changing and indefinite variables. In December 2013, the U.S. Army Corp of Engineers (USACE) issued Engineering Regulation 1100-2-8162 titled “*Incorporating Sea level Changes in Civil Works Programs*”, which provided the “guidance for incorporating the direct and indirect physical effects of projected future sea level change across the project life cycle in managing, planning, engineering, designing, constructing, operating, and maintaining USACE projects and systems of projects”. The guidance provided by the regulation can also be used in assessing the relative sea level change (RSLC), which may be experienced at the Property through storm surges or mean high high water.

Potential SLR in the vicinity of the Proposed Action has been predicted using the on-line RSLC Calculator provided by USACE. The graph on the following page, shows NOAA’s estimated RSLC from year 2000 to 2100 at the Mokuoloe mean sea level gauge station. Mokuoloe, or Coconut Island, is a 28-acre island in Kaneohe Bay, located approximately 12 miles southeast from the Proposed Action. The graph shows the relative sea level change that can be expected under differing prediction scenarios as determined by U.S. Department of Commerce National Ocean Service Center for Operational Oceanographic Products and Service (NOAA et. al., 2017).

According to USACE RSLC Calculator, the Proposed Action (larger TMK) may be impacted by a high estimated sea level rise by year 2080 at roughly 3.2 feet above LMSL. The graph below (**Figure 4.6-2**), illustrates that under the extreme climate change scenario, sea level rise could inundate the TMK unless effective mitigative measures are implemented at the TMK.

Additionally, the Hawaii Sea Level Rise Vulnerability and Adaptation Report indicates that recent observations and predictions suggest that a 3.2-foot SLR could occur as early as year 2060 under more recently published highest-end scenarios (Hawaii Climate Change Mitigation and Adaptation Commission, 2017). According to the Pacific Islands Ocean Observing System (PacIOOS), Hawaii Sea Level Rise Viewer, Relative Sea Level Rise Exposure and Coastal Erosion Scenarios (2.0 and 3.2 foot) (**Figure 7**), shows portions of the larger TMK and possibly specific units associated with the Proposed Action, (i.e., unit 9 dwelling).

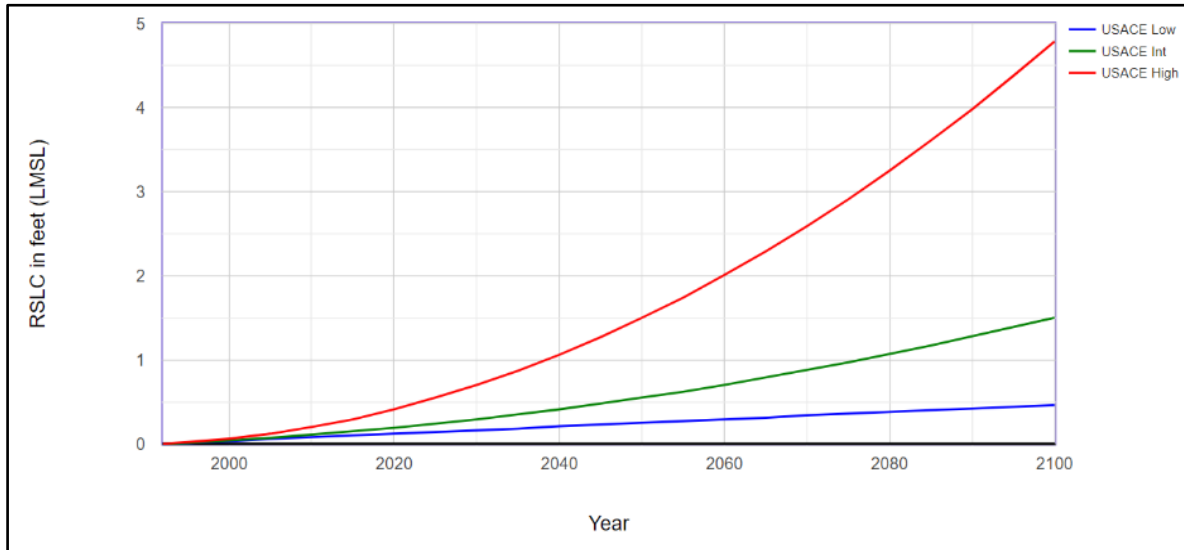


Figure 4.6-2 Estimated Relative Sea Level Change Projections at Gauge 1612480, Mokuoloe, HI

**Figure 9** depicts the Hau’ula and Punalu’u area with the Proposed Action’s Ahupua’a (Kapano) outlined showing three (3) figure scenarios the PacIOOS Annual High Wave Flooding at 2.0 foot and at 3.2 ft., along with the NOAA Sea Level 6 ft. Scenario. Both the 2.0 ft. and 3.2 ft. annual flooding scenarios show progressively worse conditions with inundation extending across Kamehameha Highway and into the TMK at the 2.0 ft. scenario, and further inundation at the 3.2 ft. scenario. The NOAA 6-ft. scenario depicts the entire TMK inundated with a low to moderate water depth at the 6-foot SLR scenario impacting the TMK.

### Flooding and Tsunami Hazards

According to the State GIS Flood Hazard Assessment Report, the TMK is located in flood hazard area Zone VE/A/EX (**Figure 2b and 2c**), which is defined as an area subject to inundation by the 1% annual chance flood event, or the 100-year flood, in any given year which exceeds the defined Base Flood Elevations (BFE) (Office of Planning, 2023), portions of the larger TMK will be located in Zone AE with a BFE of 10 feet amsl.

The following are State of Hawaii Flood Zone definitions.<sup>40</sup>

AE and A1-A30: Zones AE and A1-A30 are the flood insurance rate zones that correspond to the 1% annual chance floodplains that are determined in the Flood Insurance Study by detailed methods of analysis. In most instances, Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone. Mandatory flood insurance purchase requirements apply.

<sup>40</sup> Flood Hazard Areas-State of Hawaii: [https://files.hawaii.gov/dbedt/op/gis/data/s\\_fd\\_haz\\_ar\\_state.pdf](https://files.hawaii.gov/dbedt/op/gis/data/s_fd_haz_ar_state.pdf)

VE: Zone VE is the flood insurance rate zone that corresponds to areas within the 1% annual chance coastal floodplain that have additional hazards associated with storm waves. Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone. Mandatory flood insurance purchase requirements apply.

X: Zone X is the flood insurance rate zones that correspond to areas outside the 1% annual chance floodplain and areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.

Tsunamis and inundations of the low-lying coastal areas are natural phenomena that occur infrequently in Hawaii. The location of the Islands in the Pacific Ocean exposes them to waves generated from geologic activity of the Pacific Ocean Ring of Fire, which extends approximately 24,900 miles between several tectonic plates (i.e., Pacific, Juan de Fuca, Cocos, Indian-Australia, Nazca, North American, and Philippine Plates). Seventy-five percent of the Earth's volcanoes – more than 450 in total – and ninety percent of the Earth's earthquakes, including the planets most violent seismic events occur along the Ring of Fire, which extends farther than this map, as volcanoes in Antarctica, including Mount Erebus, the southernmost volcano on Earth, complete the Ring of Fire (Source: USGS)

The Property is located in the County's Tsunami inundation evacuation zone and has experienced several major flood events due to tsunamis resulting in flood waters over the BFE, and up to 12 feet deep.

According to sea level rise predictions, there is potential for a 3.2-foot sea level rise by 2060. The increase in sea level elevation and the potential for increase in monsoonal weather patterns brought by climate change will increase the chance of inundation by floodwaters at portions of the larger TMK (**Figure 7 and 9**)

According to the NOAA National Storm Surge Hazards Map (NOAA, 2020), under a scenario of a 3.2- foot sea level rise, portions of the larger TMK Property could be at risk of storm surges at low category hurricanes. Using the PacIOOS, Sea Level Rise Mapping Tool, **Figure 9** displays the Annual High Wave Flooding at the 2.0- and 3.2-foot scenarios, along with NOAA's Sea Level 6 ft Scenario. The storm surge model, Sea, Lake, and Overland Surges from Hurricanes (SLOSH) is used by the National Weather Service (NWS) in producing storm surge guidance and real-time storm surge data when a hurricane is threatening by calculating the Maximum of the Maximum (MOM) of the High Water. **Figure 10** displays the near worst case storm surge (i.e. MOMs) under Category 1 – 4 hurricane conditions produced by SLOSH model. Under Category 1 and 2 the SLOSH MOMs storm surge would affect the entire TMK with surge “up to 3 feet of above ground with some areas affected by greater than 3 feet above ground”, respectively. Under Category 3 and 4 hurricane conditions, the SLOSH model MOMs predicted most of the Property being affected by “greater than 3 feet above ground” with some areas receiving a storm surge of “greater than 6 feet above ground”, respectively (**Figure 10**).

### Flood, Tsunami, and Sea Level Rise Impacts and Mitigation

The Proposed Action will follow CCH building permit guidance and designed to withstand tsunami inundations as well as floods from inland. The residential dwellings will be designed, located, and constructed to minimize or eliminate flood damage, or impairment, during and subsequent to flooding by the regulatory flood.

Currently, the impacts of minor flooding events are minimal; however, the impacts of a major tsunami at the TMK could be significant. The chance of impacts will increase with the increase in sea level rise and climate change. The combination of SLR compounded by increased precipitation associated with climate change will increase the chances of major flooding events at the Property. Major flooding could possibly impact the IWS (i.e., tanks and leach field), resulting in treated wastewater rising to the surface and affecting adjacent areas. To reduce the threat of flooding or SLR-associated impacts to the IWS systems, the following mitigation measures should be implemented:

- 1) Contract a sanitary sewer pumping company to service the IWS tank (i.e., pump out) prior to inclement weather and potential flooding events.
- 2) Temporary (or permanent) flood barriers can be added fronting the property to deter storm surge inundation that may overtop Kamehameha Highway and enter the TMK.

These mitigation measures would reduce the flooding impacts to the property to less than significant. By the year 2080 (or as early as 2060), measures should be taken to protect lower lying areas of the TMK from sea level rise, and subsequent groundwater rise

Therefore, no significant long-term or cumulative adverse effects from climate-related events are expected from the Proposed Action above the No Action Alternative baseline conditions described in **Section 4.6.2**.

## SECTION 5 SOCIAL ENVIRONMENT

### 5.1 LAND USE

#### 5.1.1 Definition of Resource

Land use discussions include land use history, as well as existing and planned land uses, and land use planning guidance that directs future development.

#### 5.1.2 Affected Environment

The Koolau Loa region (including Hau'ula) has a long history of agriculture, going back to the 15<sup>th</sup> Century where Kalamakua, the ruling chief of O'ahu is credited with establishing numerous irrigation ditches and agricultural terraces for taro. Extensive *loi* kalo and irrigation systems existed and significant amounts of kalo were cultivate in this region, and sugarcane was cultivated in the area until the 1970's. The Punalu'u Stream and associated *ahupua'a* area's have been negatively impacted historically, including water diversions, non-native invasive aquatic, flora and fauna; stream channelization; unprotected stream crossings; land grading and alteration of natural drainage patterns; tillage; livestock grazing; aquaculture; and residential development. Currently, over 50-ac. of the lower Punalu'u Valley have flooded annually, causing economic hardship. The flooding in 2005 and heavy flooding on July 19, 2014, damaged roads, properties, fields, and crops. Kamehameha Schools had identified the lower Punalu'u Stream Valley as an opportunity to implement a restoration project, incorporating it's ahupua'a management strategies to provide flood mitigation and restore The Proposed Action associated with the TMK and surrounding land to the north and south are zoned as Urban, and the surrounding land to the west is zoned as Agricultural under State Land Use designations. The CCH DPP zoning designates the larger TMK as urban, with a split zone R-5/AG-2 Residential / General Agricultural District (Figure 4a) and the KLSCP designates the project area as rural community land use (CCH, 2012).

The TMK is occupied by residential homes surrounded by grassed open space. The larger TMK is bounded by residential homes, open-space, and farmland to the north, Punalu'u Beach Park and the Pacific Ocean to the east across Kamehameha Highway, and Punalu'u Stream and estuarine wetland areas to the south. To the west of the TMK are agricultural and freshwater emergent wetlands, with the UIC line located approximately 300-feet from the TMK western-most boundary (**Figure 1b, 4a, 6a, 6b**).

Based on available planning documents, the TMK and surrounding area will continue to be used for residential and agricultural purposes for the foreseeable future.

#### 5.1.3 Environmental Consequences

The TMK and surrounding areas are zoned for urban, residential, and agricultural uses, and its current and future use are consistent with the types of land use at surrounding properties. The TMK has not had a significant impact on existing land use in the area. The Proposed Action does not involve changes to the TMK's principal operations/land use and therefore, is not expected to have any impact to land use. The Proposed Action, including

each IWS will be located within each owner-occupied Unit.

In accordance with LUO Section 21-3.70-1, except for cluster housing and planned development housing development pursuant to Section 21-8.50, for zoning lots with one-family and two-family detached dwellings or duplexes, the dwellings: impervious area must not exceed 75% of the total zoning lot area, and the maximum density floor area ratio is 0.7, if the floor area ratio exceeds 0.6, the side and front yard must be at least eight (8) feet.

Therefore, no significant long-term or cumulative adverse effects to land use is anticipated from the Proposed Action above the No Action Alternative baseline conditions described in **Section 5.1.2**.

## 5.2 SOCIOECONOMIC RESOURCES

### 5.2.1 Definition of Resource

Socioeconomics is defined as the basic attributes and resources associated with the human environment. Socioeconomic resources include population size and demographics, employment and income economic activity, government-funded health and human services, and social cohesion.

### 5.2.2 Affected Environment

The Proposed Action is located in Hau'ula, O'ahu in Census tract 102.04 conducted in 2020. As of the 2020 census, there were 4,018 people and 789 households residing in the census designated place (CDP).<sup>41</sup> The racial makeup of the CDP was 16.82% Caucasian, 0.77% African American, 0.36 Native American, 5.72% Asian, 37.44% Pacific Islander, 0.96% from other races, and 37.93% from two or more races. Hispanic or Latino of any race were 9.81% of the population. There were 1,020 housing units at an average density of 169.3 per square mile (65.4/km<sup>2</sup>),<sup>42</sup> which was approximately 0.6% of O'ahu's total population. As comparison, in 2010 the population density was 605.9 inhabitants per square mile (233.9/km<sup>2</sup>).



The Hau'ula population in this Census tract is similar in age to the overall age of the O'ahu population as a whole. The racial mix of the area is comprised of proportionately more Native Hawaiians and Pacific Islanders, and fewer

<sup>41</sup> Explore census data. Data.census.gov. Site visited 7JUL2023.

<sup>42</sup> US Census website. United States Census Bureau. Data Retrieved 7JUL2023.

Asians than the island as a whole.

The median household income in 2020 was \$100,234 with an overall poverty rate of 14.87%<sup>43</sup>, compared with a 2010 median income of \$66,500, and 43.8% of Hau'ula's population living below the poverty level.

The TMK and Proposed Action in Hau'ula town is located north of Punalu'u Town and south of Laie and is bounded by mainly single-family homes along Kamehameha Highway, and large agricultural lands in mauka areas. Hau'ula's small commercial area is located about 1.6 miles to the north, and Punalu'u's small commercial area is located about 0.8 miles to the south. A fringing reef extends off the shoreline. There are several beaches and beach parks in Hau'ula, including Hau'ula Beach Park, Aukai Beach Park, Kokololio Beach Park, and Mahakea Beach. Sugarcane was once grown along the narrow coastal plain inland from the highway.

Hau'ula has a total area of 1.9 square miles (mi<sup>2</sup>) (1.2 mi<sup>2</sup> land, and 0.77 mi<sup>2</sup> water). The 40.57% of water refers to part of the Pacific Ocean, included in the census.<sup>44</sup>



### 5.2.3 Environmental Consequences

The Proposed Action is not anticipated to have significant adverse impacts on socioeconomic resources as the increase of the overall dwelling units and population in the Hau'ula area would be negligible. Construction of the new dwellings will generate short-term economic benefits through expenditures for construction materials and employment of workers. The Proposed Action is consistent with the KLSCP's general policies and guidelines regarding land use and focuses on developing pockets of residential homes. The KLSCP has guidelines for residential home design, and therefore the dwellings added will enhance the rural character, having a positive effect on the economic value of nearby homes.

Therefore, no significant long-term or cumulative adverse effects to socioeconomic resources are expected from the Proposed Action above the No Action Alternative baseline conditions described in **Section 5.2.2**.

## 5.3 CULTURAL RESOURCES

<sup>43</sup> US Census 2020 ACS 5-year Survey (Table S 1901 and S1701). Data Retrieved 8JUL2023.

<sup>44</sup>Geographic Identifiers: 2010 Demographic Profile Data (G001): Hau'ula CDP, Hawaii (<https://www.census.gov>). United States Census Bureau. Data Retrieved 8JUL2023.



### 5.3.1 Definition of Resources

Title 54 – National Parks Service and Related Programs, Section 300308 defines “historic property” as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register including artifacts, records, and material remains relating to the district, site, building, structure, or object”<sup>45</sup>

### 5.3.2 Affected Environment

For at least two thousand years, native Hawaiians have placed the earthly remains and spirits of their “*kupuna*” or ancestors, within the landscapes of Hawai‘i. When a departing *kupuna* was laid to rest they were covered by stacked stones, while others were buried with no surface markers, frequently in sand dunes.<sup>46</sup>

Several historic, archaeological, and cultural resource references that were prepared in the vicinity of the Proposed Action were reviewed to assess potential negative effects to these resources from the implementation of the Proposed Action. Copies of these references are located in Appendix D and listed below:

- Archaeological Assessment (AA) prepared by Scientific Consultant Services, Inc. (SCS) for the Final EA for the Wastewater Treatment System at the Hanohano Hale Condominium, SSFM Engineers, Inc. 1993 (SSFM, 1993).
- Archaeological Monitoring Report (AMP) prepared by SCS in 2010 for the greywater system installation project on the north side of the Hanohano Hale condominium building (SCS, 2010).
- Archaeological Inventory Survey (AIS) conducted by Garcia and Associates in support of demolition activities at southern portion of the Pat’s at Punalu‘u Condominium property (Garcia and Associates, 2017)

The 1993 AA prepared by SCS found that the only known archaeological site in the vicinity is situated in the southern parking lot of the Pat’s at Punalu‘u Condominium (State Site No. 50-80-06-3970), directly adjacent and to the north of the Hanohano Hale Condominium project. This site was recorded by Bath & Smith in 1988. Beneath the modern asphalt driveway, Bath and Smith identified one human burial and a subsurface cultural layer. The site consisted of a truncated dark humic sandy cultural layer identified below several layers of fill material under the asphalt parking lot. Several posthole and pit features were also noted.

The 2010 AMP prepared by SCS identified that during manual excavation for the project, human remains were encountered by construction personnel. Based on a field inspection conducted by Cultural Surveys Hawaii (CSH) the human remains were identified to be of native Hawaiian ancestry. The DLNR SHPD initiated an Archaeological Monitoring program for the remainder of work on the project, for which SCS archaeologists monitored all excavations until project completion. Ten burial features consisting of 12 human burials were documented on the north side of the Hanohano Hale Condominium building in natural beach sand deposits that occur below the fill-soils (State Site No. 50-80-06-7120). Under the criteria established for the Hawaii State Register of Historic Places, SCS

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<sup>45</sup> Revised § 300308 from Source U.S. Code 16 USC 470w(5).

<sup>46</sup> <https://dlnr.hawaii.gov/shpd/about/branches/ibs/hawaiian-burials/> website visited April 15, 2024.

determined that the burial site is culturally significant as a pre-Contact Hawaiian burial ground and as a traditional cultural place for fishing, farming, and habitation.

The 2017 AIS conducted by Garcia and Associates, included the excavation of 14 test trenches, which produced similar evidence of the previously recorded State Site No. 50-80-06-3970 (mentioned above), a truncated pre-Contact Hawaiian cultural deposit.

The lot, including the entire TMK, has been previously disturbed, these land disturbing activities have included grading, leveling, and construction and renovation dwellings/structures. The Hawaii Register of Historic Places (State of Hawaii State Historic Preservation, 2020) provides general areas of historical and cultural significance in the Ko'olau Loa region, however the Proposed Action is not within these areas. Additionally, the 1977 CCH General Plan, and 1999 CCH Development Plan, Koolau Loa Sustainable Communities Plan, also provides general areas of historical and cultural significance in the Koolau Loa region, but the Proposed Action is not within these areas.

### 5.3.3 Environmental Consequences

The Proposed Action is not expected to result in adverse impacts to historical, archaeological, or cultural resources since the entire TMK has been disturbed by former grading, leveling, and construction activities. Additionally, only small areas of jacuas sandy soils are present on this TMK limiting the potential for an ancient Hawaiian burial. DLNR SHPD will review the Draft EA and provide guidance and recommended mitigations measures, as needed to reduce adverse effects to cultural resources from the Proposed Action. These may include an AIS prior to ground disturbing activities and/or an archeological monitor present on-site during ground disturbing activities (e.g., trenching, excavations, drilling, etc.

Trenching activities are anticipated to be less than 24-inches wide, with the deepest hole/excavation of approximately 36-inches bgs. Due to the limited subsurface excavation, previous land disturbing activities, and limited jaucus sandy soil associated with the larger TMK, the subsurface excavation activities for the residential single-family homes are not anticipated to disturb any archaeological or cultural features.

Although no adverse effects are anticipated from the Proposed Action, since human burials and a subsurface cultural layer have been identified about ¼ mile north (albeit *makai* of Kamehameha Hwy and in sandy soils), there is the potential that similar cultural features or human burials might be encountered during the limited subsurface activities, therefore, the following mitigation measures will be implemented:

- 1) SHPD will be requested to provide concurrence and guidance to meet the No Adverse Effects anticipated by recommending applicable mitigation measures during subsurface activities, bit it AIS prior to individual projects proceeding or having an archeological monitor on-site during these ground-disturbing activities. .
- 2) If any archaeological or cultural resources, or burials, are inadvertently discovered during excavation, all construction work will cease immediately, and subsequent work shall proceed only upon an archaeological clearance from the SHPD. As discussed in No. 1, on SHPD's discretion, an archaeologist maybe required to be present during excavation activities.
- 3) If any archaeological or cultural resources are discovered during subsurface activities, an AIS or

Archaeological Monitoring may be requested, as directed by the SHPD, as a mitigation measure to identify and protect archaeological or cultural resources.

- 4) All work will be coordinated with and approved by the SHPD prior to re-starting excavation activities, to ensure that proper procedures are followed to protect archaeological or cultural resources. Implementation of any further mitigation measures required by SHPD will have to be resolved before any building or development permits will be issued.

With these mitigation measures implemented, any adverse effect to archaeological or cultural resources will be minimized from the Proposed Action. Therefore, no significant long-term or cumulative adverse effects to cultural resources are expected from the Proposed Action above the No Action Alternative baseline conditions described in **Section 5.3.2**.

## 5.4 VISUAL RESOURCES

### 5.4.1 Definition of Resources

Visual resources include scenic area, vistas or view planes and locations that provide natural-appearing or aesthetically pleasing places or views. This includes natural views such as shorelines, seascapes, cliffs, mountains and valleys, and man-made views such as unique buildings, landscaping, parks, and other types of cultural features. Visual resources are not just limited to aesthetically pleasing views, but views and vistas that people are accustomed to seeing and often take for granted as a general part of the landscape, these are also considered important visual resources.

### 5.4.2 Affected Environment

The Proposed Action is in Hau'ula adjacent to the coastal Kamehameha Highway. Trees and landscaping border the south, west and north side, along with overgrown grassed areas associated with the wetland. Depending upon your vantage point within the TMK, you may have view planes of either the mountains to the west and/or ocean and shoreline to the east. **(See Appendix A, Photo Log, and Figures 1a and 1b)**

### 5.4.3 Environmental Consequences

The dwellings associated with the Proposed Action are all designed to have a height equal to or less than 25 feet amsl. The current height limitation for areas zoned as R-5 Residential, which includes the Proposed Action, is 25-ft. maximum at the highest point of buildable areas within a 30-ft. plane and requires a 10-ft front required yard and side and rear required yard<sup>47</sup>. **(See Section 3.1-1)**. There is an 8-ft BFE allowance.

The Proposed Action dwelling will meet all structure width, and length criteria, and incorporate the 5-ft of setback. Some units maybe enclosed by CMU wall and vinyl fence, while others include open spaces without boundary demarcations. The dwellings associated with the Proposed Action construction activities will not hinder existing views of the coastline from Kamehameha Highway, since the view to the ocean is on the *mauka*-side of the highway. Therefore, the Proposed Action will maintain the visual and aesthetic appeal of the rural area. Appropriate

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<sup>47</sup> § 21-3.70-1 and 21-4.60 for height measurements, and Figure 21-3.10, ROH LUO.

landscaping, such as trees or bushes, may be added to increase the visual appeal.

In general, the Proposed Action will follow building codes and guidelines established by the state and CCH and will require similar permits, approvals, and guidance documents for R-5 / AG-2 split district for dwelling construction.

Therefore, the Proposed Action would result in less than significant impacts to visual and aesthetic resources, and accordingly no significant long-term or cumulative adverse effects to visual resources are expected from the Proposed Action above the No Action Alternative baseline conditions described in **Section 5.4.2**.

## **5.5 RECREATIONAL ACTIVITIES AND AREAS**

### **5.5.1 Definition of Resources**

Recreational uses of an area include any type of outdoor activity in which local area residents and visitors, or tourists may participate. Typically focused on weekends or vacation periods, such activities may include hiking, fishing, beachcombing, and boating. Recreational opportunities and resources can be very important component of an area's economy and the lifestyle of its residents.

### **5.5.2 Affected Environment**

The Property is located in Hau'ula, with several named and un-named beach locations within a mile or two of the TMK, including Makao, Kapaka, and Hale Aha Beaches. The closest to the Proposed Action include Punalu'u Beach Park approximately 0.8 miles to the south and the Kaluanui Beach right-of-way 0.7 miles to the north. The Hau'ula Loop Trail, and Makaha Ridge and Valley hikes are approximately 2.5 miles north of the Proposed Action.

### **5.5.3 Environmental Consequences**

There are some public facilities and services in area located near the Proposed Action, however, due to the distance and relatively small size of the Proposed Action, and negligible construction-related effects expected, it is unlikely there will be any adverse impact on current facilities, services, and recreational activities during the construction period, or during the dwelling inhabitation, due to the insignificant population influx.

Therefore, no significant long-term or cumulative adverse effects to recreational resources are expected from the Proposed Action above the No Action Alternative baseline conditions described in **Section 5.5.2**.

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## SECTION 6 INFRASTRUCTURE

The Proposed Action has the potential to affect the following two public services: (1) transportation and (2) utilities. Due to the location of the TMK and the Proposed Action, it is not anticipated that other public services will be affected.

### 6.1 DEFINITION OF RESOURCE

For the purposes of this EA, infrastructure is the essential built environment, which includes utilities and roadways in the town of Hau'ula.

### 6.2 AFFECTED ENVIRONMENT

Kamehameha Highway (Route 83) is the major throughfare serving Hau'ula area. The single lane, coastal highway begins at Kahalu'u on the windward side of O'ahu and ends at the historic Haleiwa Town on the Northshore and is approximately 36-miles in length. There are two vehicle access points to the TMK from Kamehameha Highway. A dirt driveway at the southern side of the TMK, and a concrete driveway at the northern side of the Property. Access to units 4 and 5 are from northern driveway and units 7 and 9 from the southern driveway (Appendix A, Photo 1 and Photo 14 respectively). Bus service is provided to the Hau'ula area by routes along Kamehameha Highway. Generally, smooth traffic flow is characteristic along this coastal highway. Traffic is typically busiest during weekday commuter periods and weekend afternoons.

Utilities include electrical power and potable water supply. Electricity is provided to the TMK by the Hawaiian Electric Company (HECO) via overhead service lines along Kamehameha Highway. Potable water is provided by the Honolulu Board of Water Supply (BWS) water line on Kamehameha Highway. Daily water usage consists of domestic uses for the residents and landscape irrigation. Fire suppression water supply is also provided at the TMK; a fire hydrant is located at the southern driveway, at the corner of the unit 8 CMU wall.

### 6.3 ENVIRONMENTAL CONSEQUENCES

All construction activities associated with the Proposed Action will take place within the larger TMK, and mostly the specific property unit/lot boundaries. No work will be performed within the State Right-of-Way. Construction activities will not alter public roadways or affect bus service or bike/pedestrian access to the State Right-of-Way. There will be no modifications to the TMK site access/egress on Kamehameha Highway. While the project is not expected to have significant traffic impacts, traffic on and adjacent to the lots may be impacted on a short-term basis during transportation of construction equipment and supplies to the specific lots for dwelling construction, since there are only two shared driveways. Construction vehicles will add to the traffic on the roadways during these short periods. The following mitigation measures are recommended for optimal traffic conditions during construction:

- Construction activities and construction materials should be located and stored away from vehicular traffic. Sight lines for drivers on the roadway should be carefully maintained.
- Trucks delivering construction materials should be scheduled on weekdays during times of non-peak commuter periods (8:30 AM to 3:30 PM).

With these mitigation measures in place, the project would result in less than significant impacts to traffic and roads.

Additionally, the Proposed Action is not anticipated to require any offsite infrastructure improvements; utility services such as potable water and electricity to the surrounding area will be slightly increased during construction activities and when dwellings are complete and occupied. However, these impacts will be short-term and insignificant, respectively, therefore, less than significant impacts to utilities are expected from the Proposed Action.

Therefore, no significant long-term or cumulative adverse effects to infrastructure are expected from the Proposed Action above the No Action Alternative baseline conditions described in **Section 6.2**.

## SECTION 7 DETERMINATION

Based on the analysis of information in this EA, it has been determined that the Proposed Action will not have significant negative impacts to the natural, built, or social environment. Therefore, a FONSI will be issued and an EIS will not be required.

### 7.1 FINDINGS AND REASONS SUPPORTING THE DETERMINATION

The potential effects of the Proposed Action were evaluated based on the thirteen *significance criteria* identified in HAR Title 11, Chapter 200.1-13. All phases and expected consequences of the Proposed Action have been evaluated, including potential primary, secondary, short-term, long-term, and cumulative impacts. Table 7-1 summarizes the significance criteria and the evaluation of the potential effects of the project.

Therefore, It is concluded that the Proposed Action does not meet any of the thirteen criteria. By not meeting these criteria, it is appropriate that the Proposed Action be issued a FONSI and that an EIS is not required.



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**Table 7-1**

**Evaluation of Significance Criteria**

**Kahena Wai Estates Proposed Action, Draft Environmental Assessment**

No.	Significance Criterion	Yes	No	Reason for Determination
1	Irrevocably commits a natural, cultural, or historic resource?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Proposed Action is not expected to irrevocably commit any natural, cultural, or historic resource. The Proposed Action will be installed in an area that has been previously disturbed by residential development and is currently a landscaped area. There are no known significant cultural or historic resources in the project area and recommendations by the SHPD for other projects in the area will be followed, and mitigation measures have been identified in the EA to protect cultural resources during construction activities.
2	Curtails the range of beneficial uses of the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The project will not permanently curtail the beneficial uses of the environment. The Proposed Action conforms to the land use designation for the Property and will be located within the existing property boundary of the respective unit/lot owner.
3	Conflicts with the State's environmental policies or long-term environmental goals established by law?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Proposed Action will be in conformance with the State's environmental policies and goals established by law. The single-family dwelling's proposed for construction will follow all environmental policies and/or long-term goals, acquire all necessary permits and approvals, therefore will not be in conflict with applicable state environmental laws.
4	Has a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Proposed Action is not anticipated to have any adverse effects on the economic and social welfare or cultural practices of the community or state. Rather, it will benefit the existing residents and nearby community by creating temporary jobs and providing a stylish dwelling construction at vacant lot areas improving economic value in the immediate area.
5	Has a substantial adverse effect on public health?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Proposed Action, dwelling construction at four vacant lots, is not anticipated to have any adverse effects on public health. Construction BMPs to address noise, air, and water resources, including appropriate scheduling of activities, will be implemented to reduce any potential temporary effects.
6	Involves adverse secondary impacts, such as population changes or effects on public facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Proposed Action when complete will have an insignificant effect on population or public facilities in the area, therefore will not result in adverse secondary impacts.

No.	Significance Criterion	Yes	No	Reason for Determination
7	Involves a substantial degradation of environmental quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Proposed Action will be properly permitted, follow State and City County of Honolulu recommendations, including construction BMP, therefore is not anticipated to degrade environmental quality.
8	Is individually limited but cumulatively has substantial adverse effect upon the environment or involves a commitment for larger actions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Proposed Action is not anticipated to result in a significant cumulative negative impact on the environment. The short-term, less than significant effects of the Proposed Action will primarily be limited within the specific unit/lot boundary. The residential dwelling construction associated with the Proposed Action will be staggered and due to the rural nature of the general area, other significant development projects are not anticipated. The Proposed Action does not involve a commitment for larger actions, and therefore, cumulative effects, including those insignificant effects of the Proposed Action combined with the effects of other past, present, and reasonably foreseeable future action(s), is anticipated to have an insubstantial effect on the environment.
9	Has a substantial adverse effect on a rare, threatened, or endangered species, or its habitat?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Proposed Action is not anticipated to adversely affect any rare, threatened, or endangered species or habitat. There are no known significant biological resources or habitats in the project area.
10	Has a substantial adverse effect on air or water quality or ambient noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Proposed Action is not anticipated to adversely affect air quality, water quality, or ambient noise levels in the long-term. Construction-related activities may temporarily affect air, water, or noise quality, however with the implementation of BMPs those less than significant effects will be minimize further.
11	Has a substantial adverse effect on or is 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Proposed Action is located within the SMA and appropriate permits and approvals will be obtained for development in areas zoned as such. The Proposed Action is located within the 100-year flood hazard area and in the County's Tsunami inundation evacuation zone. The single-family dwellings will be designed, located, and constructed accordingly to minimize or eliminate flood damage, impairment, and/or contamination during and after flooding. BMPs will be used during construction, so that stormwater associated with construction activities does not leave the site. The Proposed Action may need address sea level rise exposure issues by from 2060 to 2080, based on current NOAA models of a 3.2 ft. amsl rise scenario.

12	Has a substantial adverse effect on scenic vistas and view planes, during day or night, identified in county or state plans or studies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Proposed Action is located <i>mauka</i> of Kamehameha Highway, therefore will not interfere with open ocean views to the ocean. The dwelling(s) design will be visual and aesthetic appealing of the rural area and is not anticipated to have adverse effects on scenic vista's and view planes during day or night, that are identified in the county or state plans or studies.
13	Requires substantial energy consumption or emits substantial greenhouse gases?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Proposed Action will not require substantial energy consumption nor emission of greenhouse gases. A slight increase in energy use will result from the dwelling construction

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# FIGURES & APPENDICES

<u>NUMBER</u>	<u>TITLE</u>
Figure 1a	Regional Location and Kahena Wai Estates Location
Figure 1b	Site Location - Oblique Aerial of Kahena Wai Estates and General Unit Location
Figure 2a/b	SMA and FEMA Flood Zones Map
Figure 2c	FHAT Report
Figure 3	CCH GIS TMK Location, Fee Owners, and TMK Information
Figure 4a/b	Land Use Districts and USGS Geology Mapping
Figure 5a	Kapano & Puheemiki Koolauloa PLAT 05, Kahena Wai Estates
Figure 5b	Survey Plan for TMK (1) 5-3-005-070, Kahena Wai Estates
Figure 5c	Wetland Overlay and 50-foot Setback of KWE Plot Plan, (TMK (1) 5-3-005-007)
Figure 6	UIC Line and USFWS National Wetlands Inventory Mapper
Figure 7	Relative Sea Level Change Scenarios for Site (2.0 and 3.2 ft.)
Figure 8	Potential Economic Loss with Sea Level Rise Scenarios (2.0 and 3.2 ft.)
Figure 9	Annual High Wave Flooding (2.0 and 3.2 ft.) and NOAA Sea Level 6 ft. Rise Scenario
Figure 10	Hauula (Category 1 - 4 NWS SLOSH Model MOMs*) Storm Surge
	* National Weather Service, Sea, Lake, and Overland Surges from Hurricanes, Maximum of the Maximum

## APPENDICES

	<u>TITLE</u>
A	Site Photographs and Figure 1 – TMK in Association with Wetland Area
B	Drawings for Dwelling Construction and IWS
C	Pre-Consulting Package Pre-Consulting, Comments and Responses & Community Presentations
D	Prior Archaeology Reports in Vicinity (available upon request due to size)
E	Declaration of Condominium Property Regime of Kahena Wai Estates (available upon request due to size)
F.	Delineation Report

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Figure 1a – Regional and Kahena Wai Estates Location

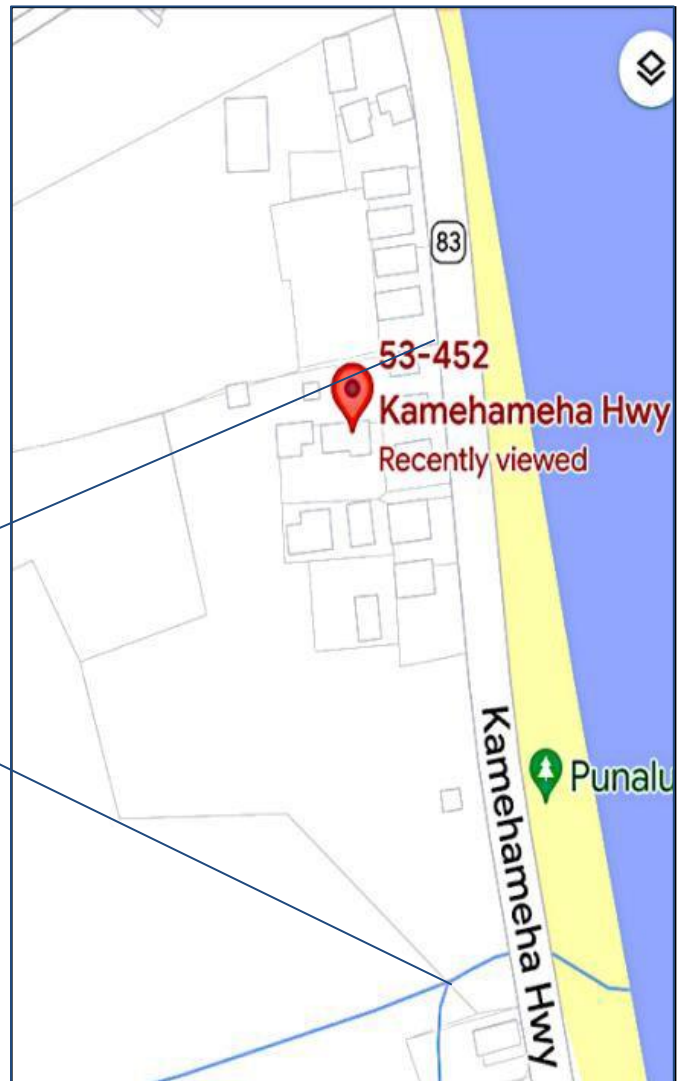




Figure 1b – Site Location, Oblique Aerial, Kahena Wai Estates and General Unit Locations





Figure 2a and 2b – SMA and FEMA Flood Zones Map

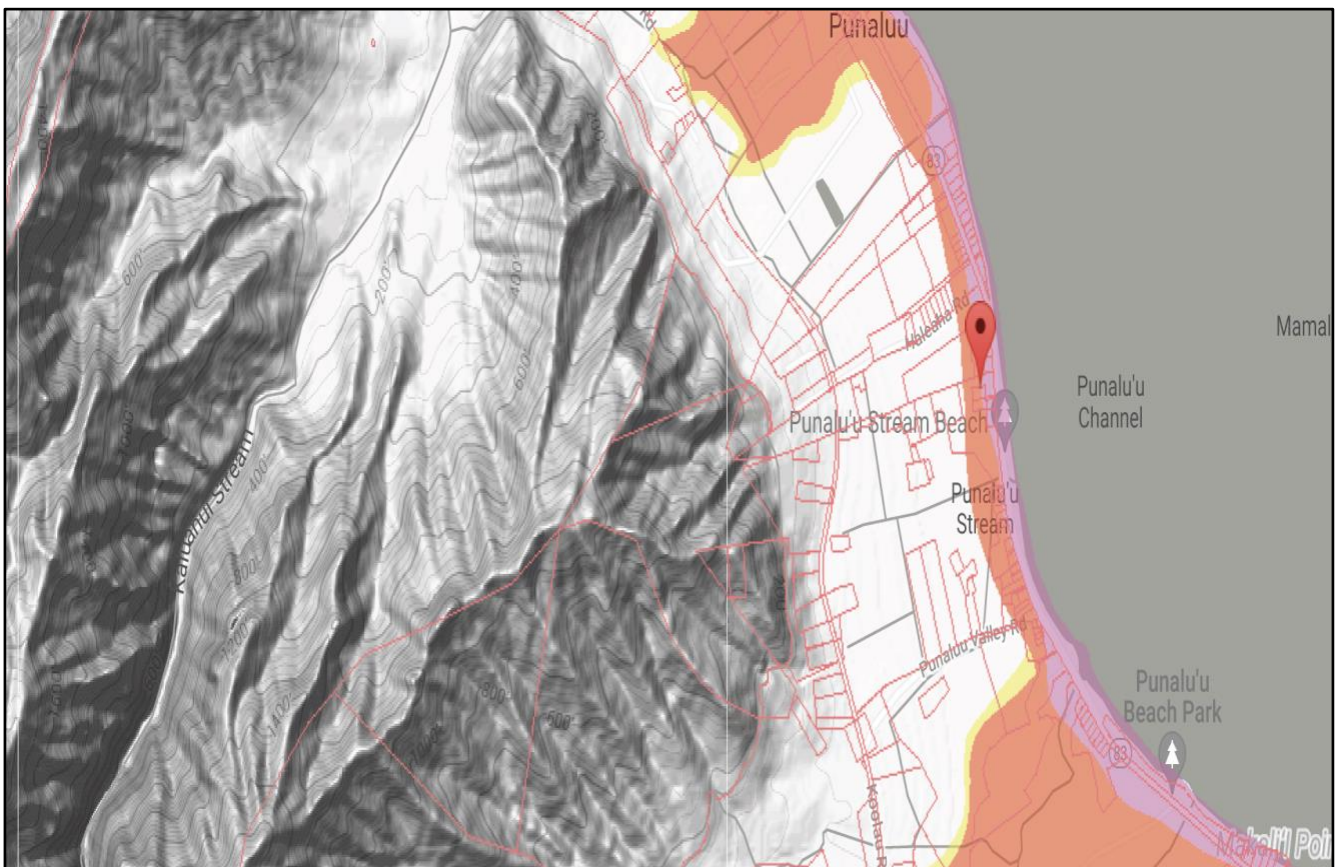
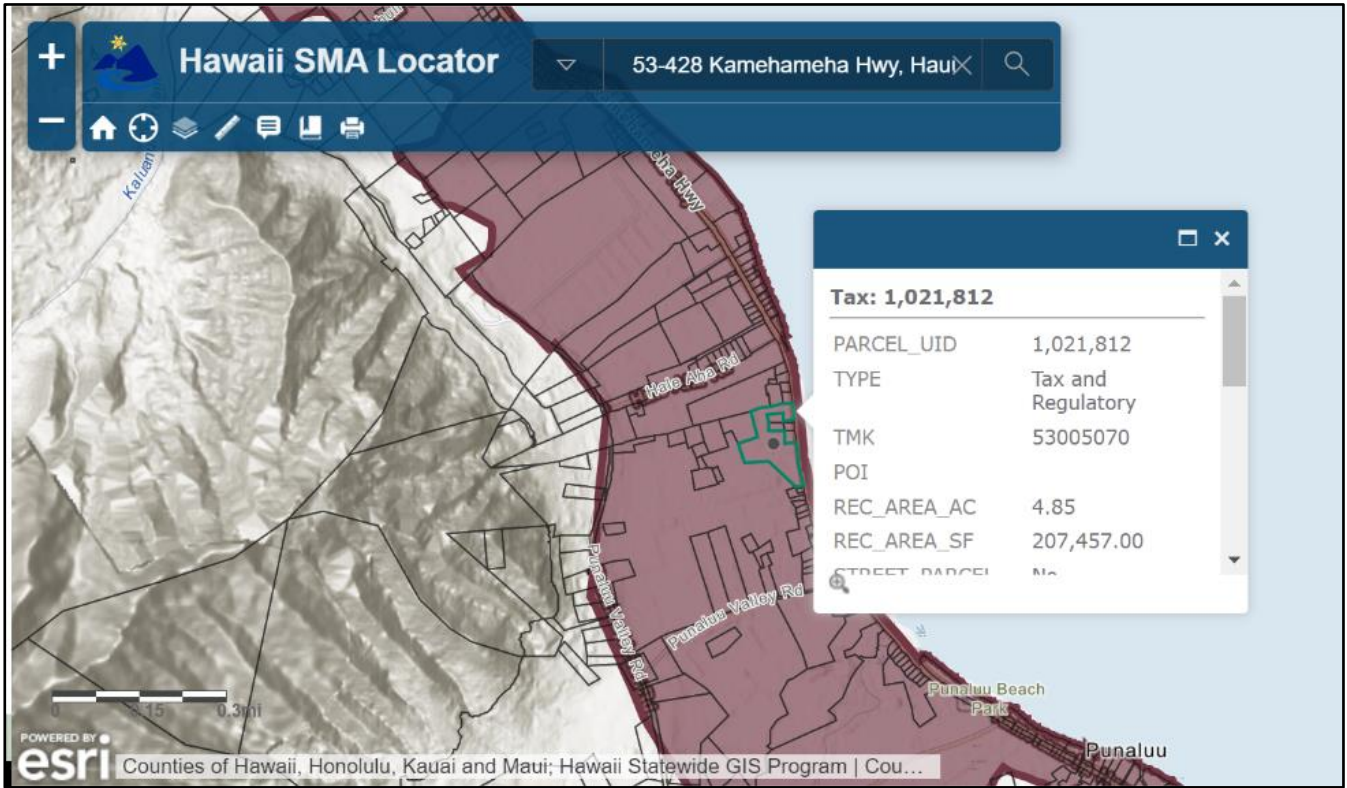



Figure 2c – Flood Hazard Assessment Report





## Flood Hazard Assessment Report

[www.hawaii.nip.org](http://www.hawaii.nip.org)

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### Property Information

COUNTY: HONOLULU  
 TMK NO: (1) 5-3-005-070  
 WATERSHED: HALEHAA; PUNALUU  
 PARCEL ADDRESS: 53-428 KAMEHAMEHA HWY  
 HAAULUA, HI 96717

### Notes:

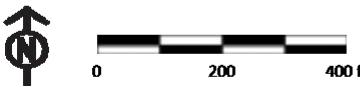
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### Flood Hazard Information

FIRM INDEX DATE: NOVEMBER 05, 2014  
 LETTER OF MAP CHANGE(S): NONE  
 FEMA FIRM PANEL: 15003C0155G  
 PANEL EFFECTIVE DATE: JUNE 02, 2005

THIS PROPERTY IS WITHIN A TSUNAMI EVACUATION ZONE: YES  
 FOR MORE INFO, VISIT: <http://www.scd.hawaii.gov/>

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



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











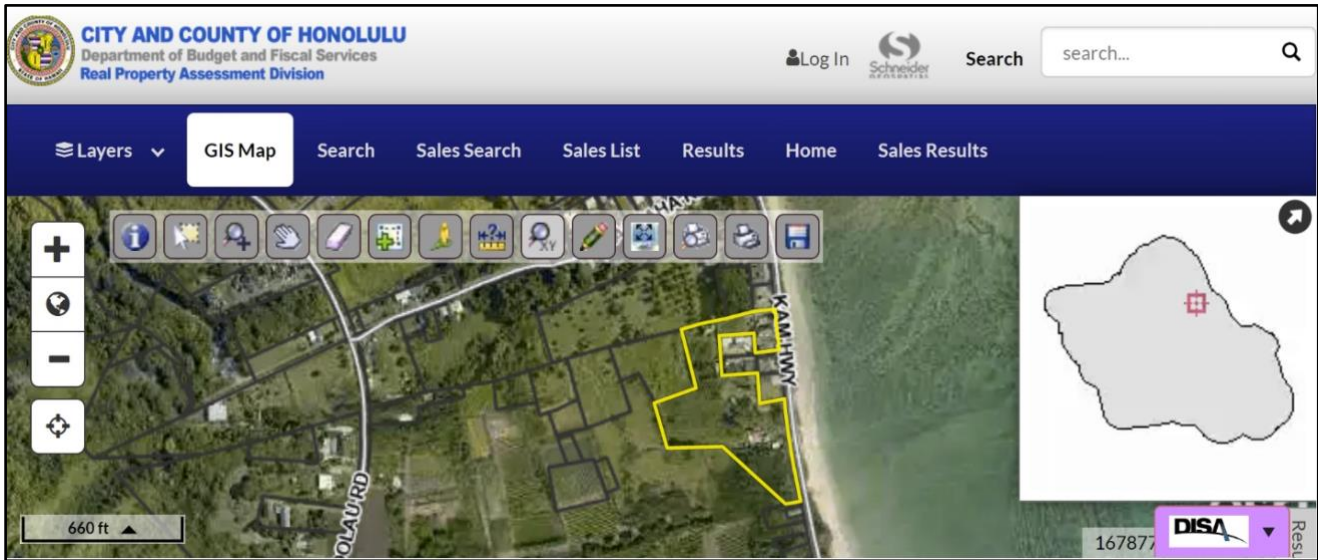
FLOOD HAZARD ASSESSMENT TOOL LAYER LEGEND	
(Note: legend does not correspond with NFHL)	
<b>SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD</b> - The 1% annual chance flood (100-year), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. SFHAs include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:	
	<b>Zone A:</b> No BFE determined.
	<b>Zone AE:</b> BFE determined.
	<b>Zone AH:</b> Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
	<b>Zone AO:</b> Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
	<b>Zone V:</b> Coastal flood zone with velocity hazard (wave action); no BFE determined.
	<b>Zone VE:</b> Coastal flood zone with velocity hazard (wave action); BFE determined.
	<b>Zone AEF:</b> Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.
<b>NON-SPECIAL FLOOD HAZARD AREA</b> - An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.	
	<b>Zone XS (X shaded):</b> Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
	<b>Zone X:</b> Areas determined to be outside the 0.2% annual chance floodplain.
<b>OTHER FLOOD AREAS</b>	
	<b>Zone D:</b> Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase apply, but coverage is available in participating communities.



Figure 3 – TMK Location, Fee Owners, and TMK Information



Permitting Searching DPP Home Sign In

### Tax Map Key

Details Warnings Building/Sign Permits Subdivision Permits Other Permits **Owners** History Assessments Str Setbacks Parcel Info

**Owner(s):**

Fee Owner: BRAHMBHATT,NISHAL Pct: TMK: 53005070 HPR: 4 Address: 1483 MAHIOLE ST HONOLULU, HI

Fee Owner: CLARK,JANET L TR Pct: TMK: 53005070 HPR: 6 Address: 53-424 KAMEHAMEHA HWY UNIT 6 HAUULA, HI

Fee Owner: GUIN,NATALIA E Pct: TMK: 53005070 HPR: 1 Address: ,

Fee Owner: GUIN,SETH A Pct: TMK: 53005070 HPR: 1 Address: 53-450 UNIT 1 KAMEHAMEHA HWY HAUULA, HI

Fee Owner: HAINES,CAROL A Pct: TMK: 53005070 HPR: 3 Address: 53-458 UNIT 3 KAMEHAMEHA HWY 3 HAUULA, HI

Fee Owner: KAHENA WAI ESTATES LLC Pct: 100 TMK: 53005070 HPR: 10 Address: 87-070 FARRINGTON HWY SUITE 303 WAIANAE, HI

Fee Owner: KAHENA WAI ESTATES LLC Pct: 100 TMK: 53005070 HPR: 11 Address: 87-070 FARRINGTON HWY STE 303 WAIANAE, HI

Fee Owner: KAHENA WAI ESTATES LLC Pct: 100 TMK: 53005070 HPR: 7 Address: 87-070 FARRINGTON HWY SUITE 303 WAIANAE, HI

Fee Owner: KAHENA WAI ESTATES LLC Pct: 100 TMK: 53005070 HPR: 9 Address: 87-070 FARRINGTON HWY SUITE 303 WAIANAE, HI

Fee Owner: MIRAMONTES,CAMILA Pct: TMK: 53005070 HPR: 2 Address: ,

Fee Owner: MIRAMONTES,JOSHUA D Pct: TMK: 53005070 HPR: 2 Address: 53-452 KAMEHAMEHA HWY 2 HAUULA, HI

Fee Owner: NICHOLSON,SHAWN Pct: TMK: 53005070 HPR: 5 Address: 130 DEAN ST HICKSVILLE, NY

Fee Owner: OBA,DAYNE S Pct: TMK: 53005070 HPR: 8 Address: ,

Fee Owner: OBA,SHANNON A Pct: TMK: 53005070 HPR: 8 Address: 3420 ALOHEA AVE A HONOLULU, HI

### Tax Map Key

Details Warnings Building/Sign Permits Subdivision Permits Other Permits **Owners** History A

Type	Description
Council District Effective 20032 – Matt Weyer	
Development Plan Areas	Koolauloa
Flood Zones	AE – 100 Year Flood, Base Flood Elevation Determined
Flood Zones	VE – 100 Year Flood, Coastal, Wave Action, Base Elevation Determined
Flood Zones	X – Beyond 500 Year Flood Plain
Height Limit	25'
Height Limit	25' unless sloping
Historic Site Register	None
Lot Restriction	None
Neighborhood Boards	28 – KOOLAULOA
SMA / Shoreline	In SMA
Slide Area	None
State Land Use	Agricultural District
State Land Use	Urban District
Street Setback	NONE
Zoning (LUO)	AG-2 General Agricultural District
Zoning (LUO)	R-5 Residential District



Figure 4a and 4b – Land Use Districts and USGS Geology Mapping

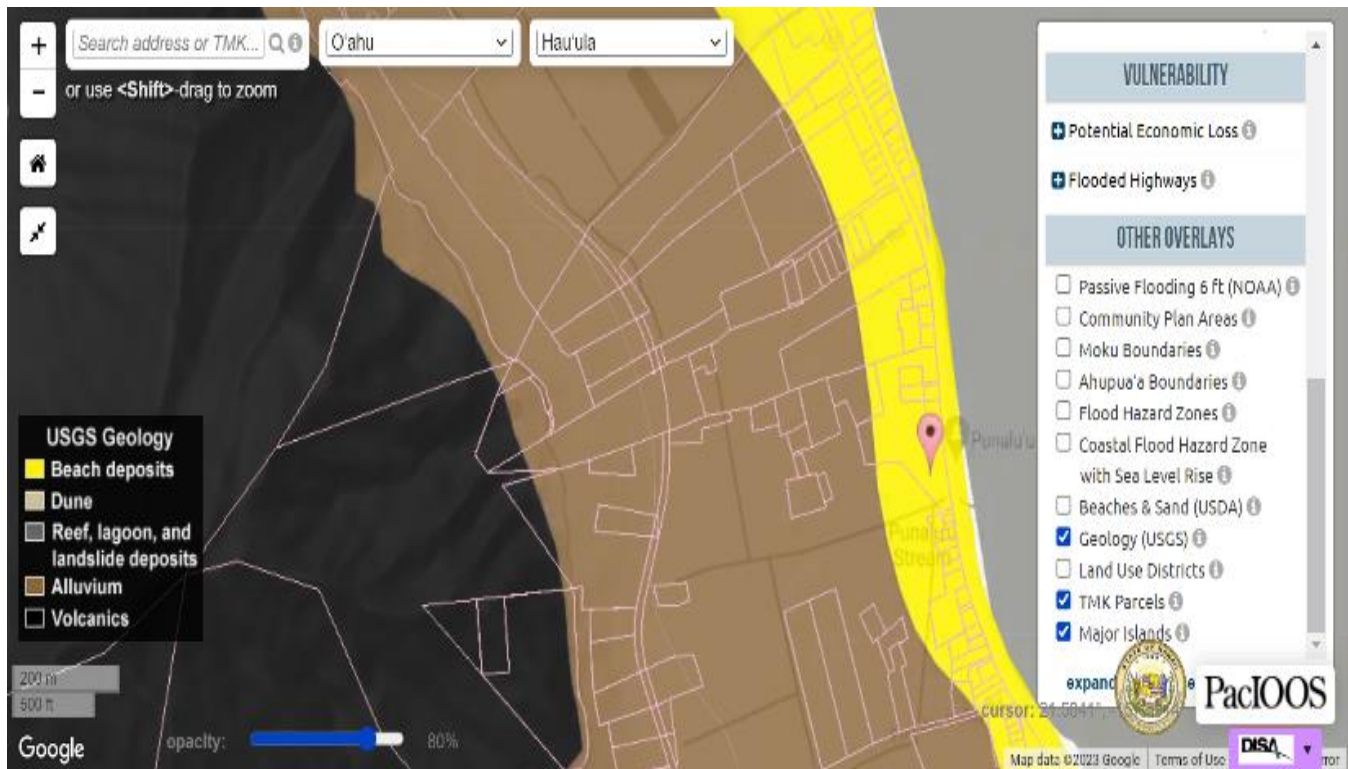
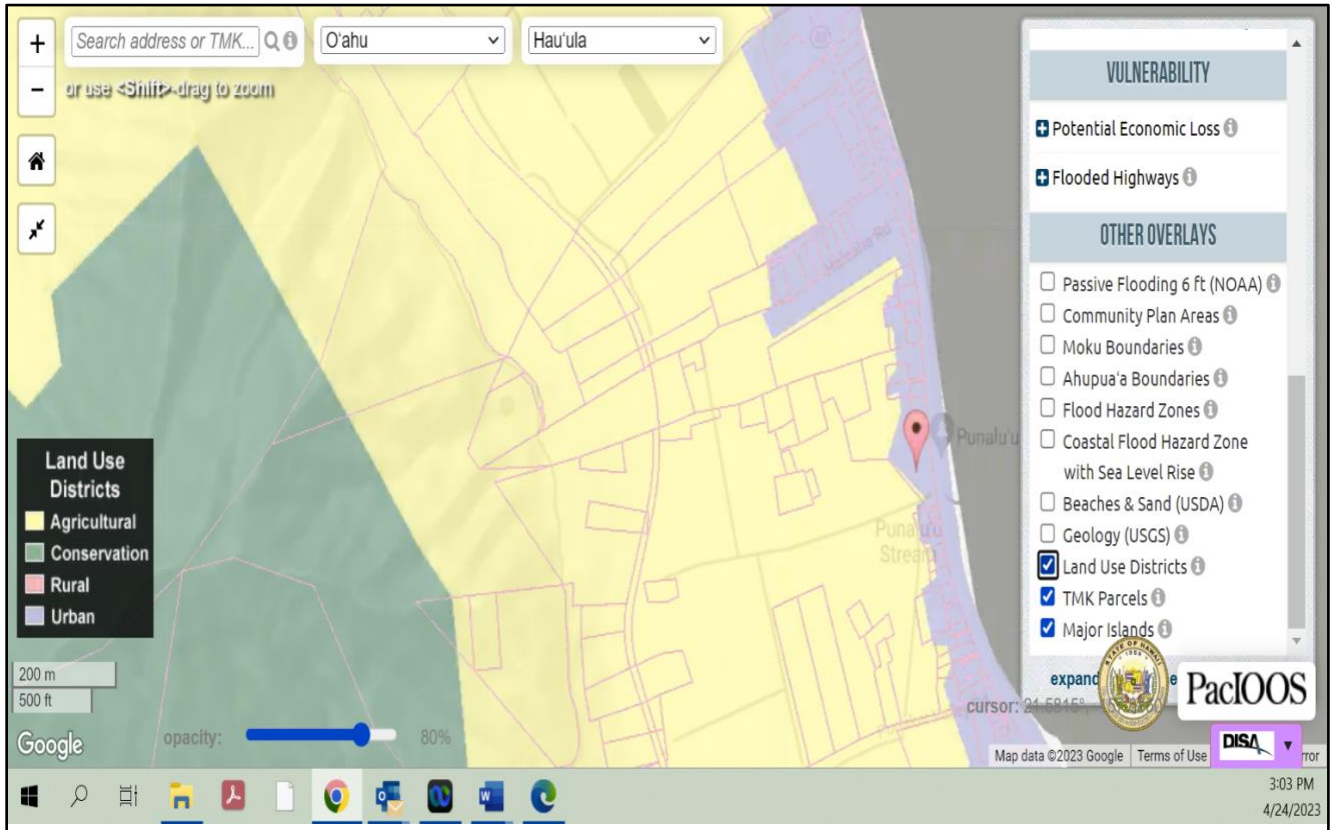


Figure 5a – Kapano & Puheemiki Koolauloa PLAT 05, Kahena Wai Estates

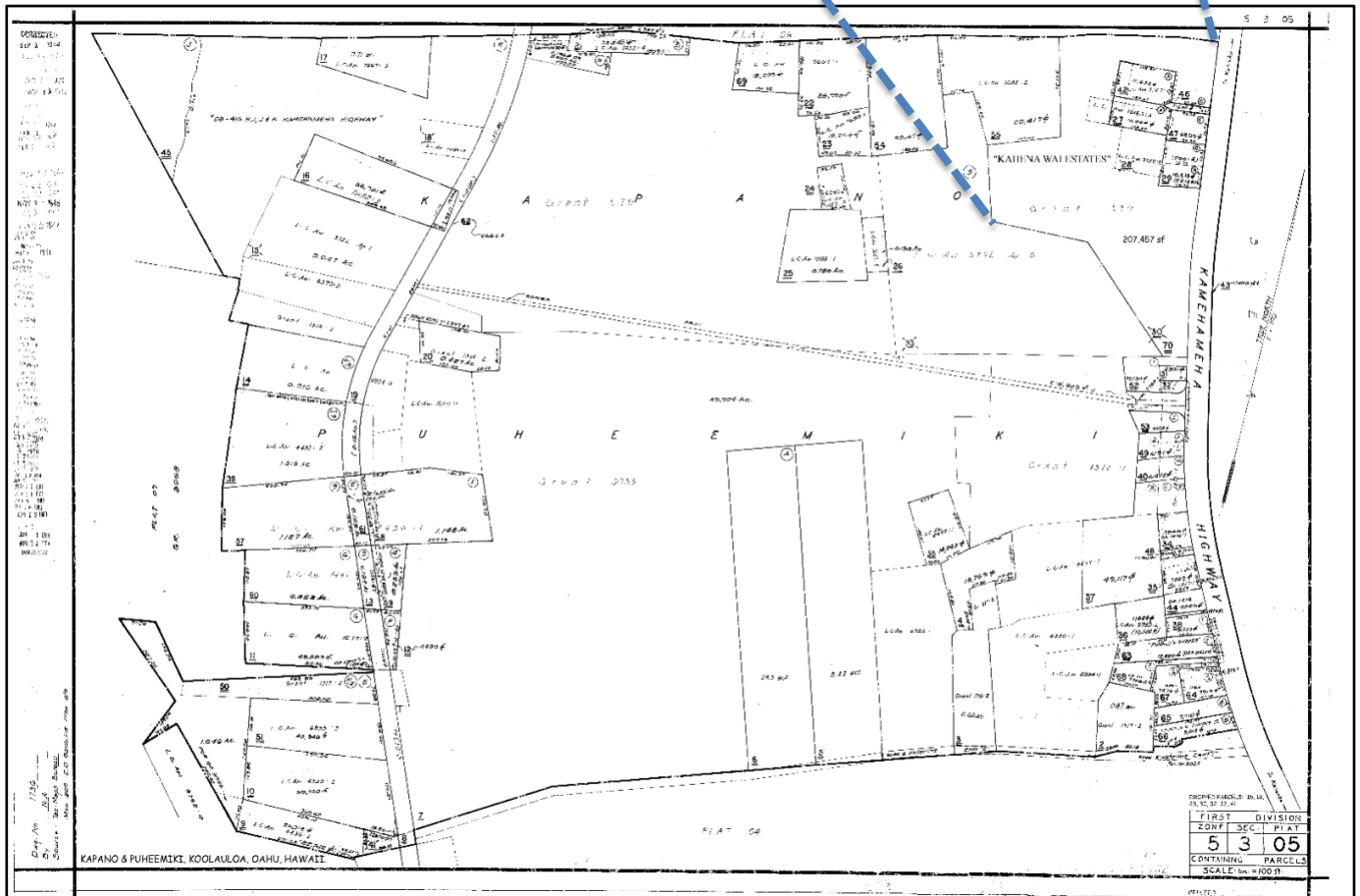
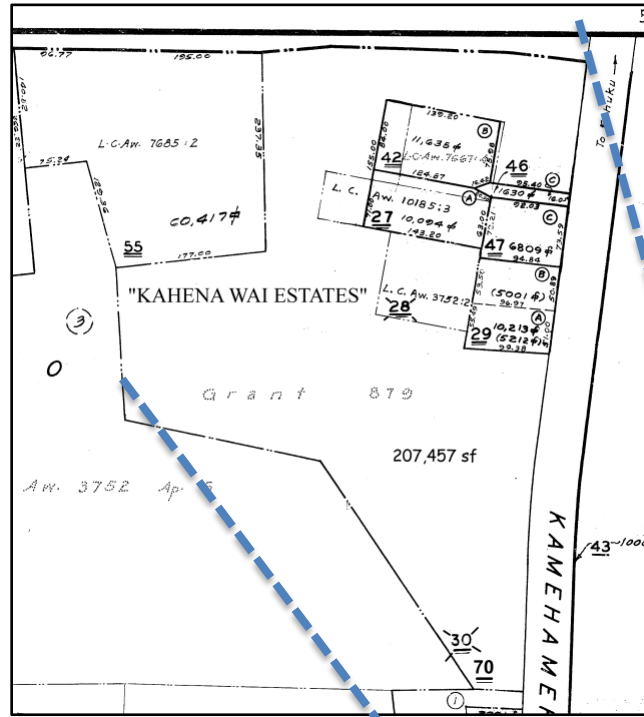
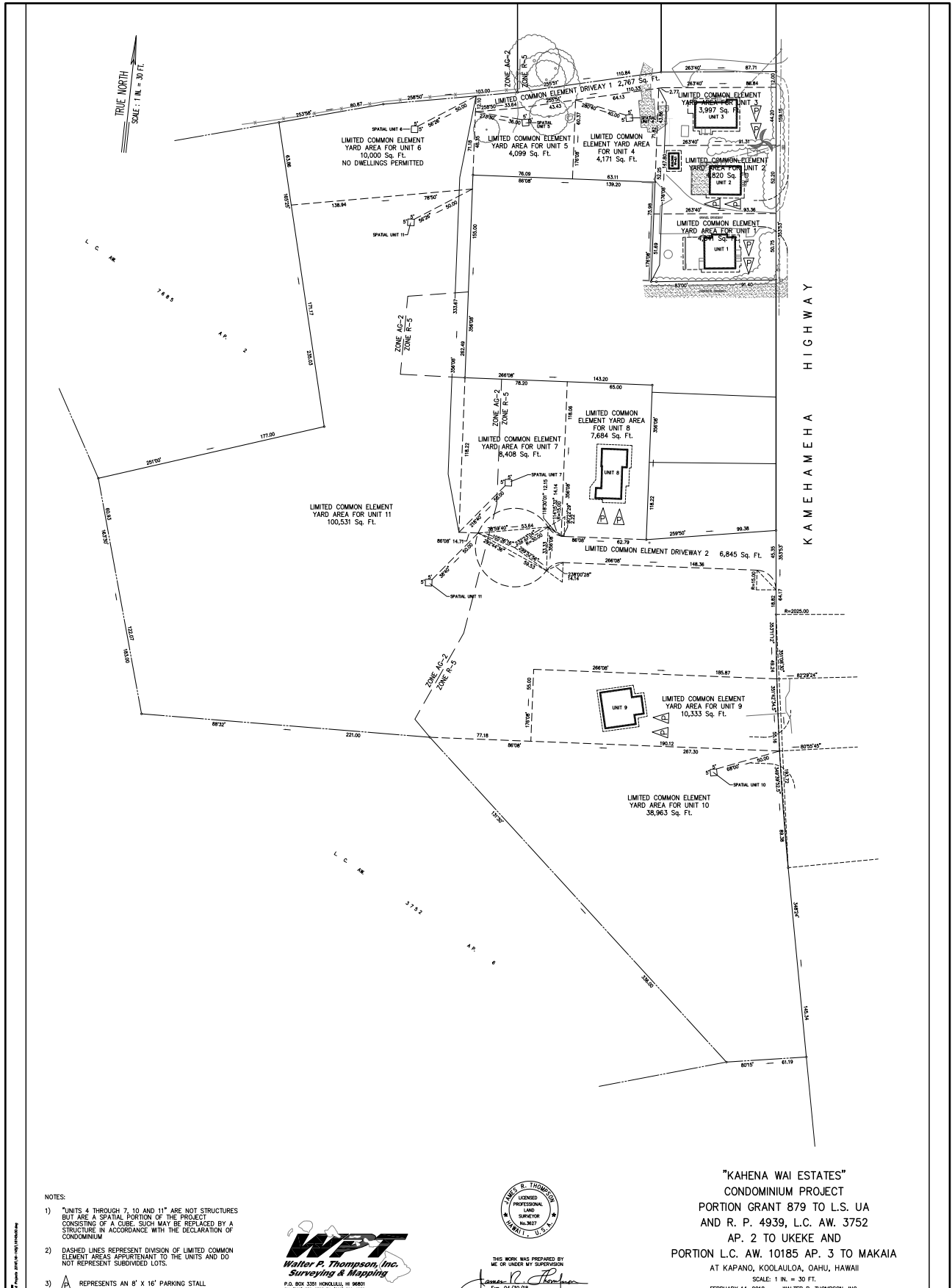


Figure 5b – Survey Plan for TMK (1) 5-3-005-070, Kahena Wai Estates



NOTES:

- 1) "UNITS 4 THROUGH 7, 10 AND 11" ARE NOT STRUCTURES BUT ARE A SPATIAL PORTION OF THE PROJECT CONSISTING OF A CURB. SUCH MAY BE REPLACED BY A STRUCTURE IN ACCORDANCE WITH THE DECLARATION OF CONDOMINIUM.
- 2) DASHED LINES REPRESENT DIVISION OF LIMITED COMMON ELEMENT AREAS APPURTENANT TO THE UNITS AND DO NOT REPRESENT SUBDIVIDED LOTS.
- 3) REPRESENTS AN 8' X 16' PARKING STALL.

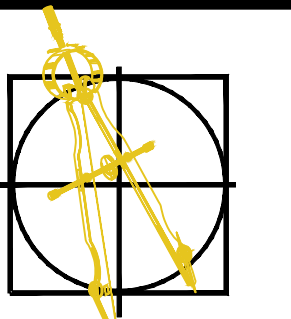
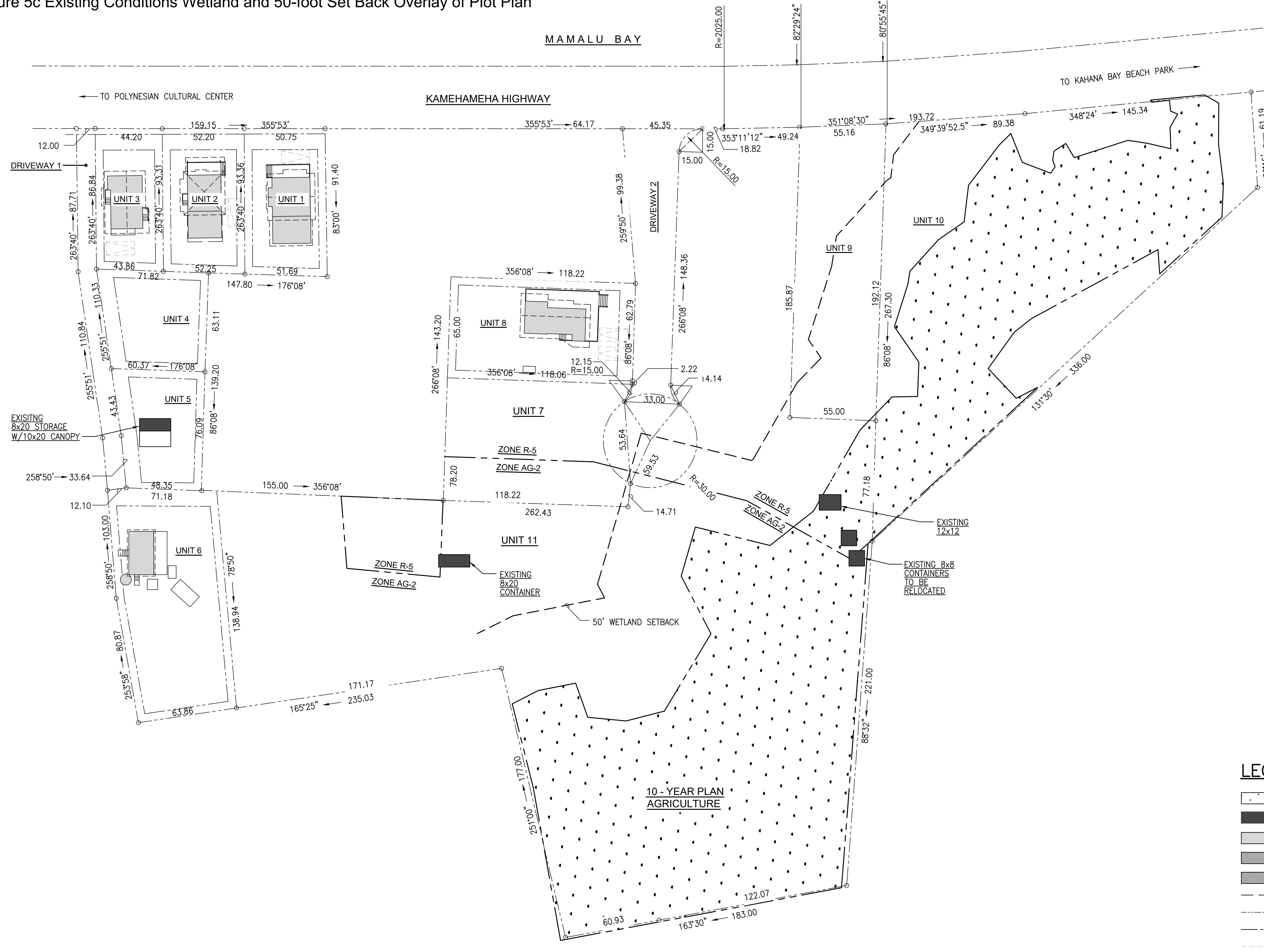


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION  
 WALTER P. THOMPSON  
 FEB. 04/2016

"KAHENA WAI ESTATES"  
 CONDOMINIUM PROJECT  
 PORTION GRANT 879 TO L.S. UA  
 AND R. P. 4939, L.C. AW. 3752  
 AP. 2 TO UKEKE AND  
 PORTION L.C. AW. 10185 AP. 3 TO MAKAI'A  
 AT KAPANO, KOOLAULO'A, OAHU, HAWAII  
 SCALE: 1 IN. = 30 FT.  
 FEBRUARY 14, 2016 WALTER P. THOMPSON, INC.



Figure 5c Existing Conditions Wetland and 50-foot Set Back Overlay of Plot Plan



**HAWAII  
ENGINEERING  
GROUP, Inc.**  
Civil & Structural Engineers

THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION AND  
CONSTRUCTION OF THIS PROJECT  
WILL BE UNDER MY OBSERVATION

PROJECT  
**KAHANA WAI ESTATES**  
53-440 KAMEHAMEHA HIGHWAY  
HAUULA, HI 96717

T.M.K. : 5-3-005:070

**SHEET TITLE**

EXISTING  
PLOT PLAN

**ISSUANCE/REVISIONS**

Date 04/25/2024

Scale AS NOTED

Drawn By HD

Design By RI

Checked By RI

Job 22-126

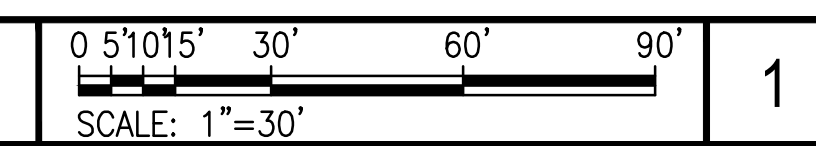
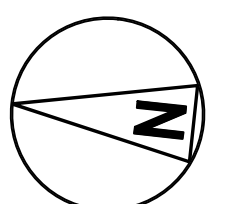
Sheet

**C102**

Of - Sheets

**LEGEND**

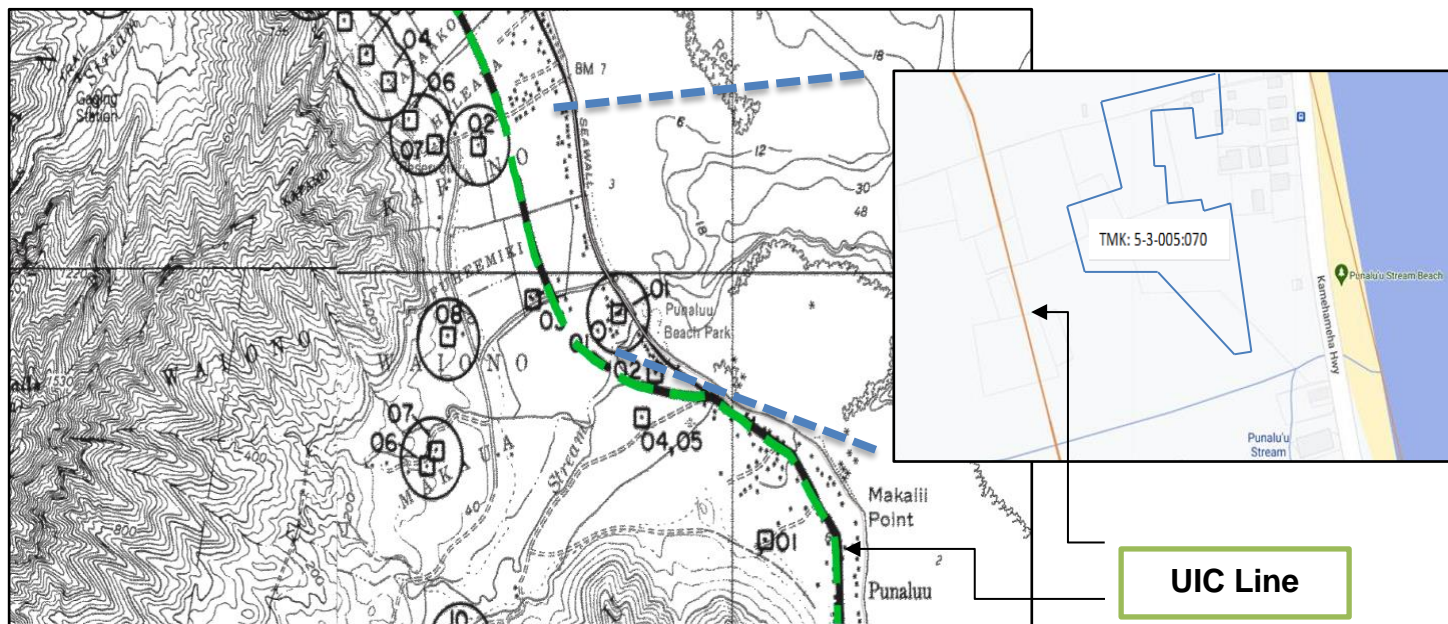
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- EXISTING STRUCTURES
- FIRST STORY STRUCTURE
- SECOND STORY STRUCTURE
- ROADWAY/DRIVEWAY
- ROOF EAVE/OVERHANG
- PROPERTY LINE
- AG DESIGNATION
- VEHICLE DESIGNATION



EXISTING PLOT PLAN

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Figure 6a and 6b – Underground Injection Control Line, DOH SDWB and USFWS Wetland



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Figure 7 – Relative Sea Level Rise Exposure and Coastal Erosion Scenarios (2.0 and 3.2 foot)

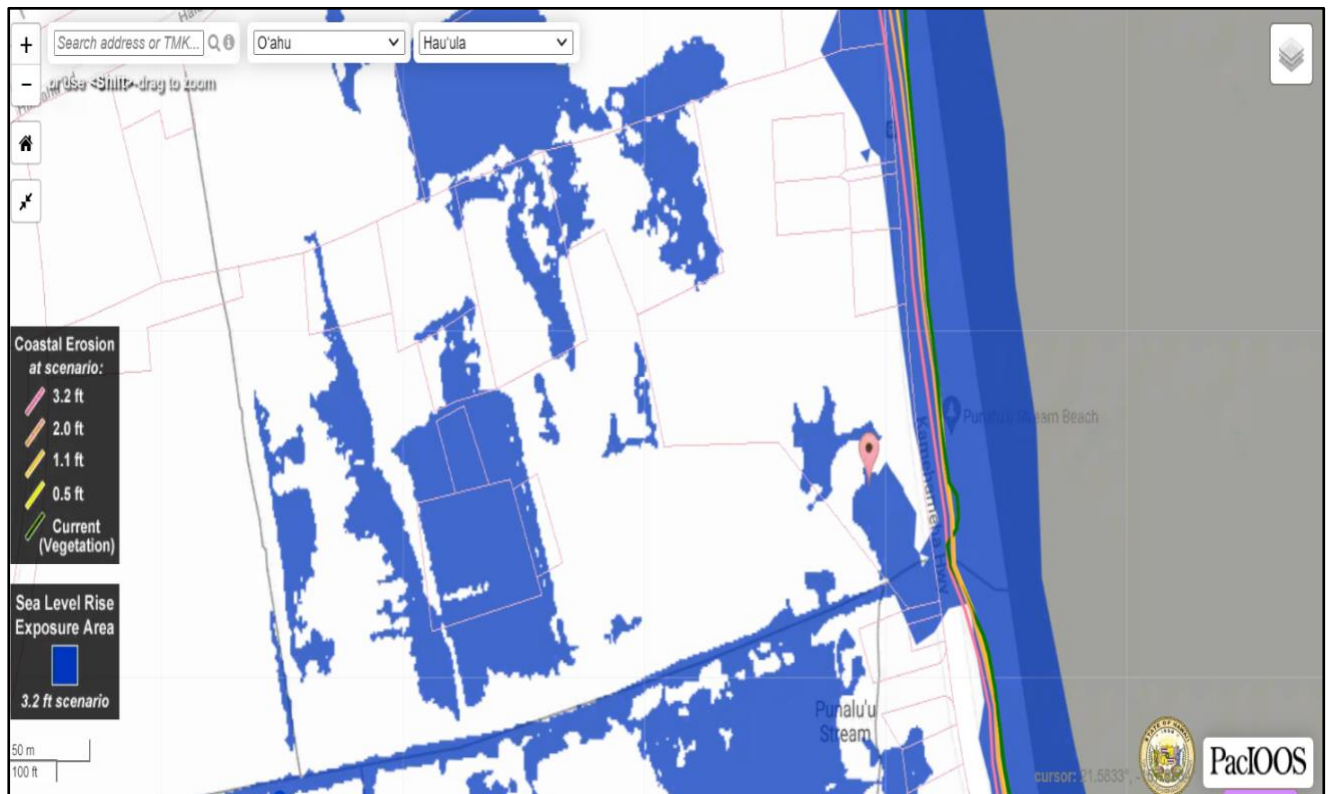
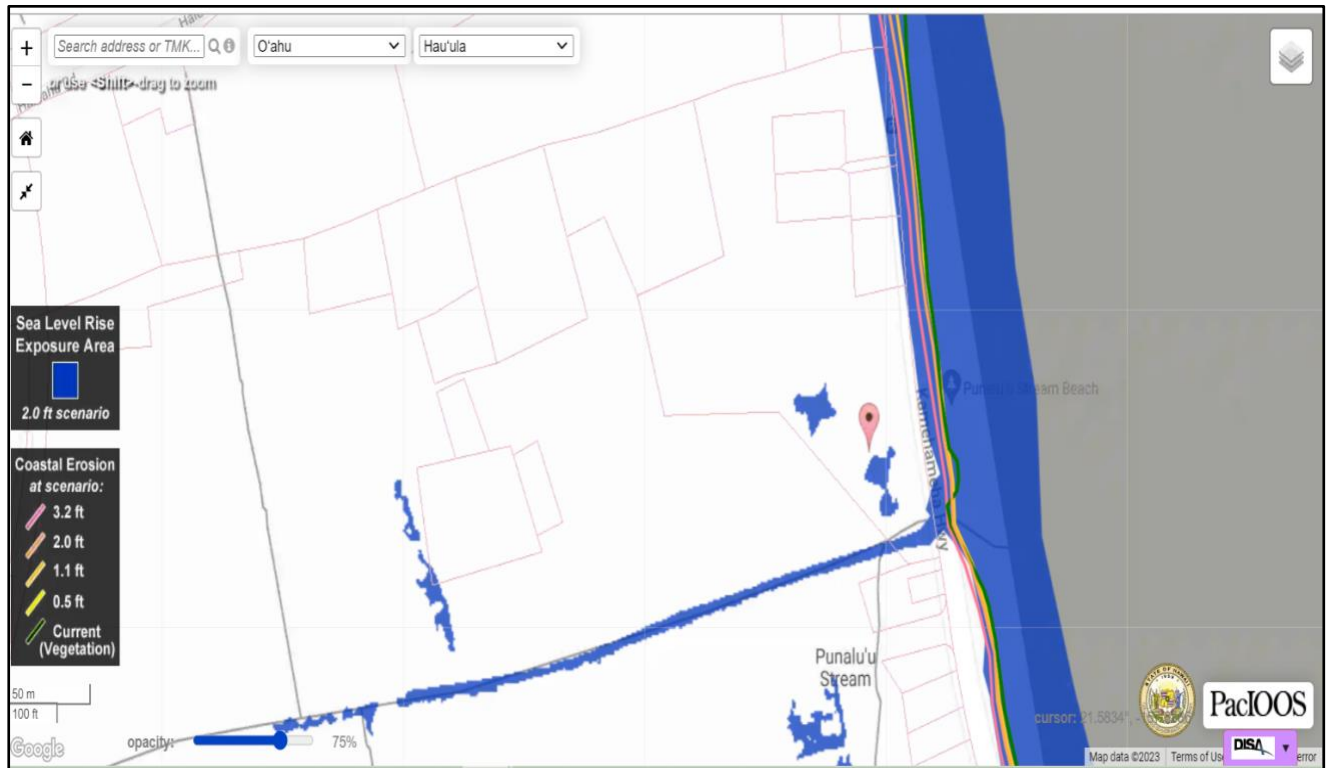
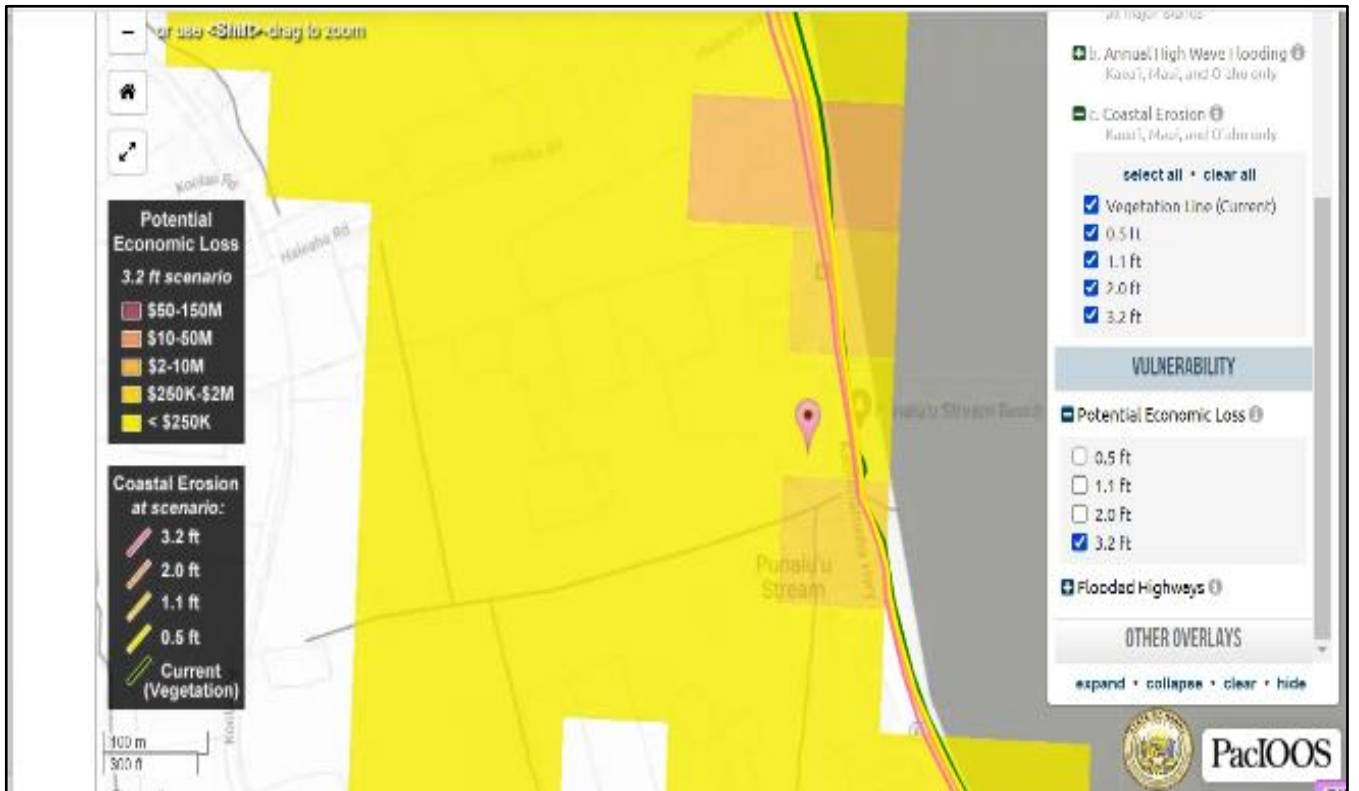
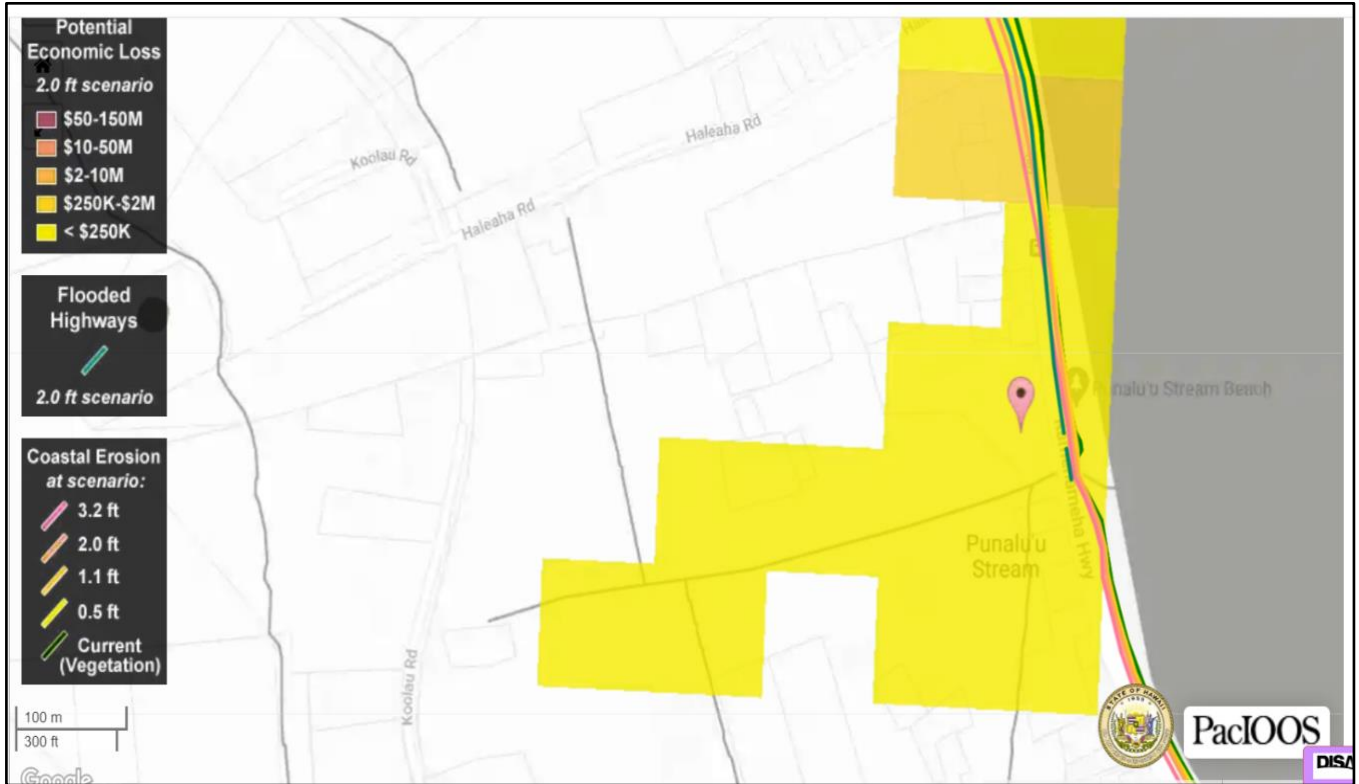




Figure 8 – Potential Economic Loss with Sea Level Rise Senarios (2.0 and 3.2 foot)



**Figure 9 – Annual High Wave Flooding (2.0 and 3.2 ft.) and NOAA Sea Level 6 ft.**

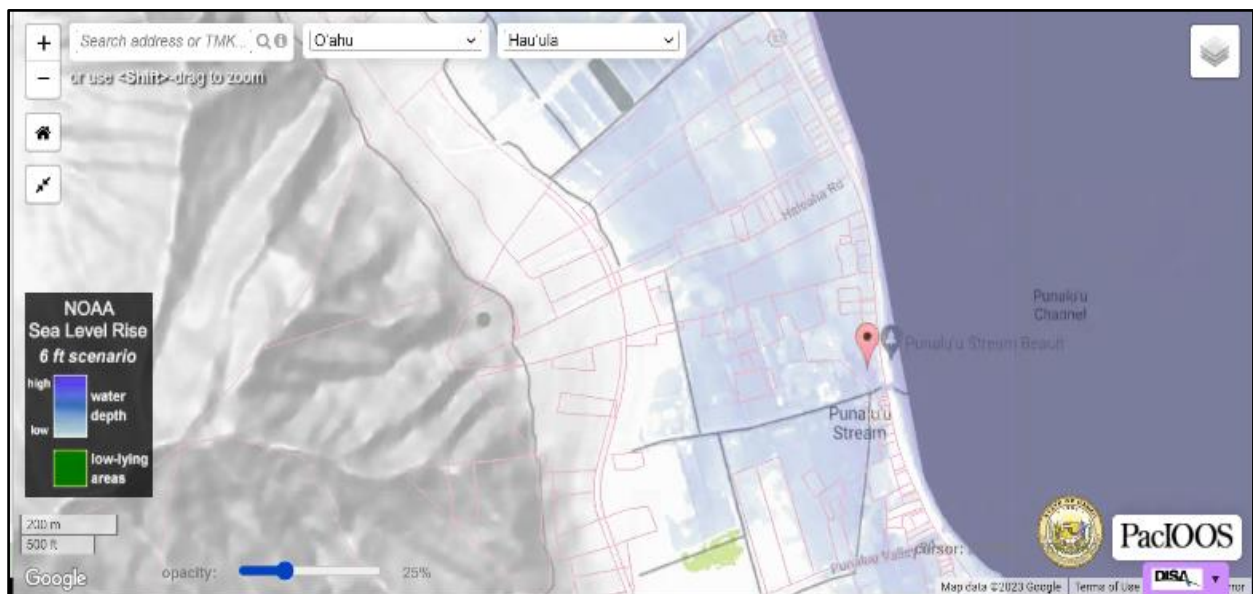
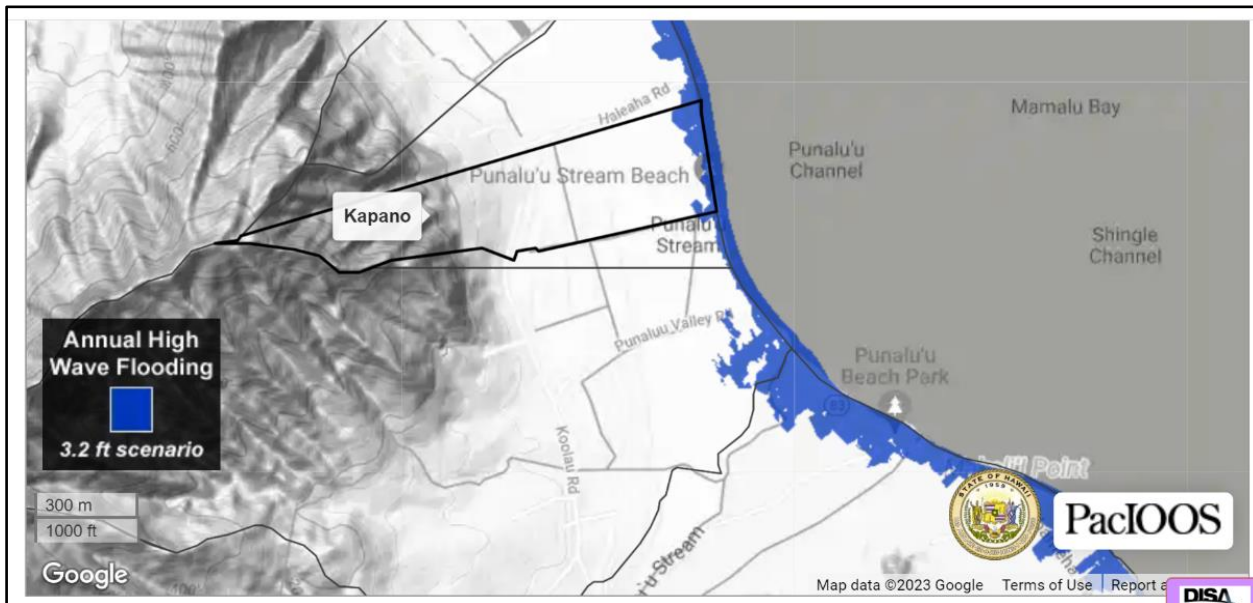
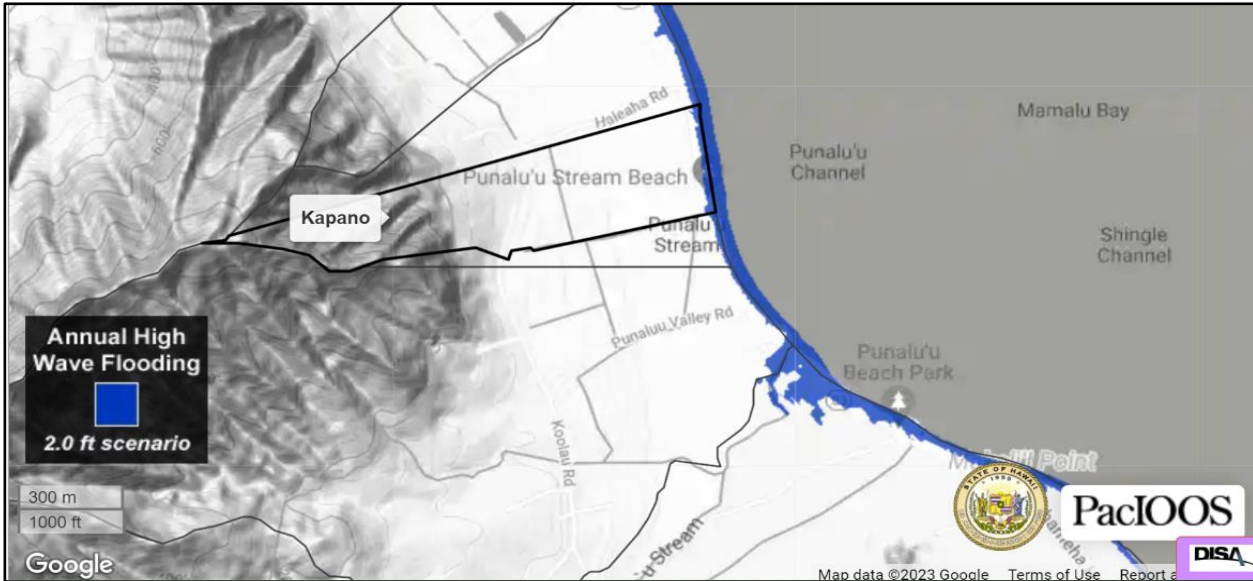
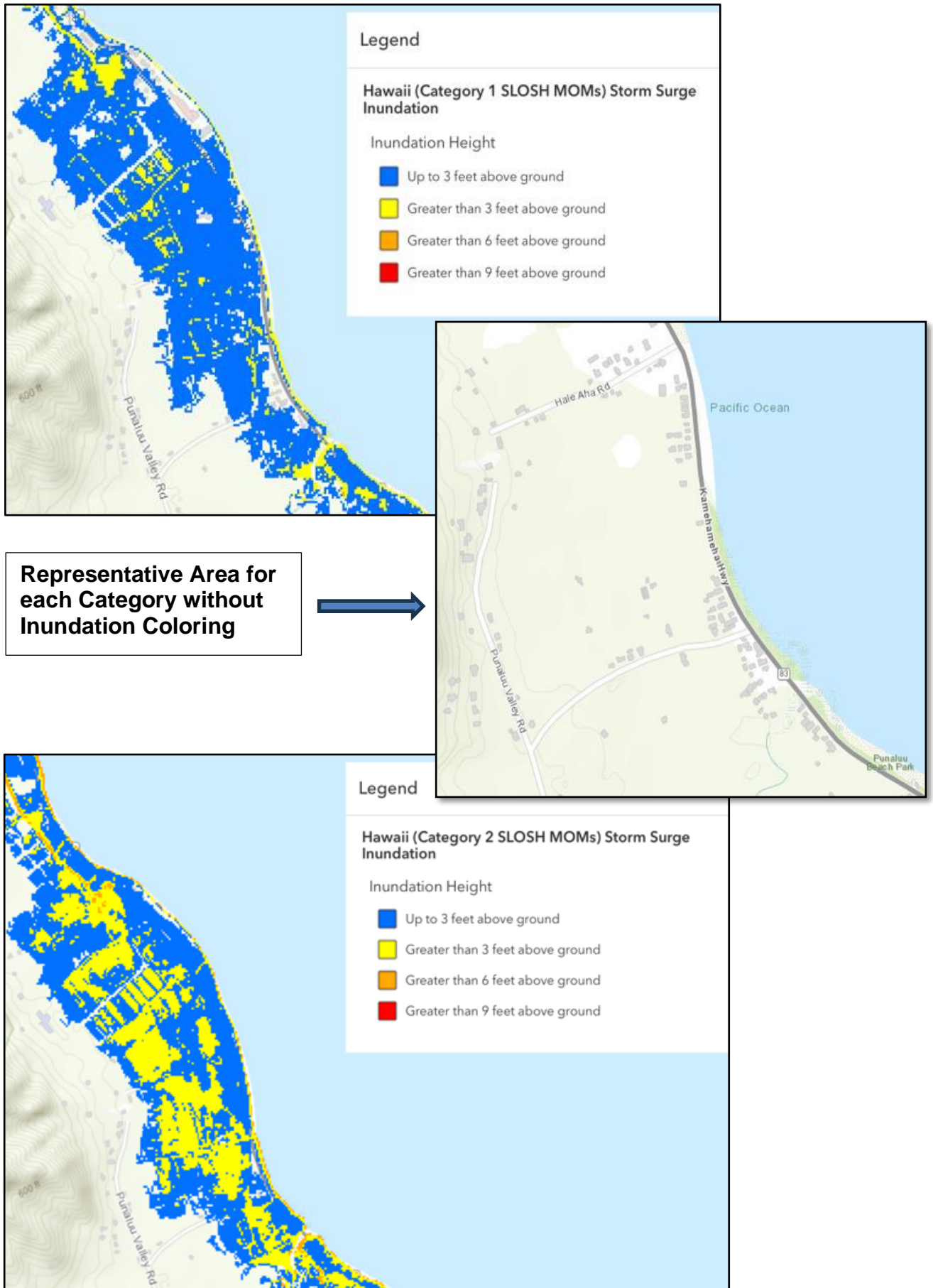
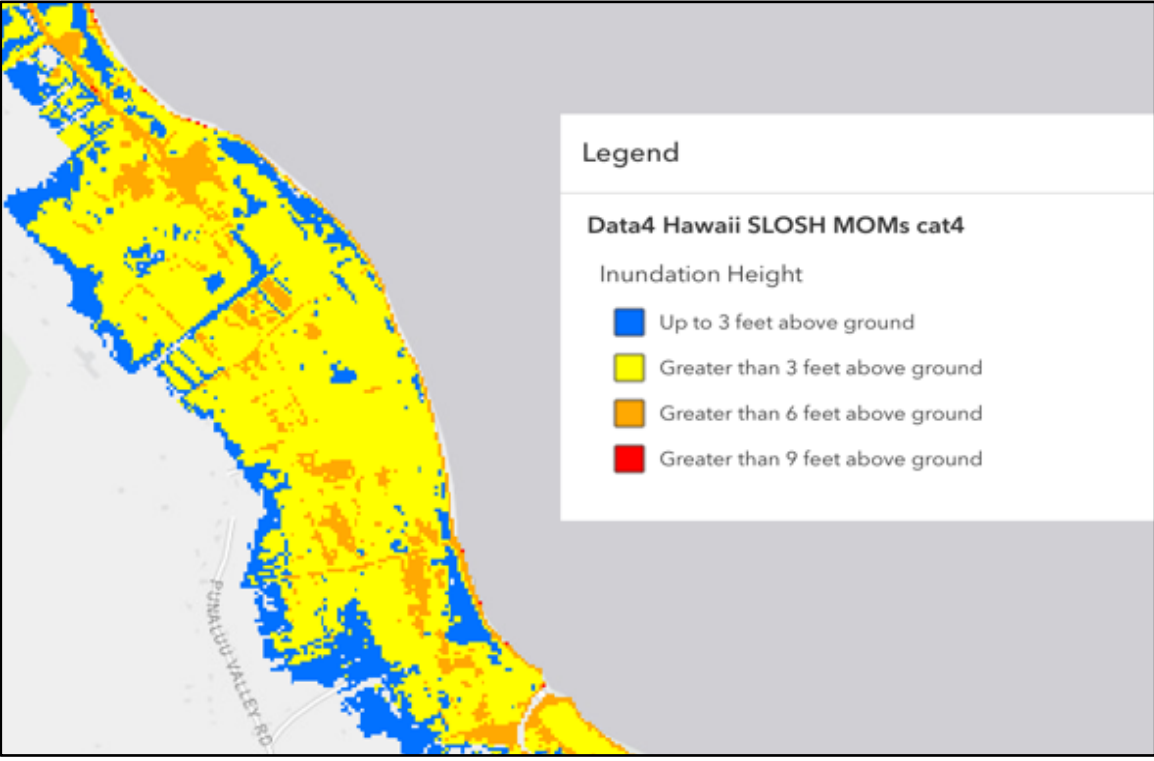
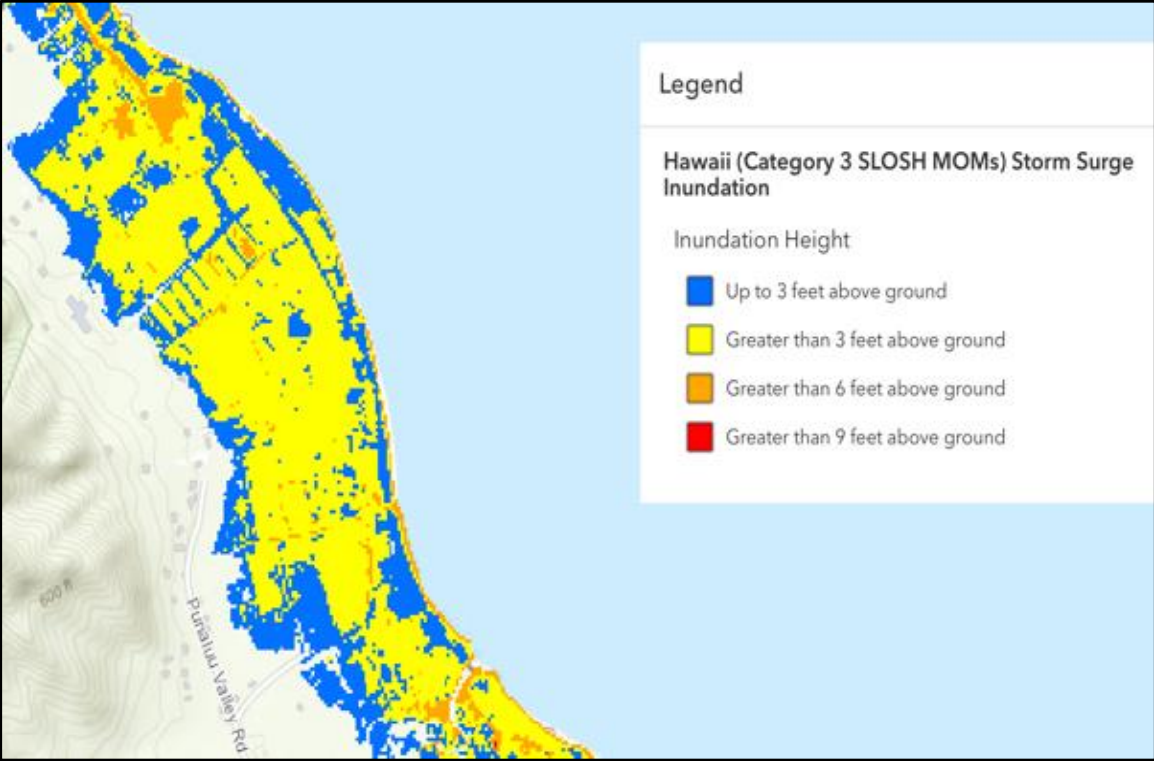


Figure 10 – Hauula (Category 1 - 2 NWS SLOSH Model MOMs) Storm Surge





(Continued) Figure 10 – Hauula (Category 3 - 4 NWS SLOSH Model MOMs) Storm Surge



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## Appendix A-1 - 2011 Certified Shoreline Survey

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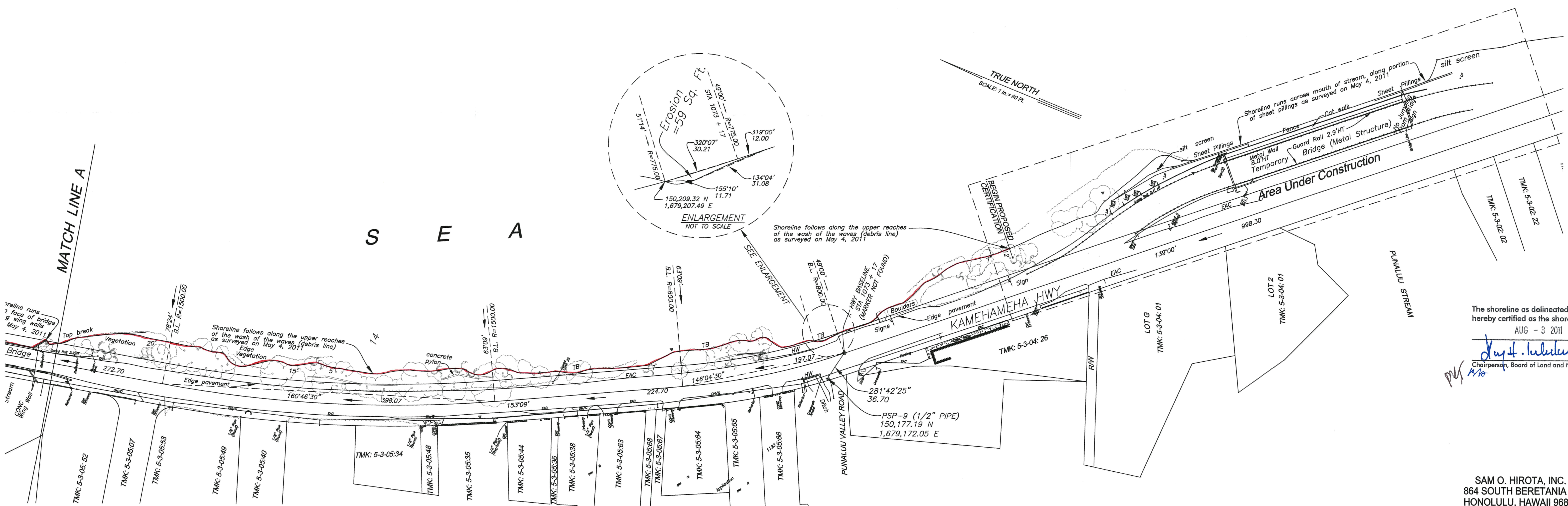
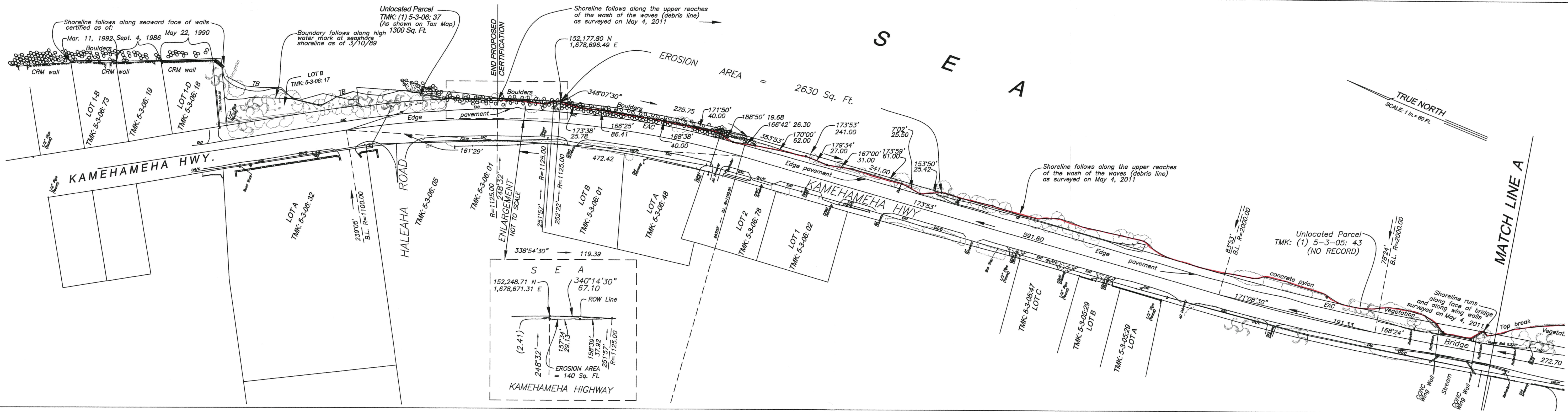
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Date: 5-9-11	Rev. 1
Designed by: PC	Design file no.
Dwn by: PC	Submitted by:
Submitted by:	Drawing code:
File name: Plot date: May 9, 2011	Plot scale: 1 in. = 60 FT.
Chief:	

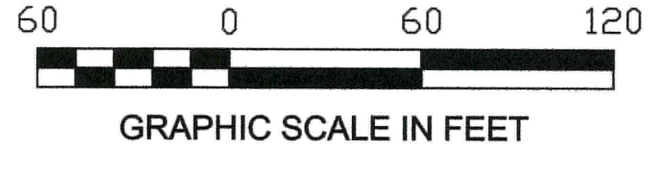
U.S. ARMY ENGINEER DIVISION  
PACIFIC OCEAN  
HONOLULU, HAWAII

SAM O. HIROTA, INC.  
864 SOUTH BERETANIA ST.  
HONOLULU, HAWAII 96813

Location code: _____
Drawing no. _____
Sheet number: <b>1</b>
Ring 1 of 1



NOTES:  
1. COORDINATES REFERRED TO HAWAII STATE PLANE COORDINATE SYSTEM, ZONE 3 NAD 83 HARN (1993).



**SHORELINE CERTIFICATION**  
EAST SIDE OF KAMEHAMEHA HIGHWAY  
(STATE OWNED PROPERTY)  
BETWEEN PUNALU'U BEACH PARK AND HALEAHA BEACH LOTS  
AT PUNALU'U, OAHU, HAWAII  
TMK: (1ST) 5-3-04; 5-3-05 AND 5-3-06

**PEDRO Y. GUZMAN**  
LICENSED PROFESSIONAL LAND SURVEYOR  
No. 8963  
HAWAII, U.S.A.

This work was prepared by me or under my supervision  
*Pedro Y. Guzman*  
**PEDRO Y. GUZMAN**  
Licensed Professional Land Surveyor  
Certificate No. 8963  
Ex. April 30, 2012

The shoreline as delineated in red is hereby certified as the shoreline as of  
AUG - 3 2011  
*[Signature]*  
Chairperson, Board of Land and Natural Resources

**SAM O. HIROTA, INC.**  
864 SOUTH BERETANIA ST.  
HONOLULU, HAWAII 96813



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5

Punaluu Shore Protection  
Plan Project at Punaluu, Oahu, HI  
Photos Taken 5-4-11  
SOH Job #090580



Begin Proposed  
Shoreline  
Certification

05-04-2011 09:18

6



05-04-2011 09:24





7

05.04.2011 09.25



8

05.04.2011 09.27











13



05.04.2011 09:47

14



05.04.2011 09:48





05.04.2011 09:50



05.04.2011 09:52





05.04.2011 09:54



05.04.2011 09:54





19

05.04.2011 09:55



20

05.04.2011 09:57









05:04.2011 10:01



05.04.2011 10:03





05.04.2011 10:05



05.04.2011 10:06





05.04.2011 10:07



05.04.2011 10:09





05.04.2011 10:11

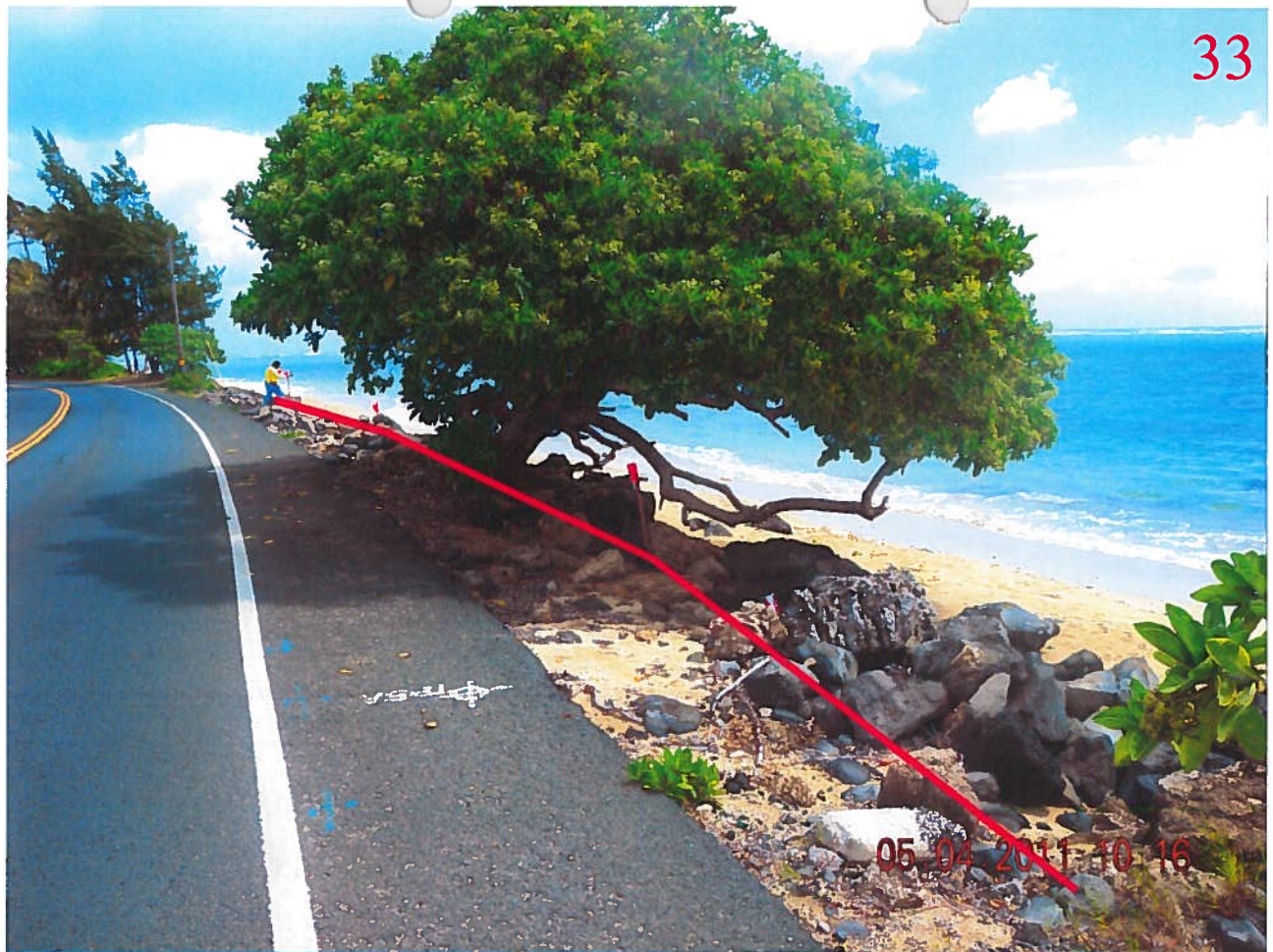


05.04.2011 10:12













35

05.04.2011 10:19



36

End Proposed  
Shoreline  
Certification

05.04.2011 10:20

# **APPENDIX A**

## **Site Photographs and Wetland / TMK Overlay**

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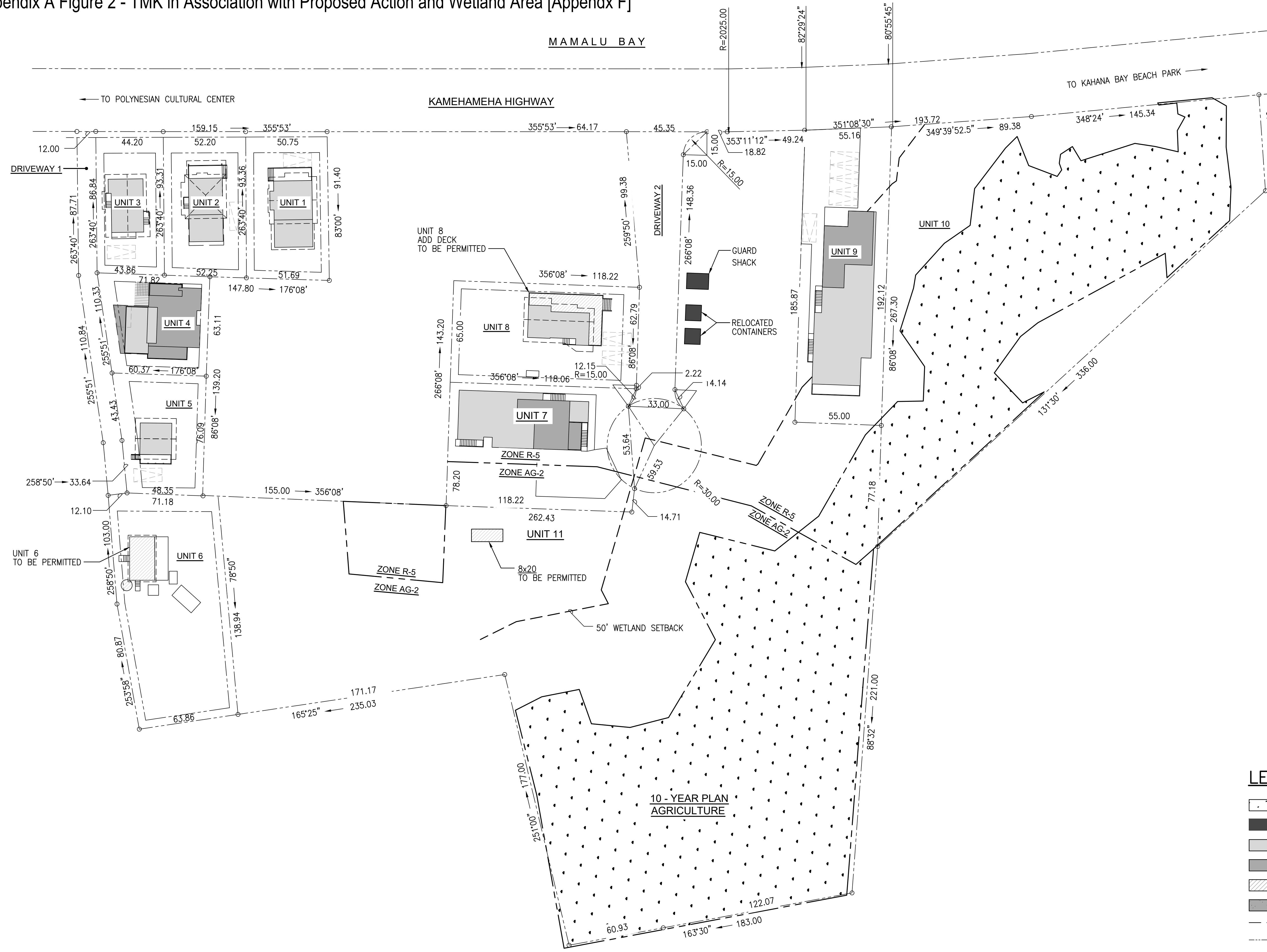


Appendix A, Figure 1 – TMK in Association with Wetland Area (USFWS Shape Files)



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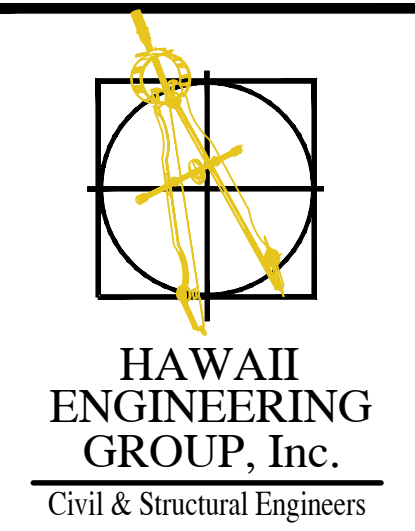
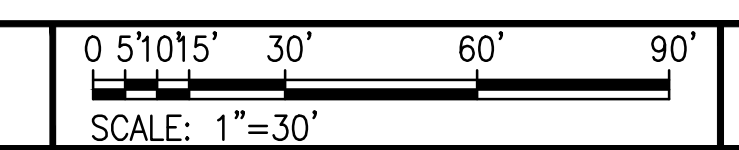
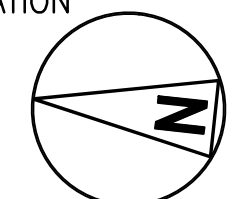
Appendix A Figure 2 - TMK in Association with Proposed Action and Wetland Area [Appendx F]



PROPOSED PLOT PLAN

LEGEND

- 10 YEAR PLAN AGRICULTURE
- EXISTING STRUCTURES
- FIRST STORY STRUCTURE
- SECOND STORY STRUCTURE
- TO BE PERMITTED
- ROADWAY/DRIVEWAY
- ROOF EAVE/OVERHANG
- PROPERTY LINE
- AG DESIGNATION
- VEHICLE DESIGNATION



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

PROJECT  
KAHANA WAI ESTATES  
53-440 KAMEHAMEHA HIGHWAY  
HAUULA, HI 96717

T.M.K. : 5-3-005:070

SHEET TITLE  
PROPOSED  
PLOT PLAN

ISSUANCE/REVISIONS

Date 04/25/2024

Scale AS NOTED

Drawn By HD

Design By RI

Checked By RI

Job 22-126

Sheet  
C103  
Of - Sheets

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**Photo 1:** North entrance to TMK from highway facing west. Unit 1 on left.



**Photo 2:** View of Unit 4 Lot, facing east. Unit 1 in background behind white fence.



**Photo 3:** View of Unit 4 vacant lot for dwelling Proposed dwelling construction.



**Photo 4:** Unit 4 facing south, with Unit 5 Container to the right (to be permitted)



Appendix A – Site Photographs

Kahena Wai Estates

Draft Environmental Assessment

Photos 1 - 4

Hauula, Hawaii

Project No. 0713





**Photo 5:** Unit 5, facing southwest. Dwelling to be Constructed, container to be permitted as storage.



**Photo 6:** Unit 5 and 6 in background facing west.



**Photo 7:** Northern end driveway entrance from Kamehameha Highway, facing east.



**Photo 8:** Units 1, 2, and 3 (from right to left)



**Photo 9:** Kamehameha Hwy facing north, beach adjacent to TMK to the east.



**Photo 10:** Beach view, facing north.



**Photo 11:** Beach view facing south.



**Photo 12:** Facing south with TMK at right





**Photo 13:** View of Unit 11 Lot from Unit 5 west CMU wall, facing southwest.



**Photo 14:** Southern driveway entrance from Hwy, facing west (units 8 & 7 right, 10 and 9 to left).



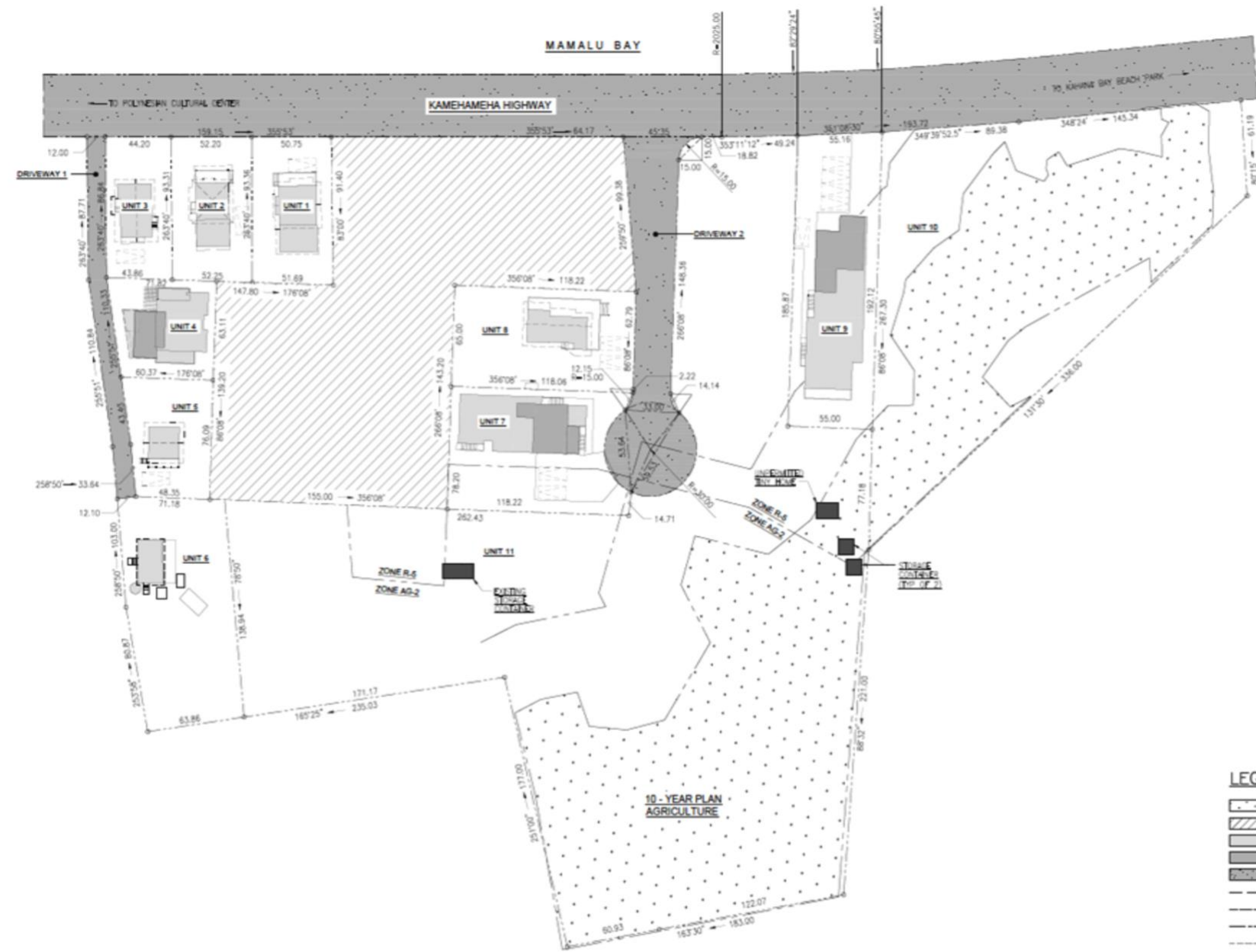
**Photo 15:** Southern edge of Unit 10 and Punaluu Stream, facing west.



**Photo 16:** Punaluu Stream Bridge and Ocean In background, facing east.

MAMALU BAY

KAMEHAMEHA HIGHWAY



**LEGEND**

-  10-YEAR PLAN AGRICULTURE
-  NOT IN SCOPE
-  FIRST STORY STRUCTURE
-  SECOND STORY STRUCTURE
-  ROADWAY/DRIVEWAY
-  ROOF CANE/DRIVING
-  PROPERTY LINE
-  AG DESIGNATION
-  VEHICLE DESIGNATION



PLOT PLAN







**Photo 17:** Unit 5 tent has been removed. Container To be properly permitted as storage.



**Photo 18:** Unit 7 fencing & temporary shelter have been reportedly removed or properly permitted



**Photo 19:** The containers at the NW corner of Unit 10 and within the wetland area have reportedly moved out of wetlands area and permitted accordingly.



**Photo 20:** Storage container at Unit 11 has been reportedly removed from property or properly permitted.





**Photo 21:** Vans to be removed from property.



**Photo 22:** Tiny structure (guard shack) guard shack, located at the NW corner of unit 10 and within the wetland area, will be relocated outside the wetland near the driveway and properly permitted.

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# **APPENDIX B**

## **Drawings for Dwelling Construction**

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# Unit #1

## UNIT #1 SUMMARY:

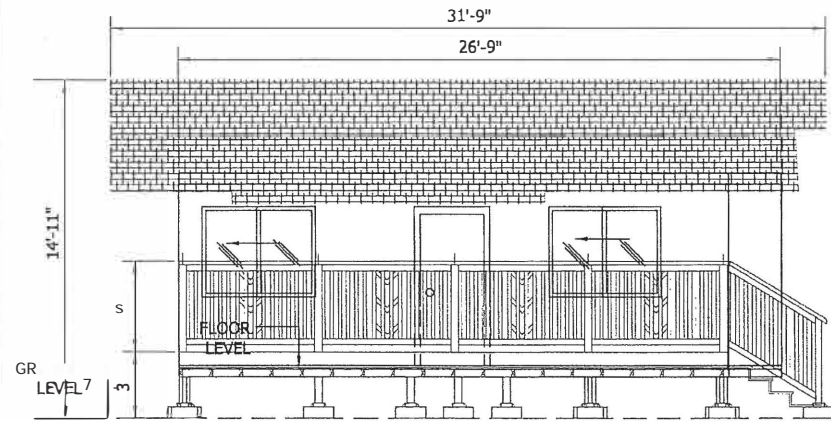
53-450 KAM HWY.  
HAUULA, HI 96717

### PROJECT SUMMARY:

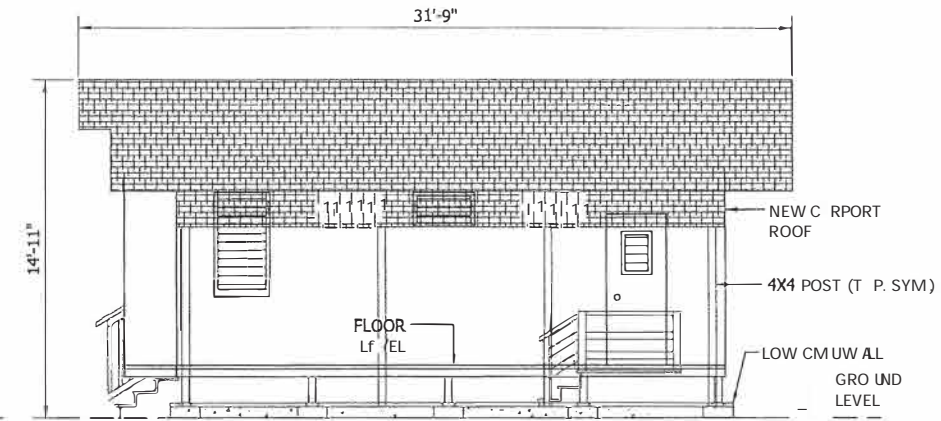
EXIST. LIVING AREA	360 SF.
EXIST. OPEN DECK	144 SF.
EXIST. CARPORT	342 SF.
TOTAL:	846 SF.
TOTAL LIVING AREA:	360 SF.
LOT SIZE:	4,841 SF.
PERCENTAGE OF LOT:	7.5 %

### CONSTRUCTION NOTES:

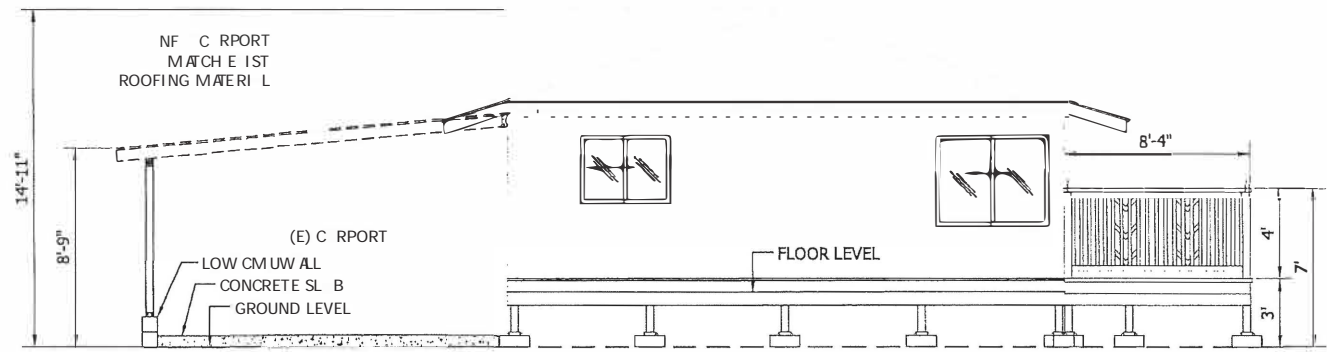
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2. POST & BLOCK FOUNDATION
3. COMPOSITE ASPHALT SHINGLE ROOF
4. COMPACTED GRAVEL DRAINAGE



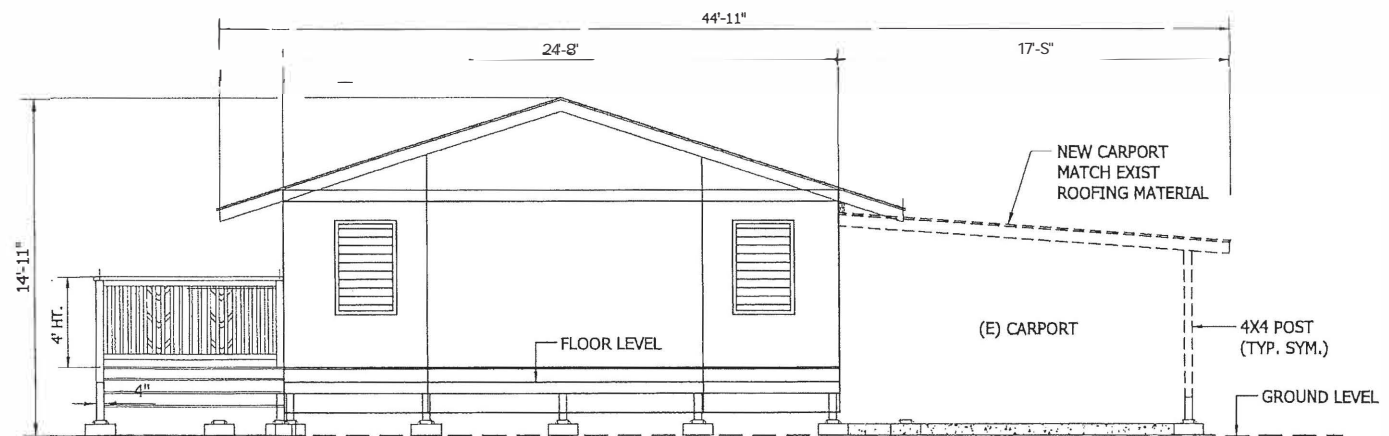
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1/4" = 1'-0"



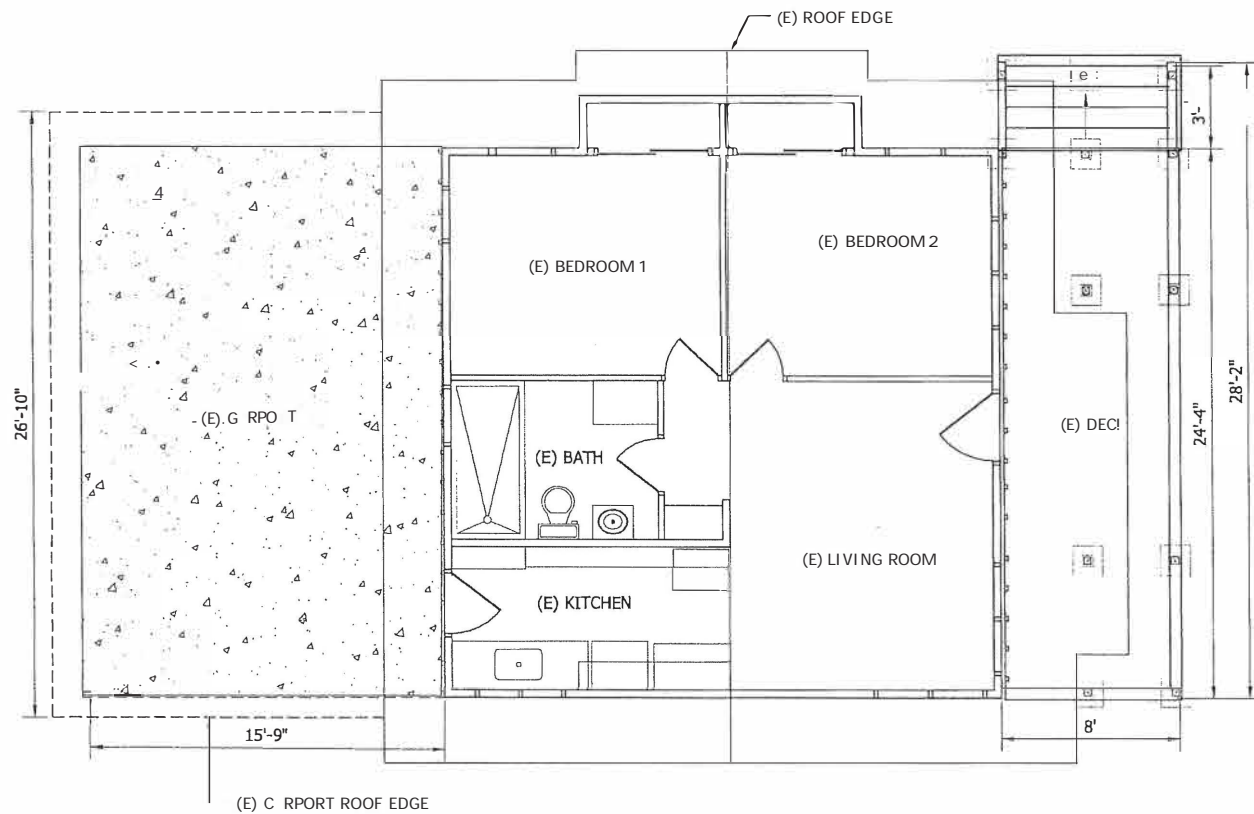
5 BACK ELEVATION  
1/4" = 1'-0"



3 LEFT ELEVATION  
1/4" = 1'-0"



2 EXIST. RIGHT ELEVATION  
1/4" = 1'-0"



1 LIMITED COMMON ELEMENT UNIT #1 - 53-450 KAMEHAMEHA HWY.  
1/4" = 1'-0"



**KAHENA WAI ESTATES**  
53-428 TO 53-458 Kamehameha Hwy.  
Hauula, HI 96717  
TMK: 5-3-005:030, 4.7625 ACRES

REV. #	DATE	DESCRIPTION

SHEET DESCRIPTION  
LIMITED COMMON  
ELEMENT # 1  
53-450 KAMEHAMEHA HWY  
UNIT PLAN  
& ELEVATIONS

SHEET NO. 2  
**S-1**  
OF 6 SHEETS



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# Unit #2

## ABBREVIATIONS

A.B. ANCHOR BOLT	GRD GROUND	SQ SQUARE
A.C. AIR CONDITIONING	GR GRADE	SST STAINLESS STEEL
ACOUS ACOUSTICAL	GYP GYPSUM	S.SK SERVICE SINK
A.D. AREA DRAIN	H HIGH	STA STATION
ADJ ADJUSTABLE	H.B. HOSE BIBB	STD STANDARD
ADJA ADJACENT	H.C. HOLLOW CORE	STL STEEL
A.E.S. ABOVE EXISTING SLAB	HDR HEADER	STOR STORAGE
A.F.F. ABOVE FINISH FLOOR	HDWD HARDWOOD	STRL STRUCTURAL
AGGR AGGREGATE	HDWE HARDWARE	SURR SURROUND
AL ALUMINUM	HORIZ HORIZONTAL	SUSP SUSPENDED
ALT ALTERNATE	HR HOUR	SYM SYMMETRICAL
APPROX APPROXIMATE	HT HEIGHT	
ARCH ARCHITECTURAL	I.D. INSIDE DIAMETER (DIM.)	T.B. TOWEL BAR
ASB ASBESTOS	INCL INCLUSIVE, INCLUDED OR INCLUDING	TEL TELEPHONE
ASPH ASPHALT	INSUL INSULATION	TEMP TEMPERED
	INT INTERIOR	TER TERRAZZO
BD BOARD	JAL JALOUSIE	TONGUE AND GROOVE
BLDG BUILDING	JST JOIST	THR THICK
BLK BLOCK	JT JOINT	THRESHOLD
BLKG BLOCKING		T.O.C. TOP OF CURB
BM BEAM		T.O.F.F. TOP OF FINISHED FLOOR
BOT BOTTOM		T.O.P. TOP OF PAVEMENT
B.R. BEDROOM		T.O.W. TOP OF WALL
BRKT BRACKET		T.P.H. TOILET PAPER HOLDER
		TRD TREAD
CAB CABINET	LAM LAMINATE	TV TELEVISION
C.B. CATCH BASIN	LAV LAVATORY	TYP TYPICAL
CEM CEMENT	L.R. LIVING ROOM	
CER CERAMIC	LT LIGHT	UNF UNFINISHED
C.I. CAST IRON		UNLESS OTHERWISE NOTED
CLG CEILING		UR URINAL
CLKG CAULKING	MAX MAXIMUM	
CLO CLOSET	M.B.R. MASTER BEDROOM	V.A.T. VINYL ASBESTOS TILE
CLR CLEAR	M.C. MEDICINE CABINET	VERT VERTICAL
C.M.U. CONCRETE MASONRY UNIT	MECH MECHANICAL	VEST VESTIBULE
	MEMB MEMBRANE	
CNTR CENTER	MET METAL	W WEST
C.O. CLEAN OUT	MFR MANUFACTURER	W/ WITH
COL COLUMN	MIN MINIMUM	W.C. WATER CLOSET
CONC CONCRETE	MIR MIRROR	WD WOOD
COND CONDITION	MISC MISCELLANEOUS	WDW WINDOW
CONN CONNECTION	M.O. MASONRY OPENING	WH WATER HEATER
CONSTR CONSTRUCTION	MTD MOUNTED	W/O WITHOUT
CONT CONTINUOUS	MTG MOUNTING	WP WATERPROOF
CONTR CONTRACTOR	MUL MULLION	W.R. WATER RESISTANT
CORR CORRIDOR	MWR MILLWORK CONTRACTOR	WSCT WAINSCOT
C.R.M. CONCRETE RUBBLE MASONRY		WT WEIGHT
		W.W.M. WELDED WIRE MESH
CTR CENTER	N NORTH	
CTSK COUNTERSUNK	N.I.C. NOT IN CONTRACT NUMBER	
	NO., # NOMINAL	
	N.T.S. NOT TO SCALE	
D DEEP, DEPTH	O.A. OVERALL	
DBL DOUBLE	OBS OBSCURE	
DET DETAIL	O.C. ON CENTER	
DIA DIAMETER	O.D. OUTSIDE DIAMETER (DIM.)	
DIM DIMENSION	O.F.C.I. OWNER FURNISHED CONTRACTOR INSTALLED	
DISP DISPENSER	OPNG OPENING	
DN DOWN	OPP OPPOSITE	
D.O. DOOR OPENING		
DR DOOR	PC PIECE	
DS DOWNSPOUT	PL PLATE	
DWG DRAWING	P.LAM PLASTIC LAMINATE	
DWR DRAWER	PLAS PLASTER	
	PLBG PLUMBING	
E EAST	PLYWD PLYWOOD	
EA EACH	PNL PANEL	
E.J. EXPANSION JOINT	PR PAIR	
EL ELEVATION	PRCST PRE-CAST	
ELEC ELECTRICAL	PT POINT	
ENCL ENCLOSURE	PTD PAINTED	
E.O. EDGE OF	PTN PARTITION	
E.P. ELECTRICAL PANEL		
EQ EQUAL	R RISER	
EQPT EQUIPMENT	RAD RADIUS	
EXP EXPANSION	R.D. ROOF DRAIN	
EXPO EXPOSED	REF REFERENCE	
EXT EXISTING	REFR REFRIGERATOR	
	REINFR REINFORCED OR REINFORCING	
	REQ REQUIRED	
	RESIL RESILIENT	
	RM ROOM	
	R.O. ROUGH OPENING	
F.A. FIRE ALARM	S SOUTH	
F.D. FLOOR DRAIN	S.C. SOLID CORE	
FDN FOUNDATION	SCHED SCHEDULE	
FIN FINISH	SCR SCREEN	
FL FLOOR	SECT SECTION	
FLASH FLASHING	SH SHELF	
FLUOR FLUORESCENT	SHR SHOWER	
F.O.C. FACE OF CONCRETE	SHT SHEET	
F.O.F. FACE OF FINISH	SIM SIMILAR	
F.O.S. FACE OF STUDS	SL SLOPE	
FPRF FIREPROOF	SLDG SLIDING	
FR FRAME	SPEC SPECIFICATION	
FT FEET		
FTG FOOTING		
FURR FURRING		
FUT FUTURE		
GA GAUGE		
GALV GALVANIZED		
G.B. GRAB BAR		
GL GLASS		

# THE BELLUOMINI RESIDENCE

53-452 UNIT 2 KAMEHAMEHA HWY

HAUULA, HAWAII 96717

T.M.K. 5-3-005-070

## GENERAL NOTES

- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2018 EDITION OF THE INTERNATIONAL RESIDENTIAL CODE AND ALL APPLICABLE STATE AND/OR LOCAL CODES, LAWS, ORDINANCES AND STATUTES. NOTHING IN THE DRAWINGS OR SPECIFICATIONS IS TO BE CONSTRUED AS REQUIRING OR PERMITTING WORK CONTRARY TO THESE RULES, REGULATIONS AND CODES. IF SO, CONTACT THE ARCHITECT FOR RESOLUTION.
- THE DRAWINGS INDICATE LOCATION, DIMENSIONS, REFERENCE AND TYPICAL DETAILS OF CONSTRUCTION. THE DRAWINGS DO NOT ILLUSTRATE EVERY CONDITION. WORK NOT PARTICULARLY DETAILED SHALL BE OF CONSTRUCTION SIMILAR TO PARTS THAT ARE DETAILED.
- DO NOT SCALE THE DRAWINGS. EXISTING CONDITIONS SHALL BE VERIFIED IN THE FIELD. WHERE DISCREPANCIES BETWEEN THE DRAWING DIMENSIONS AND THE FIELD CONDITIONS OCCUR, THEY SHALL BE REPORTED TO THE ENGINEER FOR RESOLUTION.
- ALL DIMENSIONS AT EXTERIOR WALLS ARE TAKEN TO THE FACE OF STUDS, U.O.N. ALL DIMENSIONS AT INTERIOR WALLS ARE TAKEN TO THE CENTER OF STUDS, U.O.N. ALL CLEAR DIMENSIONS FROM FACE OF FINISHES.
- DETAILED DRAWINGS AND LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALL SCALE DRAWINGS. PREFERENCE SHALL BE GIVEN TO THE FIGURED DIMENSIONS ON THE DRAWINGS, GENERAL NOTES AND SPECIFICATIONS WHICH ARE INTENDED TO AGREE AND SUPPLEMENT EACH OTHER. ANYTHING INDICATED ON ONE AND NOT IN THE OTHER SHALL BE EXECUTED AS IF ON BOTH. IN CASES OF DIRECT CONFLICT, THE MOST RESTRICTIVE SHALL GOVERN (CONTACT ENGINEER FOR RESOLUTION).
- ALL CONTRACTORS SHALL VISIT THE SITE AND VERIFY THAT ALL EXISTING CONDITIONS AGREE WITH THE INFORMATION SHOWN. ALL CONTRACTORS SHALL BE DEEMED TO HAVE INSPECTED THE SITE AND SATISFIED THEMSELVES AS TO THE TRUE CONDITION UNDER WHICH THE WORK IS TO BE PERFORMED. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL PATCH OR REPAIR ALL MATERIALS, EQUIPMENT AND SURFACES DAMAGED BY CONTRACTOR OR HIS SUB CONTRACTORS DURING THE EXECUTION OF THE WORK.
- THE CONTRACTOR SHALL CLEAN UP DEBRIS AS THE WORK PROGRESSES. PROVIDE FOR TRASH REMOVAL FROM THE SITE. FINAL CLEANING AFTER SUBSTANTIAL COMPLETION, BUT PRIOR TO FINAL INSPECTION, SHALL INCLUDE A THOROUGH CLEANING OF ALL SURFACES INSTALLED. ALL EXCESS MATERIAL, DEBRIS, TRASH, ETC. SHALL BE REMOVED FROM THE SITE.

## PROJECT DATA

OWNER:	CARY BELLUOMINI
PROJECT ADDRESS:	53-452 UNIT 2 KAMEHAMEHA HWY HAUULA, HAWAII 96717
T.M.K.:	5-3-005-070
OCCUPANCY:	RESIDENTIAL
ZONING:	R-5, AG-2
FLOOD	VE, AE, X
LOT AREA:	211,397 SQ. FT.

## CONSULTANTS

SHEET INDEX	
000	TITLE SHEET
A001	C.P.R. PLOT PLAN
A002	GENERAL NOTES, EXISTING/DEMO PLAN, PLOT PLAN
A003	FLOOR PLAN & EXTERIOR ELEVATIONS
A004	FNDN PLAN/ FLOOR FRAMING PLAN, ROOF FRAMING PLAN, & CROSS SECTION A

## LUO DATA TABLE

### BUILDING AREA CALCULATIONS

MAX ALLOWABLE BLDG. FOOTPRINT AREA :	105,698.5 SQ. FT.
EX. LIVING AREA :	552 SQ. FT.
EX. EXTERIOR STAIRS/LANDING AREA :	26 SQ. FT.
NEW EXTERIOR STAIRS AREA :	22 SQ. FT.
NEW COMBINED COVERED LANAI AREA :	595 SQ. FT.
TOTAL BUILDING FOOTPRINT AREA :	1,195 SQ. FT. OR 0.006%

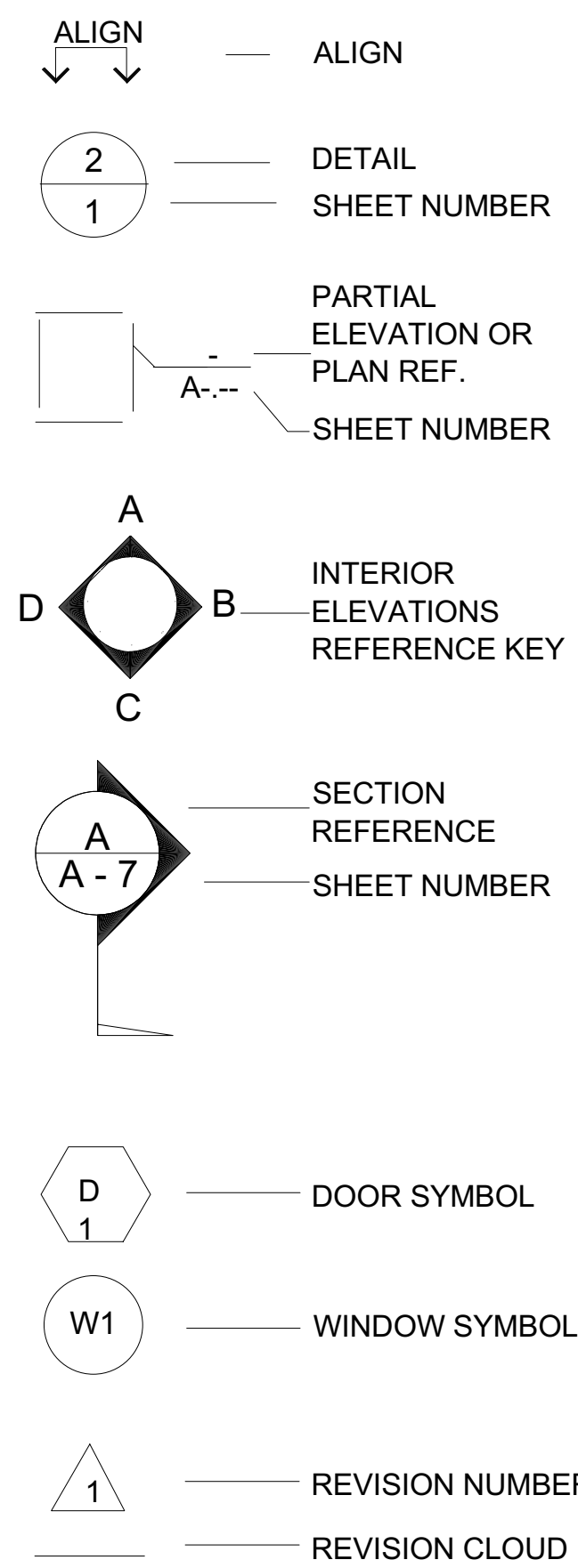
### FLOOR AREA CALCULATIONS

MAX ALLOWABLE FLOOR AREA : (.70 X LOT AREA)	147,977.9 SQ. FT.
EX. FLOOR AREA :	552 SQ. FT.
PROPOSED NEW FLOOR AREA :	595 SQ. FT.
TOTAL FLOOR AREA :	1,147 SQ. FT. OR 0.005%

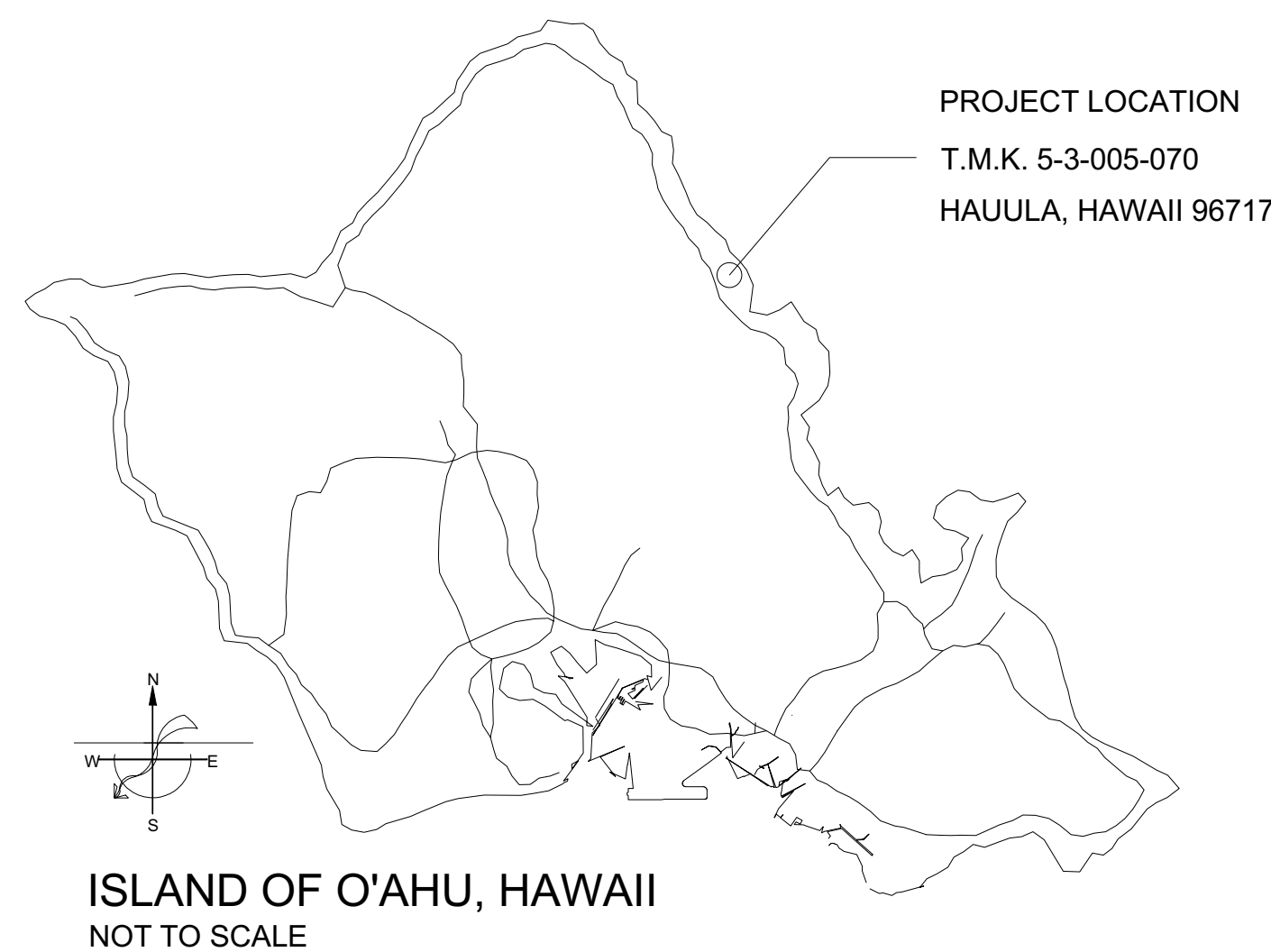
### FLOOR AREA CALCULATIONS

PARKING REQUIRED :	2 STALLS
PARKING PROVIDED :	2 STALLS

## SYMBOLS



## VICINITY MAP



A PROPOSED NEW ADDITION FOR:  
**MR. CARY BELLUOMINI**  
 ADDRESS: 53-452 UNIT 2 KAMEHAMEHA HWY, HAUULA, HI 96717  
 T.M.K. 5-3-005-070

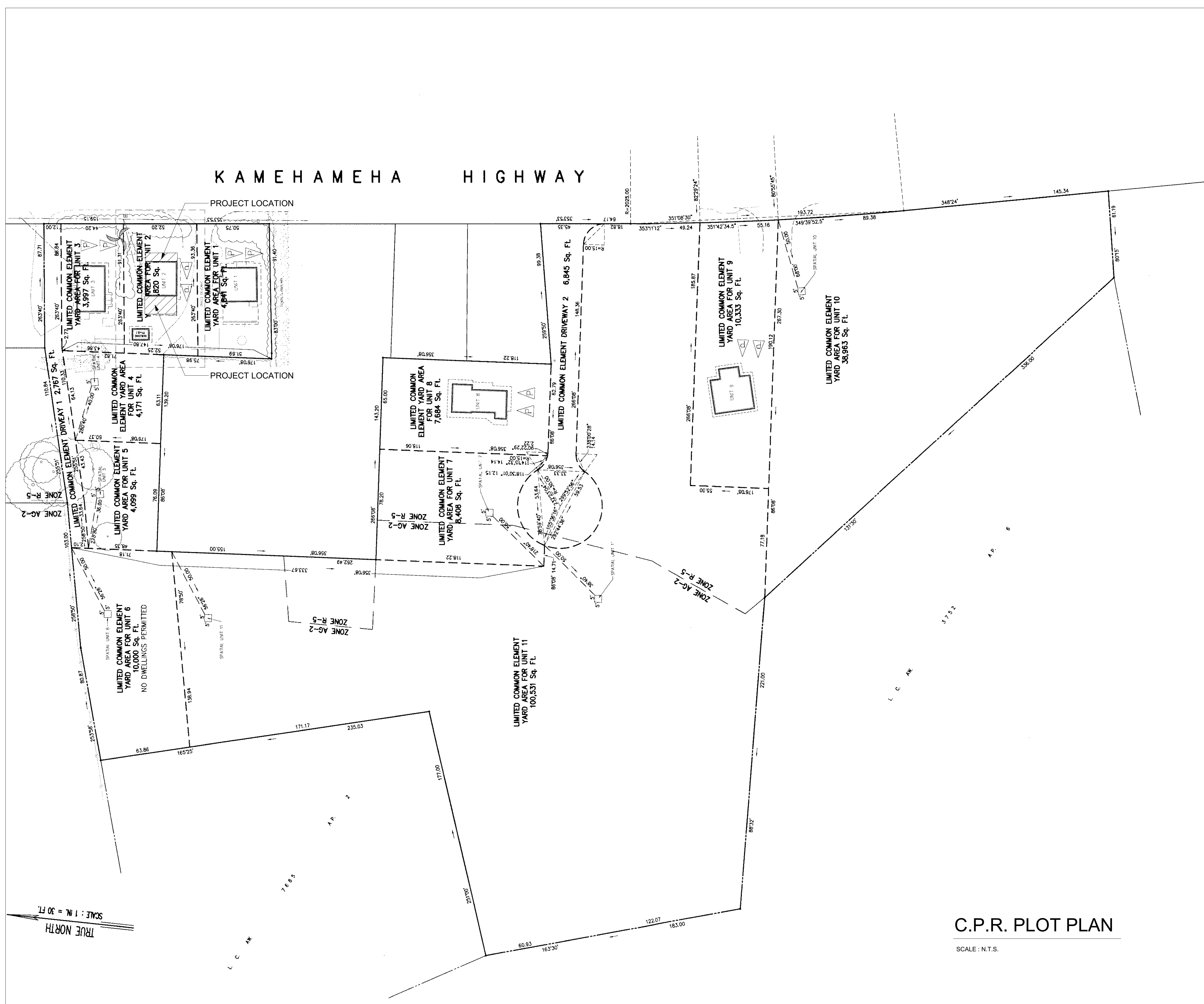


DATE

**2/15/2024**

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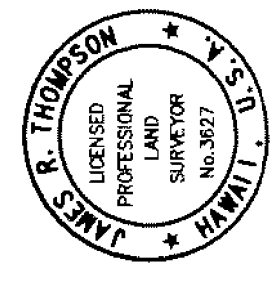
**000**  
OF 5 SHEETS



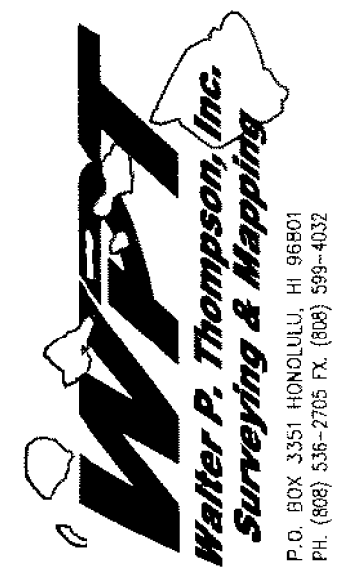
**C.P.R. PLOT PLAN**

SCALE: N.T.S.

- NOTES:
- 1) UNITS 4 THROUGH 7, 10 AND 11 ARE NOT STRUCTURES BUT ARE A SPATIAL PORTION OF THE PROJECT CONSISTING OF A CURB. SUCH MAY BE REPLACED BY A CURB OR DRIVEWAY IN ACCORDANCE WITH THE DECLARATION OF CONDOMINIUM.
  - 2) DASHED LINES REPRESENT DIVISION OF LIMITED COMMON ELEMENT AREAS APPURTENANT TO THE UNITS AND DO NOT REPRESENT SUBDIVIDED LOTS.
  - 3) REPRESENTS AN 8' X 16' PARKING STALL.



THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION  
*Walter P. Thompson*  
Exp. 04/30/18



**"KAHENA WAI ESTATES"**  
CONDOMINIUM PROJECT  
PORTION GRANT 879 TO L.S. UA  
AND R. P. 4939, L.C. AW. 3752  
AP. 2 TO UKEKE AND  
PORTION L.C. AW. 10185 AP. 3 TO MAKAIA  
AT KAPANO, KOOLAULOA, OAHU, HAWAII  
SCALE: 1 IN. = 30 FT.  
FEBRUARY 14, 2018 WALTER P. THOMPSON, INC.

**A PROPOSED NEW ADDITION FOR:**  
**MR. CARY BELLUOMINI**  
ADDRESS: 53-452 UNIT 2 KAMEHAMEHA HWY, HAUULA, HI 96717  
T.M.K. 5-3-005-070



DATE  
**3/12/2024**  
SHEET NO.

**A001**  
OF 5 SHEETS



**From:** [DON CORBIN](#)  
**To:** [Roy Irej](#); [cjhawaii@yahoo.com](mailto:cjhawaii@yahoo.com)  
**Subject:** Punaluu SMA Unit 2  
**Date:** Tuesday, March 19, 2024 2:02:35 PM  
**Attachments:** [000 TITLE SHEET.pdf](#)  
[A001 CPR PLOT PLAN.pdf](#)  
[A002 PARTIAL PLOT PLAN.pdf](#)  
[A003 FLOOR PLAN.pdf](#)  
[A004 CROSS SECTION.pdf](#)

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You don't often get email from [dbl\\_bluehawaii@yahoo.com](mailto:dbl_bluehawaii@yahoo.com). [Learn why this is important](#)

Roy,

Thank you for taking my call today and taking the time to speak with me about this project.

Here are the files we submitted to the DPP for Unit 2 which belongs to Mr. Cary Belluomini.

His phone number is **808-349-7430**

Cary,

Roy's number is 808-460-0006

Roy would like to know if you have a notice of violation letter.

He can fill you in on the blanks regarding the SMA application and how we will fit into it with them.

Please contact each other so that we can all be on the same page, also I would like to know about the developments as they arise as well.

Sincerely,

Donald Corbin

[Blue Hawaii Designs](#)  
[900 N. Nimitz Hwy., Suite 303](#)  
[Honolulu, HI 96817](#)  
[Cellular - 808-927-4123](#)

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# CONTRACTOR GENERAL NOTES

- ALL WORK SHALL BE IN STRICT ACCORDANCE WITH 2018 I.R.C., STATE, AND LOCAL BUILDING CODES.
- THE CONTRACTOR SHALL VERIFY APPROVED JOBSITE BLUEPRINTS, SITE DIMENSIONS, AND PLAN DIMENSIONS, BEFORE COMMENCEMENT OF ANY WORK. CONTRACTOR SHALL NOTIFY DESIGNER OR ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO STARTING CONSTRUCTION. AT NO TIME SHALL THE CONTRACTOR / BUILDER SCALE THE DRAWINGS TO DETERMINE ANY DIMENSION. IN THE CASE OF A MISSING, OR DISCREPANT DIMENSION, CONTRACTOR / BUILDER SHALL CONTACT DESIGNER FOR CLARIFICATION. CONTRACTOR SHALL NOT PROCEED WITH ANY WORK, WITH ANY DISCREPANCY UNRESOLVED.
- CONTRACTOR SHALL VERIFY THE SITE AND ALL INFORMATION INCLUDING DISTANCE, LOT DIMENSIONS AND EXACT PROPERTY LINES TO ACCURATELY LOCATE PROPOSED PROJECT WITHIN THE MINIMUM REQUIRED SETBACK AREA.
- CONTRACTOR SHALL PROTECT ADJOINING LAND, BUILDING AND OTHER IMPROVEMENTS SITUATED THEREON. ANY DAMAGES OCCURRED SHALL BE REPAIRED AT NO COST TO THE OWNER OR ARCHITECT OR ENGINEER.
- ANY CONDITIONS, MATERIALS, DEVICES, OR DETAILS NOT SPECIFICALLY SHOWN ON THE DRAWINGS OR SPECIFIED SHALL BE CLARIFIED WITH THE DESIGNER OR ENGINEER BEFORE BIDDING, CONSTRUCTION, INSTALLATION, AND COMPLETION. AT NO TIME SHALL THE CONTRACTOR ARBITRARILY, OR UNILATERALLY MAKE CHANGES TO ANY STRUCTURAL COMPONENT AS CERTIFIED ON PLANS BY THE ENGINEER OF RECORD.
- ALL FINISHED GRADE LEVELS AND/OR SPOT ELEVATIONS ARE ASSUMED TO BE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL CONDITIONS.
- IF SOFT OR EXPANSIVE SOIL IS ENCOUNTERED THE SOIL SHALL BE REMOVED AND REPLACED WITH NON-EXPANSIVE STRUCTURAL FILL COMPACTED TO 95% AS PER ASTM D-1557.
- FOUNDATION DESIGN IS FOR SOIL WITH BEARING PRESSURE OF 2000 P.S.F. (NON-ADOB).E).
- ALL CONCRETE SHALL HAVE A 28 DAY COMPRESSION STRENGTH OF 3000 P.S.I.
- ALL REINFORCED STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE MESH TO BE A-185 OR EQUAL, AND HAVE A MIN. 2" SIDE COVERING & A MIN. 3" BTM. COVERING OF CONCRETE
- ALL FOOTINGS SHALL REST ON FIRM UNDISTURBED SOIL.
- GROUND TO BE CHEMICALLY TREATED FOR TERMITES PER 2018 I.R.C. SECTION R-318 "AS AMENDED" BY A QUALIFIED BONDED CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND SHORING FOR ALL STRUCTURAL MEMBERS DURING ALL PHASES OF CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY FLASHING, CAULKING, AND WATERPROOFING ETC. TO ENSURE A WEATHER TIGHT FINISH AS PER STANDARD PRACTICE, AS PER 2018 I.R.C. SEC. R-703 & SEC. R-903
- ALL LUMBER SHALL BE DOUGLAS FIR #1 WOLMANIZED PRESSURE TREATED OR BETTER. AS PER 2018 I.R.C. SEC. R-317 AS AMENDED
- ALL FRAMING MEMBERS, RAFTERS, JOISTS, AND BEAMS SHALL BE FASTENED WITH "SIMPSON" METAL CONNECTORS (OR EQUAL) TO PROVIDE A CONTINUOUS LOAD PATH FROM ROOF TO FOUNDATION TO RESIST HIGH WIND FORCES.
- CONTRACTOR SHALL USE METAL HURRICANE CLIPS "SIMPSON" H-10A @ EACH RAFTER OR TRUSS @ 24" O.C. (EXTERIOR OF WALL) AS PER ENGINEER
- UNLESS OTHERWISE SHOWN, THE SHEATHING NAIL SHALL BE IN ACCORDANCE WITH TABLE R-602.3 (1)
- ALL HANDRAILS SHALL BE 34" MIN. & 38" MAX. IN HEIGHT AND SHALL BE INSTALLED AS PER 2018 I.R.C. SEC. 311
- ALL WINDOWS AT BEDROOMS SHALL HAVE A MINIMUM SILL HEIGHT OF 44" AND A MINIMUM NET CLEAR AND OPENABLE AREA OF 5.7 SQUARE FEET, 24" HEIGHT MINIMUM AND 20" WIDTH MINIMUM AS PER I.R.C.
- WALL COVERING ON STUDWALLS NOTED AS SHEARWALLS SHALL BE CONTINUED UP TO ROOF DECKING.
- EXTERIOR SHEETING SHALL BE NAILED W/ 8d NAILS @ 6" O.C. AT EDGES W/ 8d @ 12" O.C. IN FIELD.
- GYPSUM BOARD SHEARWALLS SHALL BE NAILED W/ 5d COOLER NAILS @ 4" O.C.
- PAINT ALL NEW INTERIOR AND EXTERIOR SURFACES (COLOR SELECTION BY OWNER) UNLESS OTHERWISE AGREED BETWEEN OWNER AND CONTRACTOR.
- ALL WALLS AND CEILINGS FOR BATH AREAS OR EXTERIOR DRYWALL TO BE APPROVED WATERPROOF TYPE GYPSUM BOARD.

26. THE ARCHITECT OR ENGINEER IS NOT RESPONSIBLE FOR THE CONTRACTORS METHODS, PROCEDURES, OR CONDITIONS ON JOBSITE THAT MAY DEVELOP DUE TO CONTRACTOR NOT FOLLOWING PLANS.

27. THE DRAWINGS INTEND TO SHOW FINISHED CONCEPT ONLY. CHANGES TO THE DRAWINGS ARE REQUIRED DUE TO UNFORESEEN CONDITIONS.

28. WINDOW HEADERS SHALL BE 4X6 AND DOOR HEADERS SHALL BE 4X8 MINIMUM UNLESS OTHERWISE NOTED, OR AS PER 2018 I.R.C. SEC. R-602.7

29. ALL NEW BEDROOMS & HALLWAYS SHALL HAVE A U.L. APPROVED ELECTRIC SMOKE DETECTOR WITH BATTERY BACK-UP. ALL EXISTING BEDROOMS AND HALLWAYS SHALL HAVE A BATTERY APPROVED SMOKE DETECTOR. TYP. AND SHALL HAVE INTERCONNECTED WIRING WHERE NEW INSTALLATION OCCURS AS PER 2018 I.R.C. SEC. 314 SMOKE ALARMS 2018 I.R.C. SECTION R-315 / CARBON MONOXIDE ALARMS

30. THE ALARM DEVICES SHALL BE INTERCONNECTED IN A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN INDIVIDUAL UNITS. THE ALARM SHALL BE CLEARLY AUDIBLE IN ALL BEDROOMS OVER BACKGROUND NOISE W/ ALL INTERVENING DOORS CLOSED. EXCEPTIONS: SMOKE ALARM IN EXISTING AREAS NOT REQUIRED TO BE INTERCONNECTED OR HARDWIRED WHERE THE ALTERATIONS OR REPAIRS DO NOT RESULT IN INTERIOR WALL, OR CEILING, REMOVAL

31. CONTRACTOR SHALL INSTALL DOUBLE FLOOR JOIST UNDER ALL PARTITION WALLS RUNNING PARALLEL WITH JOISTS.

32. CONTRACTOR SHALL NOTIFY ENGINEER 2 DAYS IN ADVANCE WHEN SHEAR WALLS AND THE DOWNS FOR CONTINUOUS LOAD PATHS CAN BE INSPECTED

33. OWNER OR CONTRACTOR MUST NOTIFY ENGINEER 48 HOURS PRIOR TO POURING CONCRETE AND CLOSING OF ALL WALLS FOR INSPECTION. IF ANY WALLS ARE CLOSED IN BEFORE AN INSPECTION IS MADE CONTRACTOR MAY BE ASKED BY BUILDING INSPECTOR OR THE ENGINEER TO RE-OPEN THE WALLS AT CONTRACTOR'S OWN EXPENSE.

34. ANY STRUCTURAL CHANGES BY THE CONTRACTOR MUST BE APPROVED BY THE ENGINEER BEFORE IMPLEMENTATION

35. CONTRACTOR SHALL VERIFY APPROVED JOB-SITE PLANS, PRIOR TO COMMENCEMENT, CONTRACTOR SHALL NOTIFY ARCHITECT OR ENGINEER OF ANY CONFLICTS PRIOR TO STARTING WORK.

36. CONTRACTOR SHALL VERIFY ALL FINISH MATERIALS, WINDOW SIZES, WINDOW TYPES, ETC. BEFORE TURNING IN FINAL BID.

37. IN THE CASE OF THE OWNER/BUILDER PERFORMING AS THE CONTRACTOR: THE OWNER/BUILDER SHALL BE RESPONSIBLE FOR ANY AND ALL OF THE RESPONSIBILITIES OF THE GENERAL CONTRACTOR, AND OR, THE PERFORMANCE, AND METHODS OF ANY SUB-CONTRACTORS, FOR WORK BEING PERFORMED ON THE PROJECT, AS NOTED IN THESE GENERAL NOTES, AND ON THESE DRAWINGS AS APPROVED BY THE ENGINEER OF RECORD, THE CITY & COUNTY OF HONOLULU AND AS PER THE 2018 I.R.C.

38. FAILURE OF CONTRACTOR TO ABIDE BY THE GENERAL NOTES AND, OR, THE CONSTRUCTION DRAWINGS AS STIPULATED, IS SOLE RESPONSIBILITY OF THE CONTRACTOR. THE DESIGNER OR ENGINEER ARE NOT LIABLE OR RESPONSIBLE FOR CONTRACTORS METHODS OR CONSTRUCTION PRACTICES. SHOULD THE CONTRACTOR FAIL TO MEET THE GENERAL REQUIREMENTS AS PUT FORTH IN THESE NOTES, AND ON THE CONSTRUCTION DOCUMENTS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CORRECT ALL MISTAKES AND OR OMISSIONS AT HIS OWN COST. THE DESIGNER AND ENGINEER WILL NOT BE LIABLE FOR CONTRACTOR'S ERROR.

39. THESE NOTES ARE LEGAL AND BINDING AS TO THE CONTRACTORS RESPONSIBILITIES AND JOB PERFORMANCE. IT IS THE CONTRACTOR'S DUTY AND RESPONSIBILITY TO ABIDE BY THESE GENERAL NOTES AND REQUIREMENTS.

CONTRACTOR SIGNATURE:  
SIGNIFYING I HAVE READ, UNDERSTAND, AND AGREE TO ABIDE BY ALL NOTES, DRAWINGS, AND DETAILS, AS PUT FORTH BY THESE PLANS

## WINDBORNE DEBRIS PROTECTION

R301.2.1.2 PROTECTION OF OPENINGS. EXTERIOR GLAZING IN BUILDINGS LOCATED IN WINDBORNE DEBRIS REGIONS SHALL BE PROTECTED FROM WINDBORNE DEBRIS. GLAZED OPENING PROTECTION FOR WINDBORNE DEBRIS SHALL MEET THE REQUIREMENTS OF THE LARGE MISSILE TEST OF ASTM E1996 AND ASTM E1886 AS MODIFIED IN SECTION 301.2.1.2.1. GARAGE DOOR GLAZED OPENING PROTECTION FOR WINDBORNE DEBRIS SHALL MEET THE REQUIREMENTS OF AN APPROVED IMPACT-RESISTING STANDARD OR ANSIDASMA 115.

EXCEPTION: WOOD STRUCTURAL PANELS WITH A THICKNESS OF NOT LESS THAN 1/4" INCH (11MM) AND A SPAN OF NOT MORE THAN 8 FEET (2438 MM) SHALL BE PERMITTED FOR OPENING PROTECTION. PANELS SHALL BE PRECUT AND ATTACHED TO THE FRAMING SURROUNDING THE OPENING CONTAINING THE PRODUCT WITH THE GLAZED OPENING. PANELS SHALL BE PREDRILLED AS REQUIRED FOR THE ANCHORAGE METHOD AND SHALL BE SECURED WITH THE ATTACHMENT HARDWARE PROVIDED. ATTACHMENTS SHALL BE DESIGNED TO RESIST THE COMPONENT AND GLAZING LOADS DETERMINED IN ACCORDANCE WITH EITHER TABLE R301.2(2) OR ASCE 7, WITH THE PERMANENT CORROSION-RESISTANT ATTACHMENT HARDWARE PROVIDED AND ANCHORS PERMANENTLY INSTALLED ON THE BUILDING. ATTACHMENT IN ACCORDANCE WITH TABLE R301.2.1.2 IS PERMITTED FOR BUILDINGS WITH A MEAN ROOF HEIGHT OF 45 FEET (13 728 MM) OR LESS WHERE THE ULTIMATE DESIGN WIND SPEED,  $V_w$ , IS 180 MPH (290 KPH) OR LESS.

TABLE R301.2.1.2 WIND-BORNE DEBRIS PROTECTION FASTENING SCHEDULE FOR WOOD STRUCTURAL PANELS

FASTENER TYPE	FASTENING SPACE		
	PANEL SPAN ≤ 4 FEET	4 FEET < PANEL SPAN ≤ 6 FEET	6 FEET < PANEL SPAN ≤ 8 FEET
NO. 8 WOOD-SCREW-BASED ANCHOR WITH 2-INCH EMBEDMENT LENGTH	16	10	8
NO. 10 WOOD-SCREW-BASED ANCHOR WITH 2-INCH EMBEDMENT LENGTH	16	12	9
1/2-INCH LAG-SCREW-BASED ANCHOR WITH 2-INCH EMBEDMENT LENGTH	16	16	16

## R.S.W.M.P. NOTES

RESIDENTIAL STORM WATER MANAGEMENT NOTES FOR SINGLE-FAMILY AND TWO-FAMILY DWELLING PROJECTS:

(i) USE SITE DESIGN STRATEGIES TO REDUCE THE IMPERVIOUS SURFACE AREAS TO THE MAXIMUM EXTENT PRACTICAL. THE TOTAL IMPERVIOUS SURFACE AREA FOR THE LOT MAY NOT EXCEED 75%, PER LUO SECTION 21-3.70.1(G).

(ii) TOTAL IMPERVIOUS AREA = **38.3 %**.

## PUBLIC HEALTH, SAFETY, AND CONVENIENCE NOTES:

1. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF THE PUBLIC HEALTH AND SAFETY AND ENVIRONMENTAL QUALITY.

2. THE CONTRACTOR, AT HIS OWN EXPENSE SHALL KEEP THE PROJECT AND ITS SURROUNDING AREAS FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.

3. NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION ACTIVITY SO AS TO CAUSE FALLING ROCK, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.

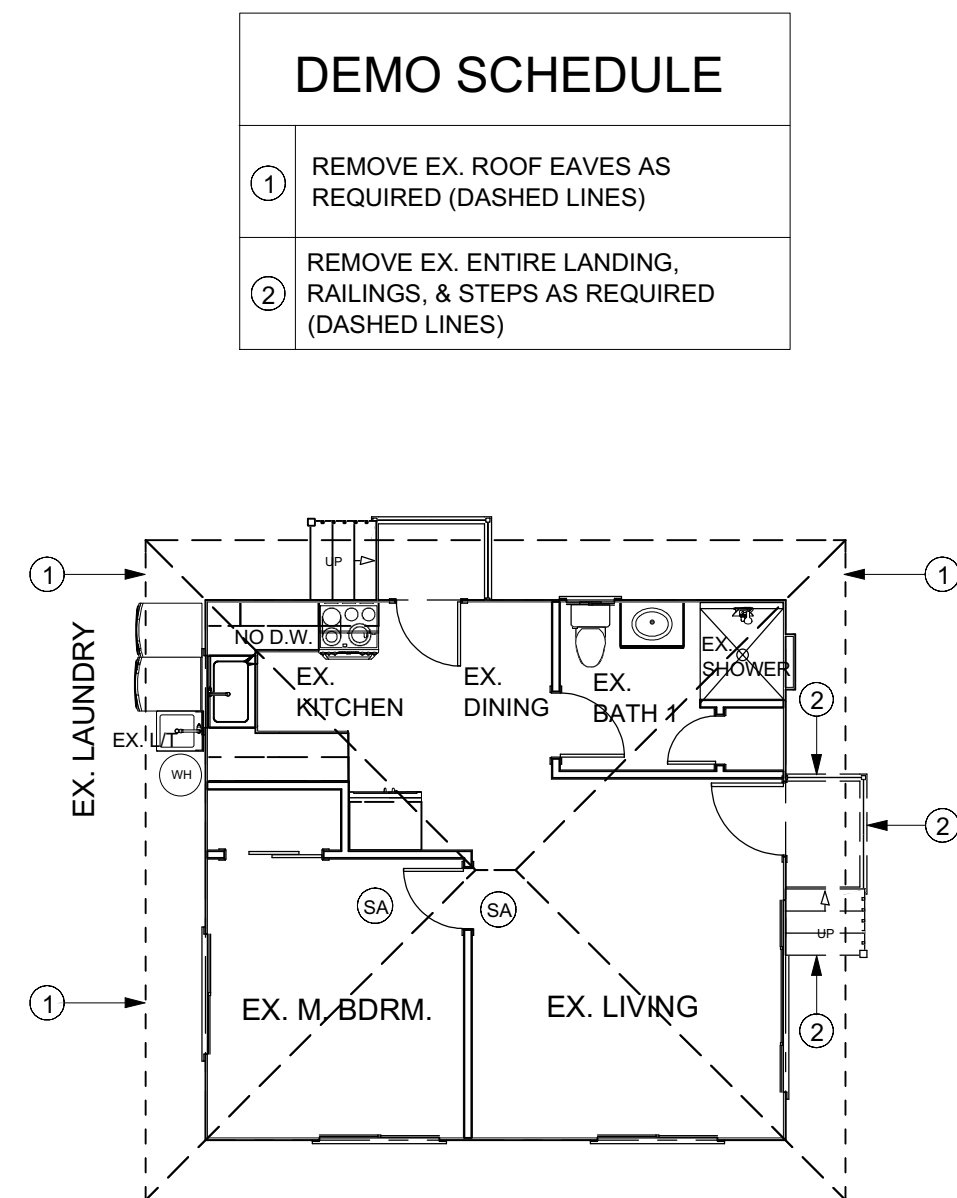
4. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES AND OTHER PROTECTIVE FACILITIES AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION, CONVENIENCE AND SAFETY OF THE PUBLIC. THE CONTRACTOR SHALL APPLY FOR A CONSTRUCTION PERMIT WITH A NOISE POLLUTION CONTROL PLAN.

## ESCP INSPECTION NOTES:

1. AT LEAST TWO WEEKS BEFORE THE BEGINNING CONSTRUCTION, THE CONTRACTOR OR THE PERSON IN CHARGE OF CONSTRUCTION SHALL NOTIFY THE STORM WATER INSPECTOR LISTED ON THE BUILDING PERMIT.

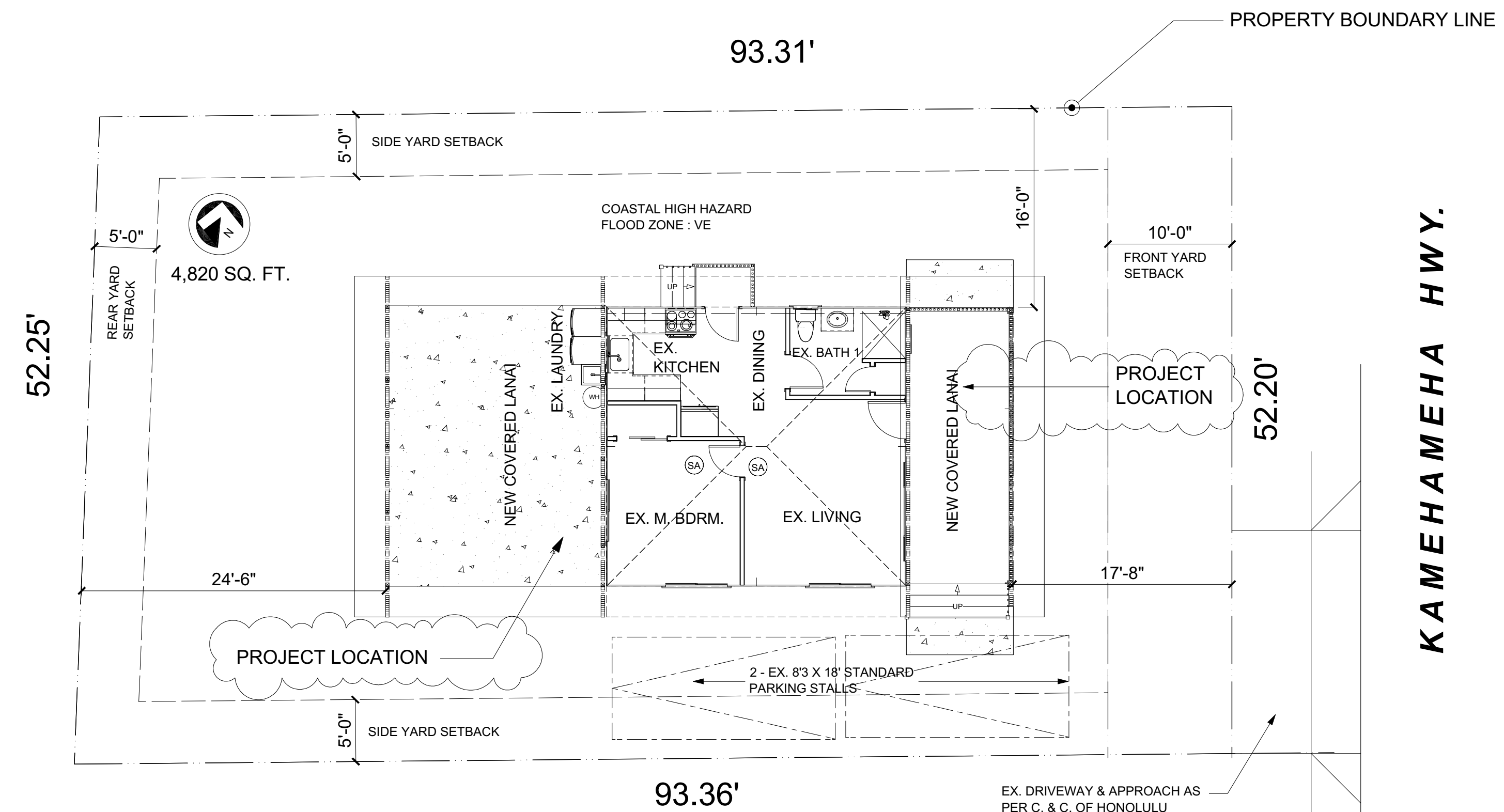
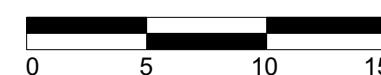
2. AFTER INSTALLING THE CONSTRUCTION BMPS AND MOBILIZING ANY CONSTRUCTION APPARATUS IN ACCORDANCE WITH THE APPROVED ESCP (OR APPENDIX B - ESCP FOR SMALL PROJECT TEMPLATE), THE CONTRACTOR OR THE PERSON IN CHARGE OF CONSTRUCTION SHALL CONTACT THE ESCP COORDINATOR LISTED ON THE BUILDING PERMIT, FOR A PRE-CONSTRUCTION INSPECTION.

3. THE ESCP COORDINATOR SHALL SUBMIT THE PRE-CONSTRUCTION INSPECTION CHECKLIST TO THE STORM WATER INSPECTOR (EMAIL TO DPP.NPDES@HONOLULU.GOV) CONFIRMING THE BMPS AND GOOD HOUSE KEEPING MEASURES ARE IN COMPLIANCE.



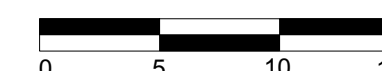
## EXISTING / DEMO PLAN

SCALE : 1/8" = 1'-0"



## PARTIAL PLOT PLAN

SCALE : 1/8" = 1'-0"



A PROPOSED NEW ADDITION FOR:

**MR. CARY BELLUOMINI**

ADDRESS: 53-452 UNIT 2 KAMEHAMEHA HWY, HAUJULA, HI 96717  
T.M.K. 5-3-005-070

Blue Hawaii  
Drafting Services

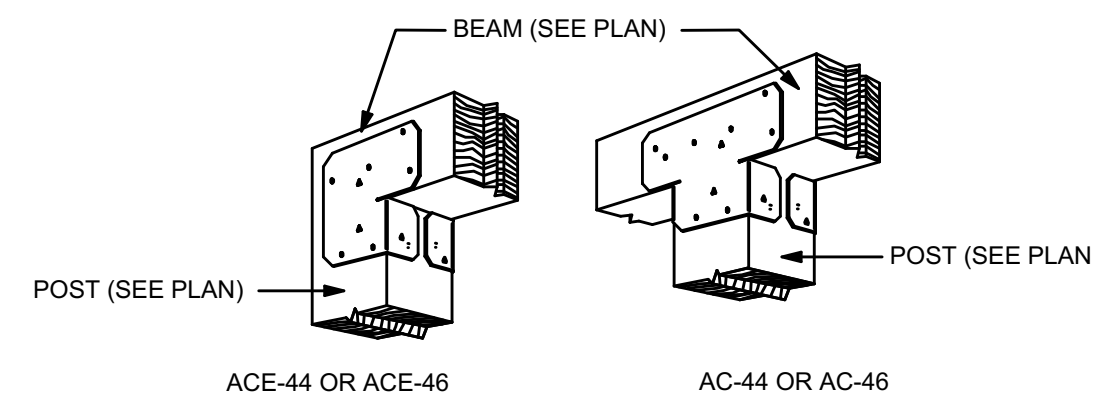


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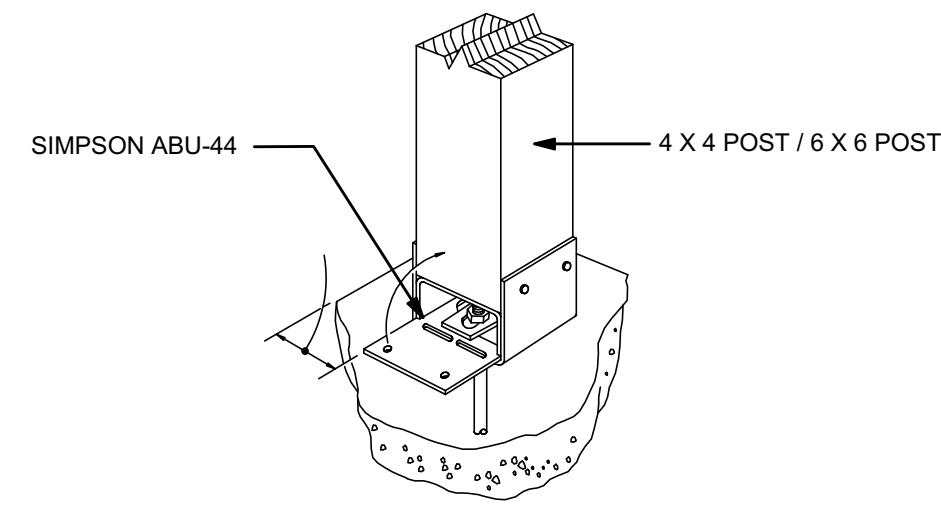
**3/12/2024**

SHEET NO.

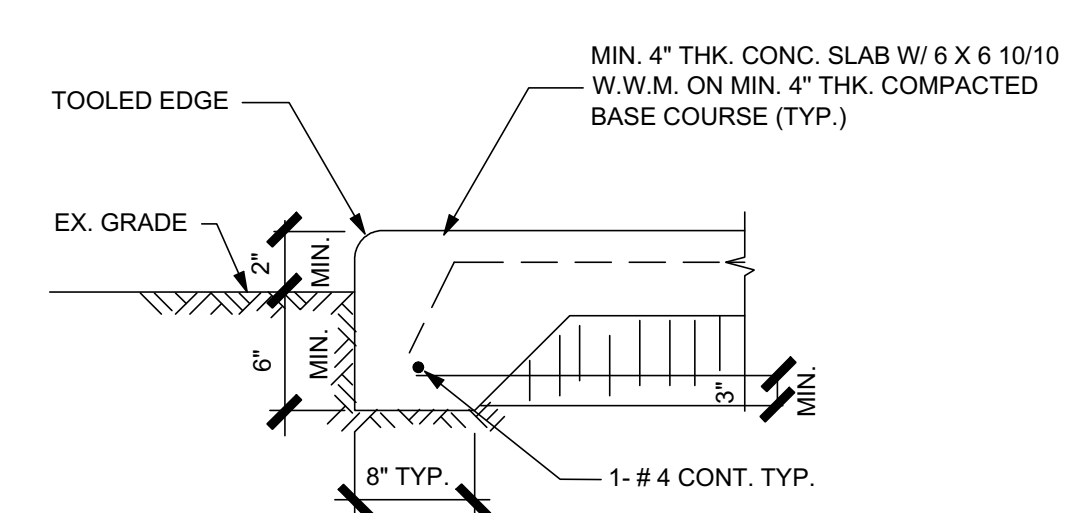
**A002**  
OF 5 SHEETS



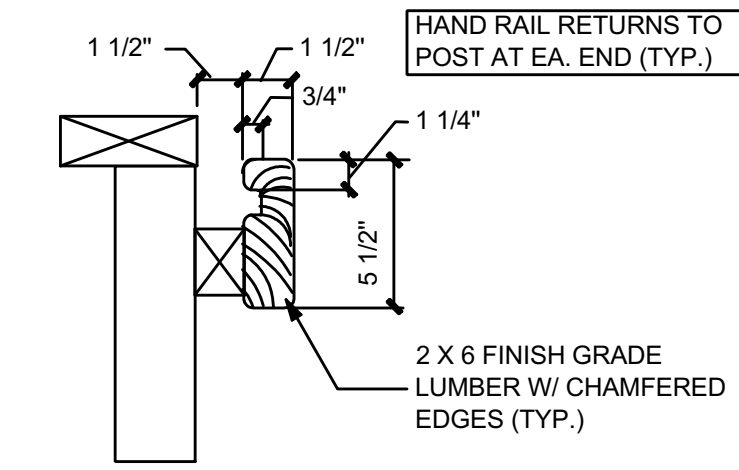
**4**  
A003  
N.T.S.  
**BM TO COLUMN CONNECTION**



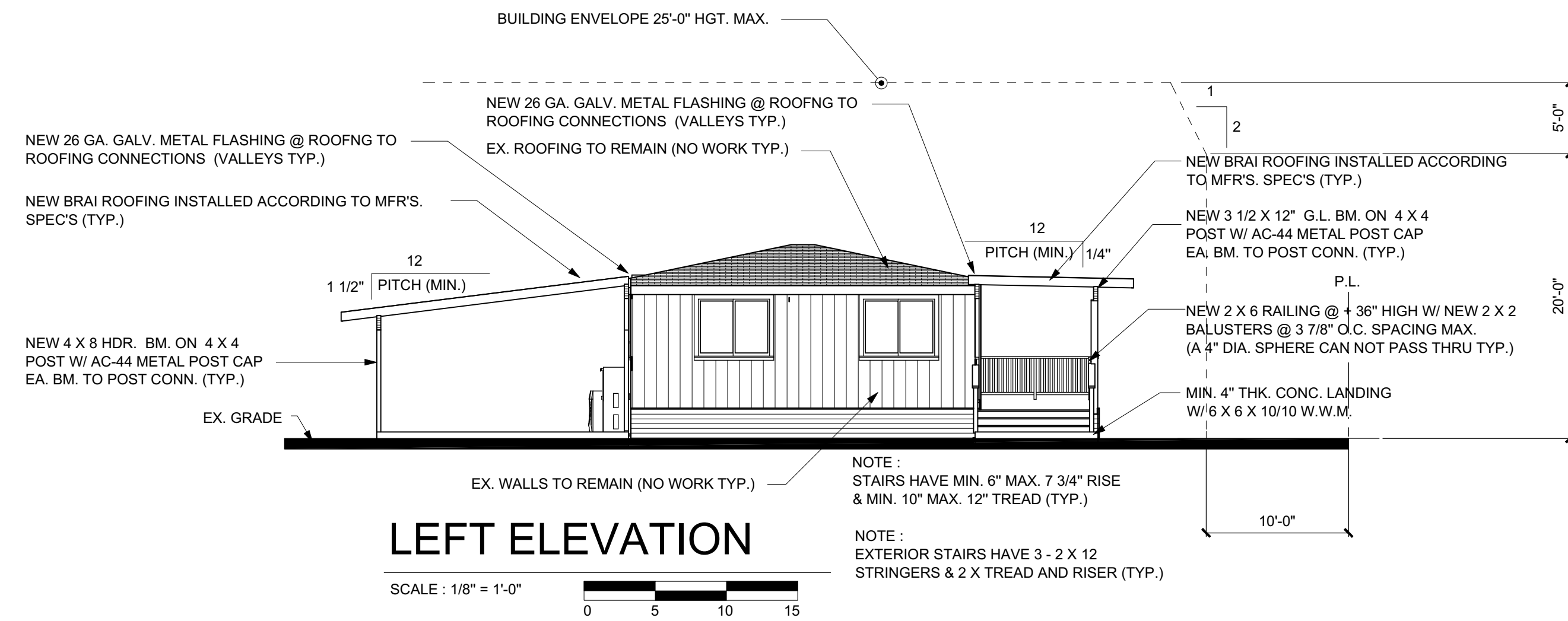
**3**  
A003  
N.T.S.  
**POST BASE ABU-44 / ABU-66**



**2**  
A003  
N.T.S.  
**THICKENED EDGE FT'G. DETAIL**

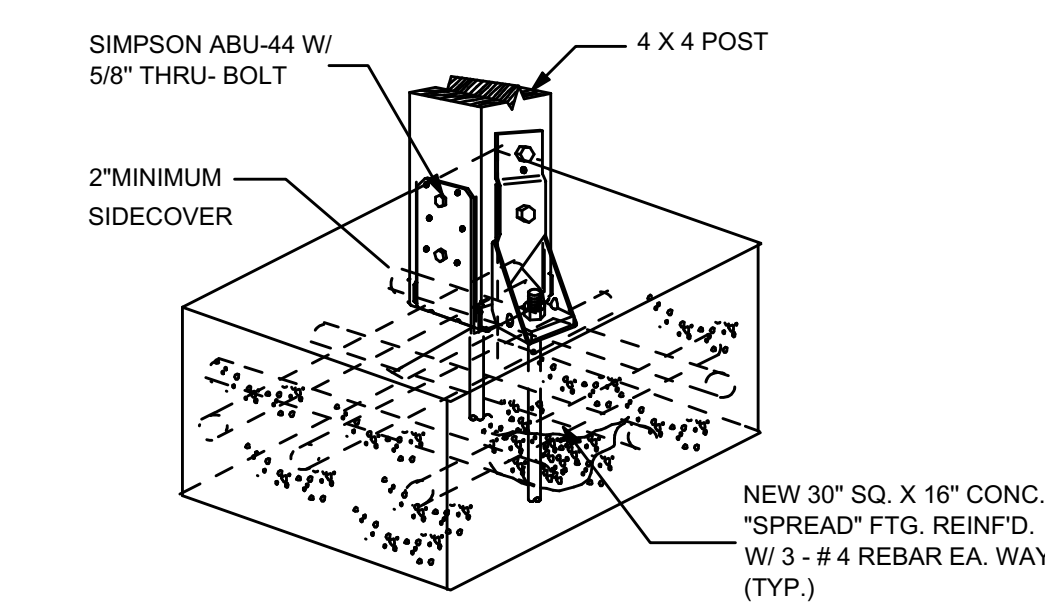


**1**  
A003  
N.T.S.  
**EXT. HAND RAIL DETAIL**

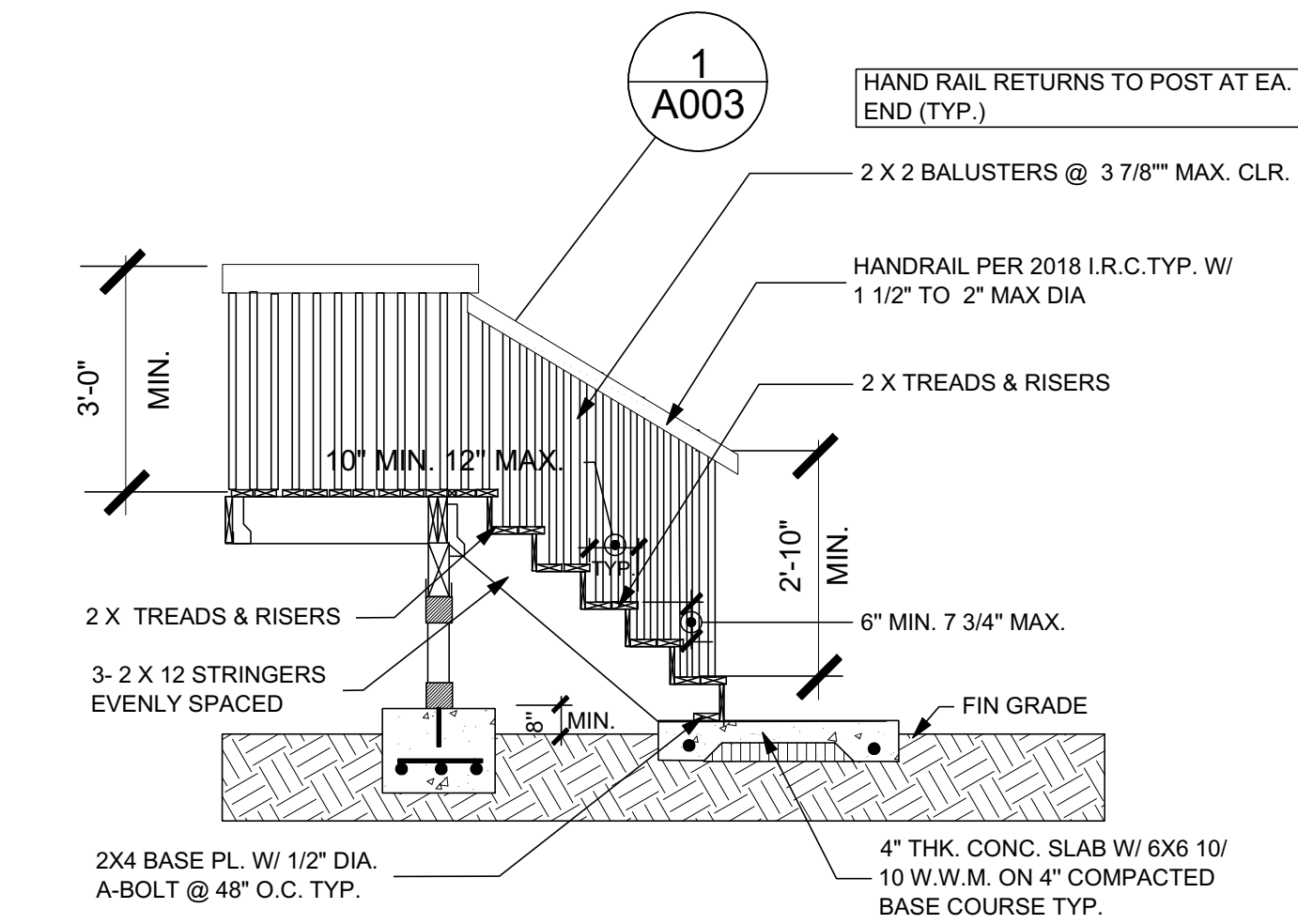


**LEFT ELEVATION**

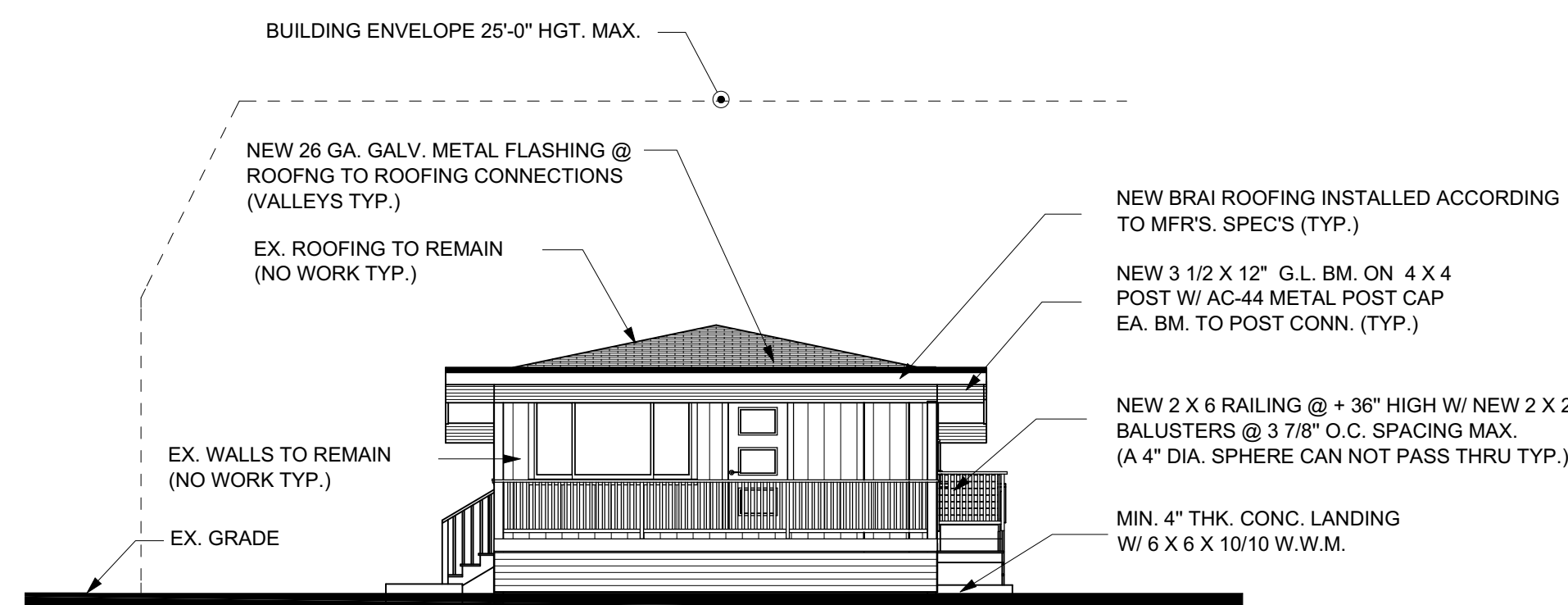
SCALE: 1/8" = 1'-0"  
0 5 10 15



**6**  
A003  
N.T.S.  
**CONC. 'SPREAD' FT'G.**

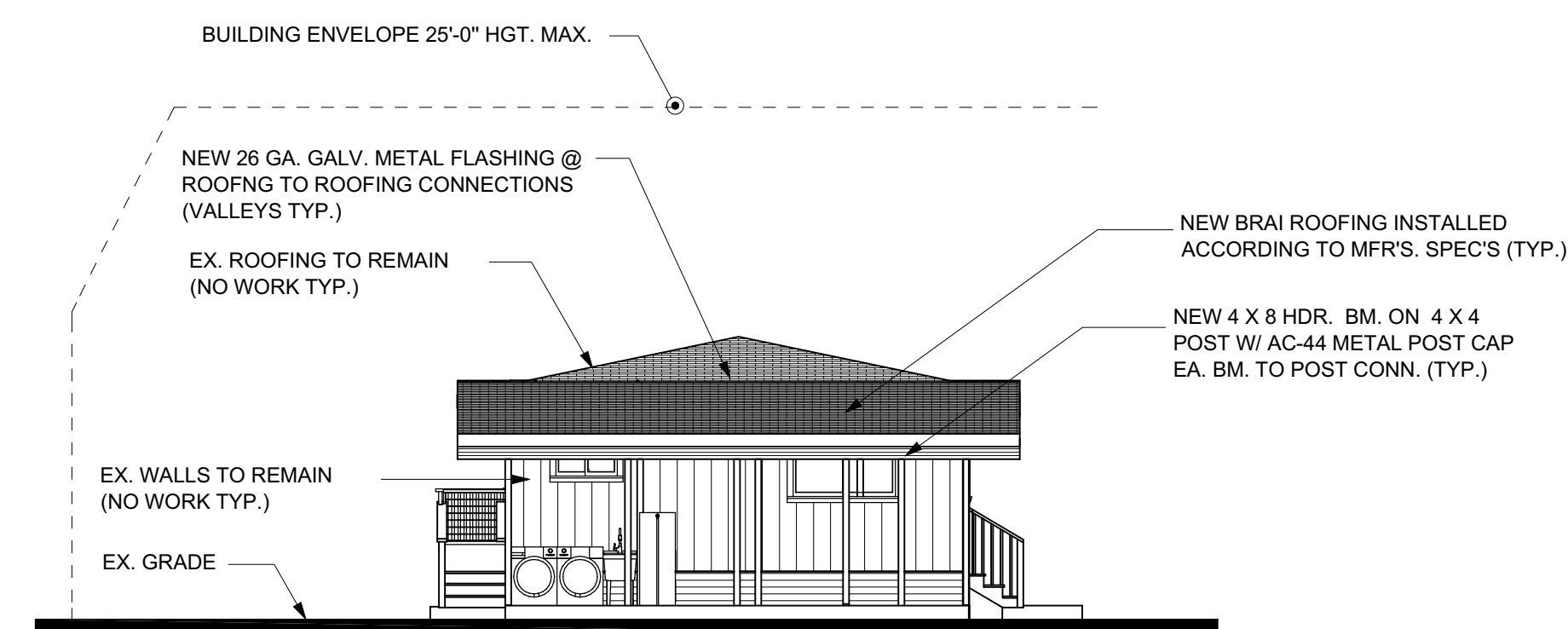


**5**  
A003  
N.T.S.  
**EXTERIOR STAIR DETAIL**



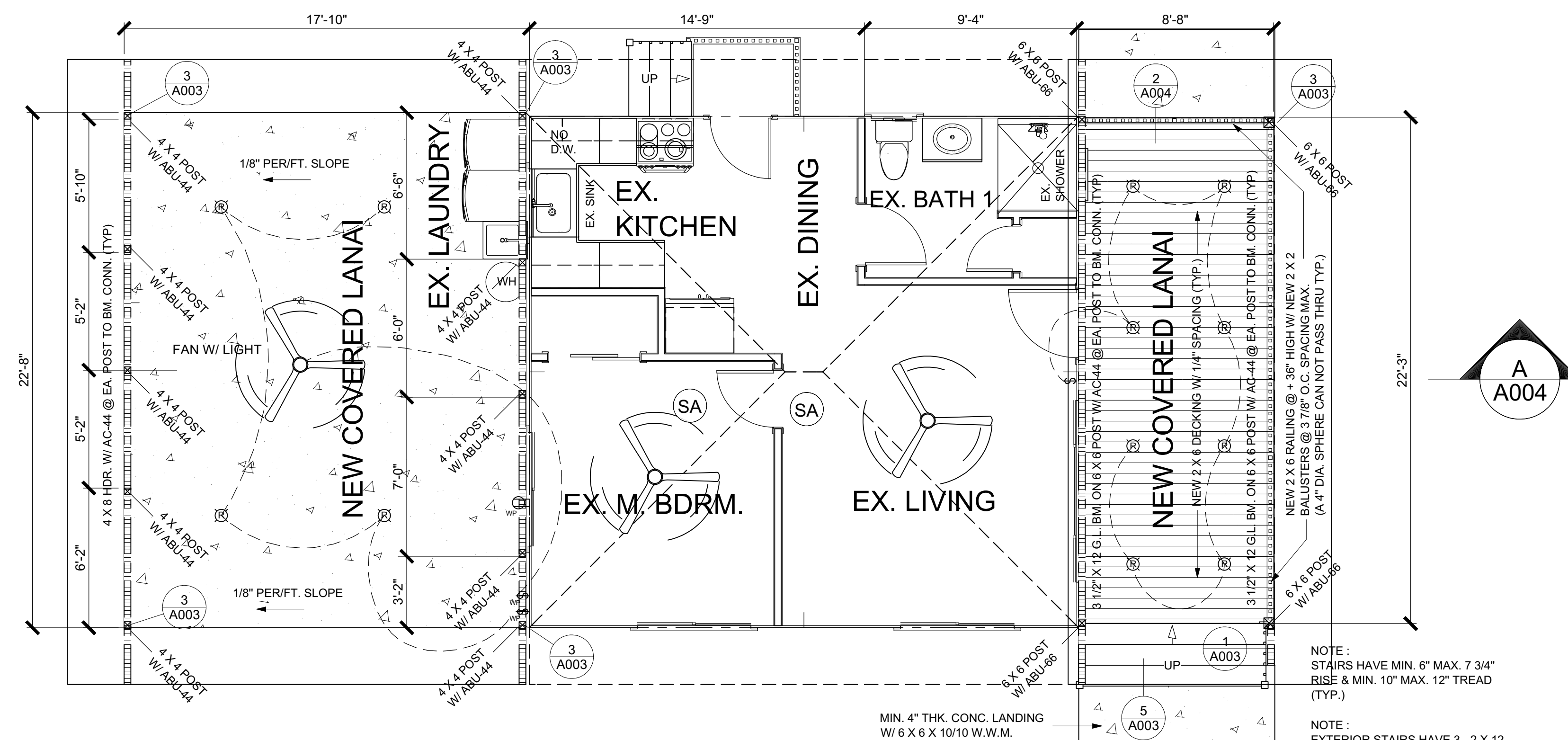
**FRONT ELEVATION**

SCALE: 1/8" = 1'-0"  
0 5 10 15



**REAR ELEVATION**

SCALE: 1/8" = 1'-0"  
0 5 10 15



**FLOOR PLAN**

SCALE: 1/4" = 1'-0"  
0 5 10 15

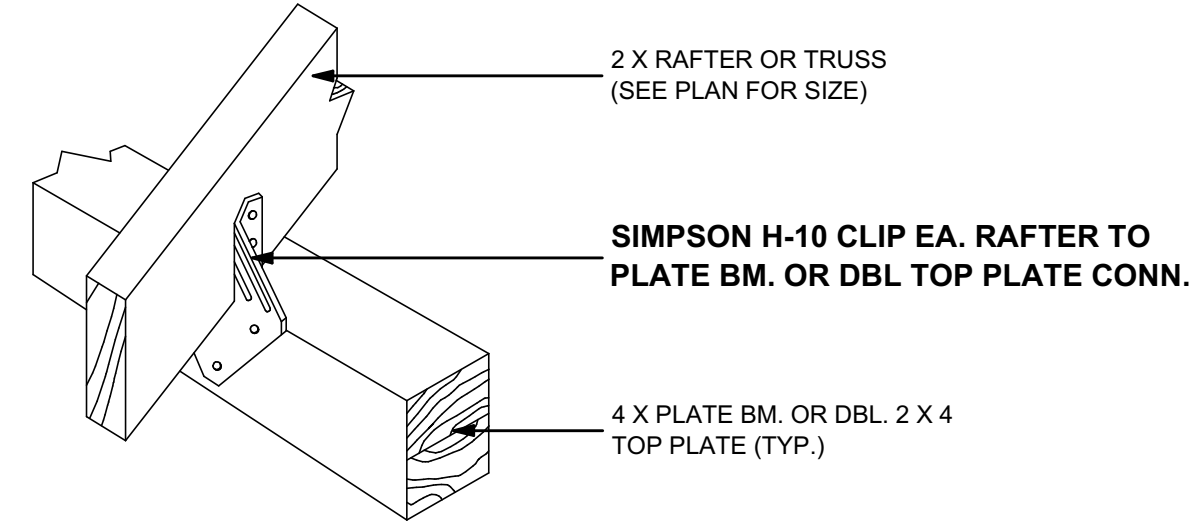
**A PROPOSED NEW ADDITION FOR:**  
**MR. CARY BELLUOMINI**  
**ADDRESS: 53-452 UNIT 2 KAMEHAMEHA HWY, HAUULA, HI 96717**  
**T.M.K. 5-3-005-070**



**DATE**  
**2/15/2024**  
**SHEET NO.**

**A003**  
**OF 5 SHEETS**

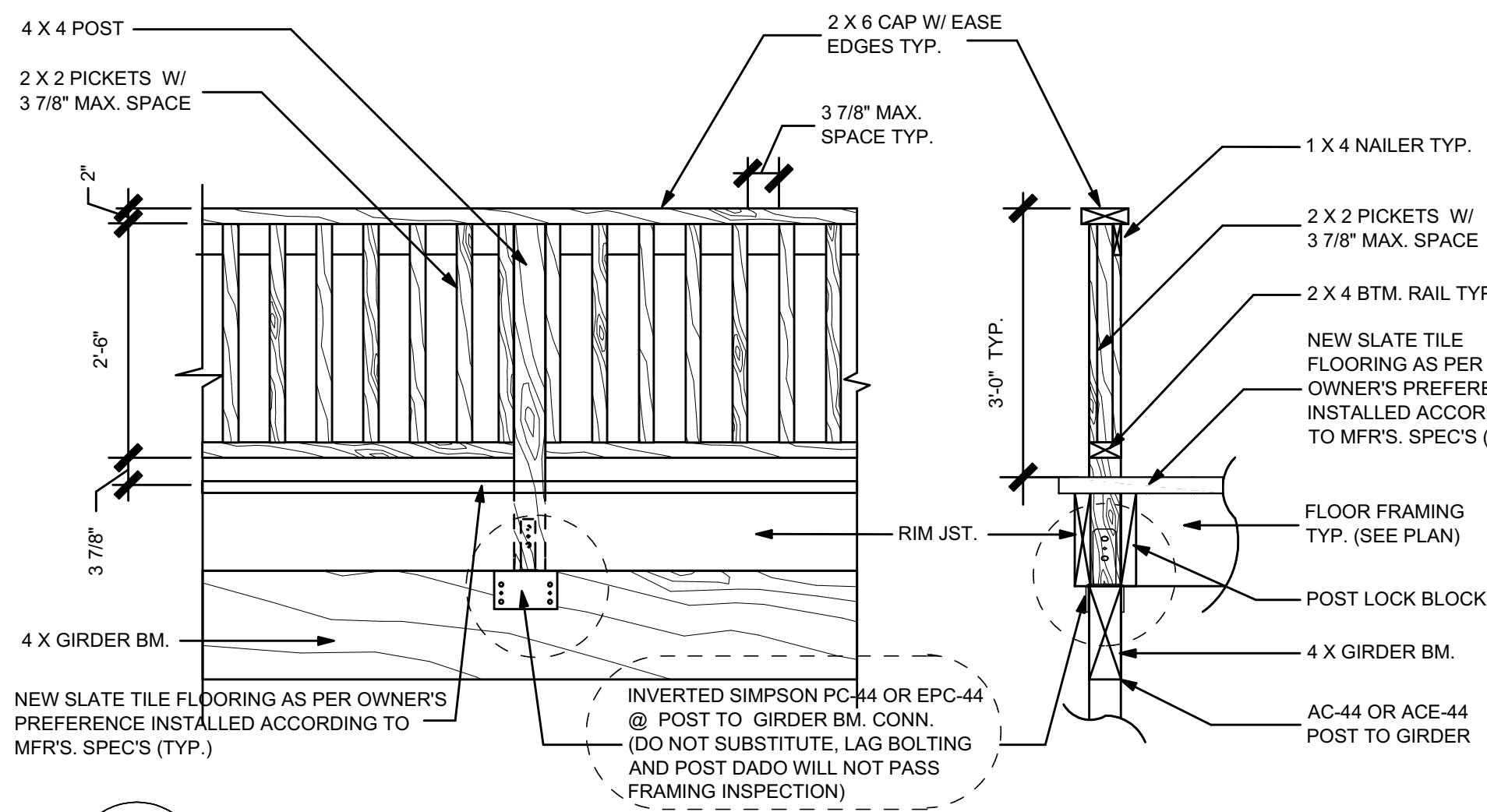
\*\*\*NOTE:\*\*\*  
 USE H-10-2 FOR DBL. TRUSS TO TOP PLATE CONN. (TYP.)



\*\*\*NOTE:\*\*\*  
 DO NOT SUBSTITUTE ANY OTHER CLIP W/O PROR  
 APPROVAL

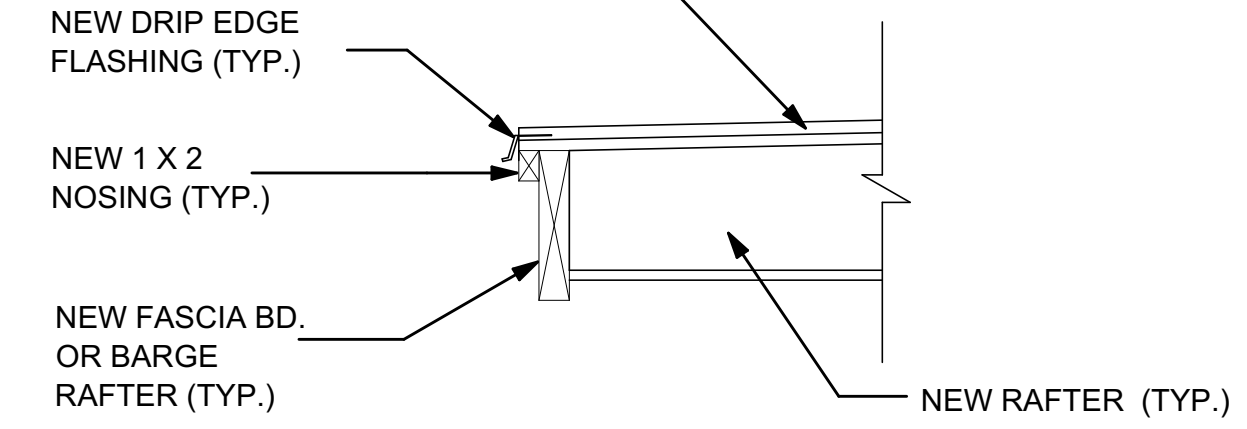
3  
 A004 N.T.S.

\*\*\*NOTE:\*\*\*  
 4" DIA. SPHERE CAN NOT PASS THRU BALUSTER SPACE



2  
 A004 N.T.S.

NEW BRAI ROOFING INSTALLED  
 ACCORDING TO MRS. SPEC'S. ON  
 2 - 15# SELF-SEALING FELT ON 5/8"  
 THK. STAGGERED PLYWD.  
 SHEATHING W/ CLIPS (TYP.)



1  
 A004 N.T.S.

NOTE:  
 INSTALL NEW SIMPSON H-10A CLIPS @  
 24" O.C. EA. RAFTER TO DBL. TOP PLATE  
 OR BM. CONN. (TYP.)

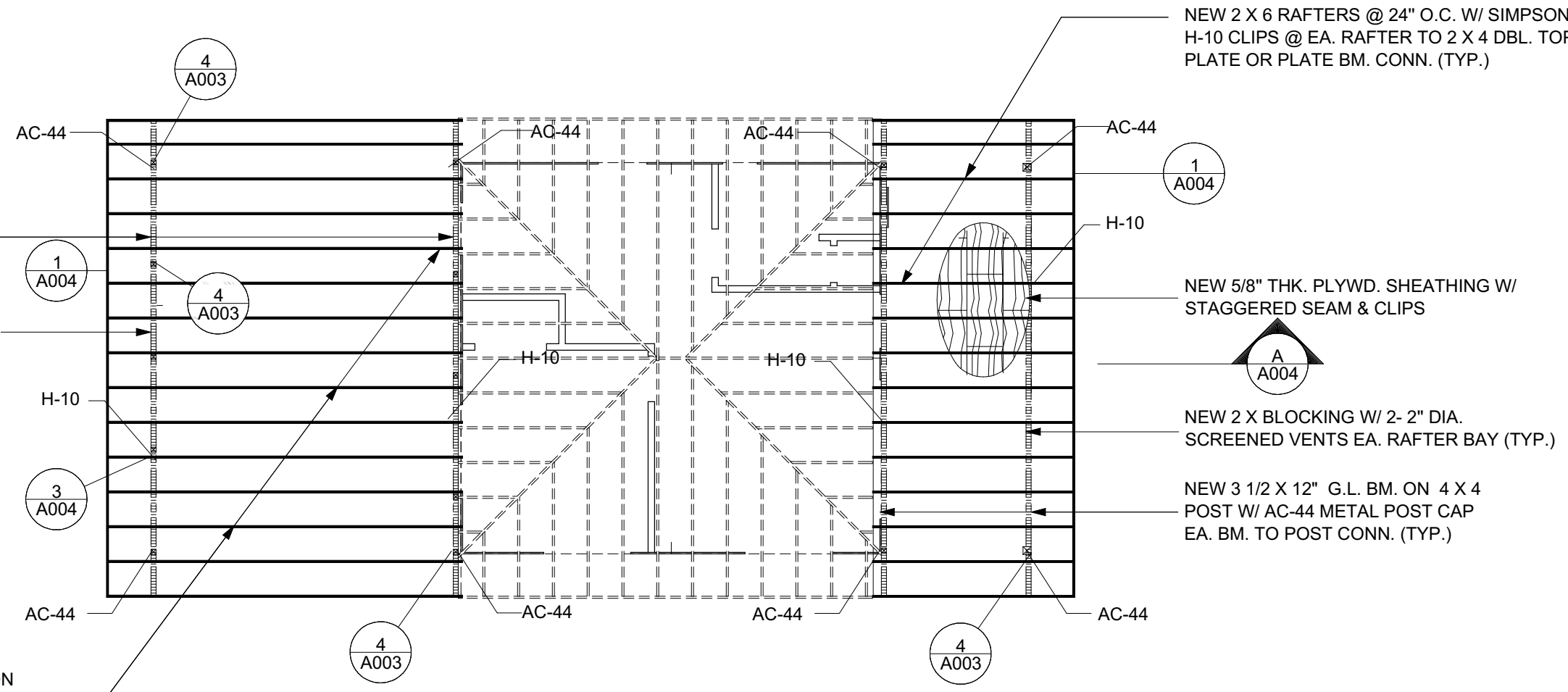
NEW 4 X 8 HDR. BM. ON 4 X 4  
 POST W/ AC-44 METAL POST CAP  
 EA. BM. TO POST CONN. (TYP.)

NEW 2 X BLOCKING W/ 2- 2" DIA.  
 SCREENED VENTS EA. RAFTER BAY (TYP.)

NOTE:  
 PROVIDE DBL. 2 X TRIMMERS @ WINDOW  
 OPENINGS 6'-0" OR GREATER IN WIDTH

NOTE:  
 ALL HEADERS ARE OF 4 X 6 UNLESS  
 OTHERWISE NOTED

NEW 2 X 10 RAFTERS @ 24" O.C. W/ SIMPSON  
 H-10 CLIPS @ EA. RAFTER TO 2 X 4 DBL. TOP  
 PLATE OR PLATE BM. CONN. (TYP.)



ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"



NOTE:  
 PROVIDE TERMITE TREATMENT IN ACCORDANCE  
 W/ I.R.C. SECTION R-320, AS AMENDED

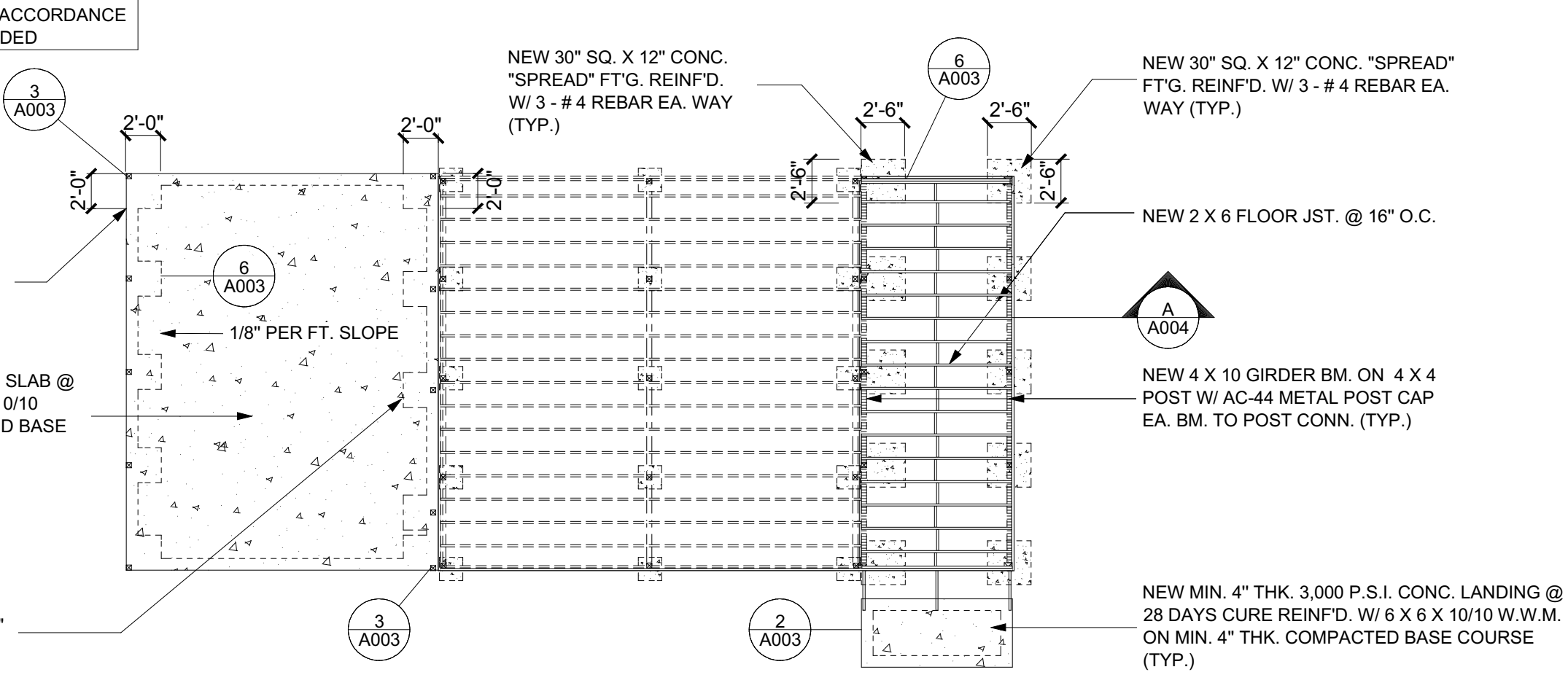
NOTE:  
 PROVIDE MOISTURE BARRIER TO ALL AREAS WHERE WOOD  
 MEMBERS CONTACT  
 MASONRY (TYP.)

NEW 24" SQ. X 12" CONC. "SPREAD"  
 FTG. REINF'D. W/ 3 - # 4 REBAR EA.  
 WAY (TYP.)

NEW MIN. 4" THK. 3,000 P.S.I. CONC. SLAB @  
 28 DAYS CURE REINF'D. W/ 6 X 6 X 10/10  
 W.W.M. ON MIN. 4" THK. COMPACTED BASE  
 COURSE (TYP.)

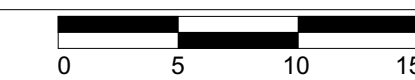
NOTE:  
 THE BTM. OF ALL NEW WD.  
 FRAMING SHALL BE MIN. 8"  
 FROM GRADE

NEW 24" SQ. X 12" CONC. "SPREAD"  
 FTG. REINF'D. W/ 3 - # 4 REBAR EA.  
 WAY (TYP.)



FOUNDATION / FLOOR FRAMING PLAN

SCALE: 1/8" = 1'-0"



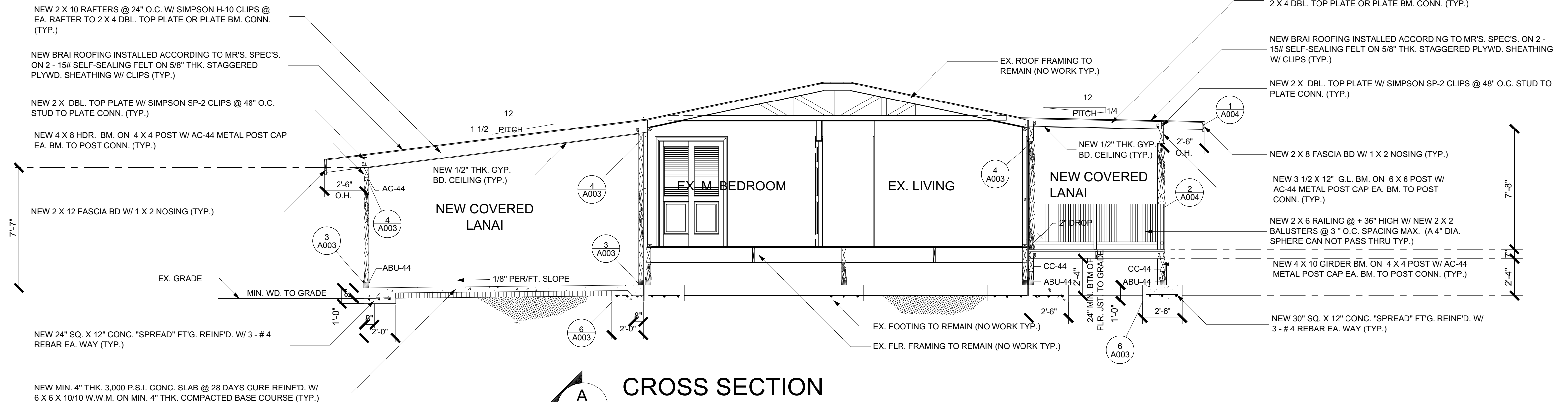
NEW 2 X 10 RAFTERS @ 24" O.C. W/ SIMPSON H-10 CLIPS @  
 EA. RAFTER TO 2 X 4 DBL. TOP PLATE OR PLATE BM. CONN.  
 (TYP.)

NEW BRAI ROOFING INSTALLED ACCORDING TO MRS. SPEC'S.  
 ON 2 - 15# SELF-SEALING FELT ON 5/8" THK. STAGGERED  
 PLYWD. SHEATHING W/ CLIPS (TYP.)

NEW 2 X DBL. TOP PLATE W/ SIMPSON SP-2 CLIPS @ 48" O.C.  
 STUD TO PLATE CONN. (TYP.)

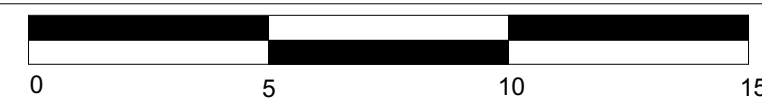
NEW 4 X 8 HDR. BM. ON 4 X 4 POST W/ AC-44 METAL POST CAP  
 EA. BM. TO POST CONN. (TYP.)

NEW 2 X 12 FASCIA BD W/ 1 X 2 NOSING (TYP.)



CROSS SECTION

SCALE: 1/4" = 1'-0"



A PROPOSED NEW ADDITION FOR:

MR. CARY BELLUOMINI

ADDRESS: 53-452 UNIT 2 KAMEHAMEHA HWY, HAUULA, HI 96717

T.M.K. 5-3-005-070

Blue Hawaii  
 Drafting Services



DATE

2/15/2024

SHEET NO.

A004

OF 5 SHEETS

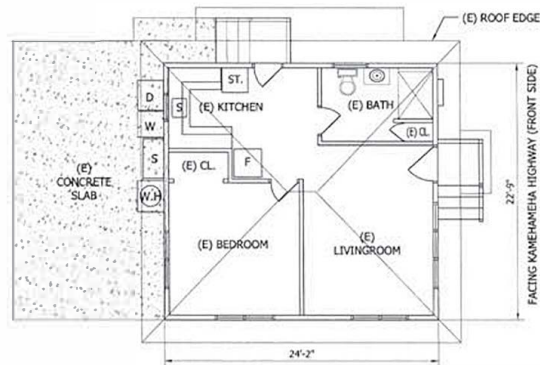
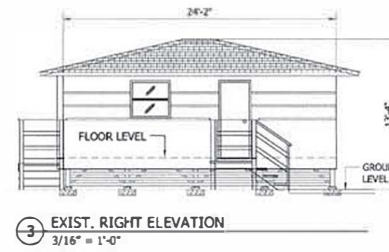
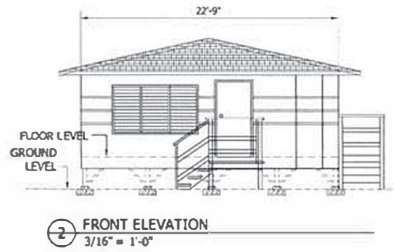
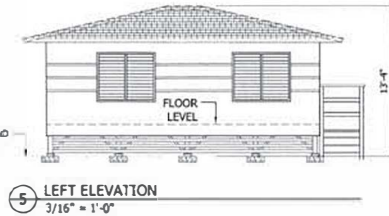
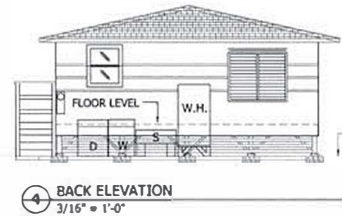


**UNIT #2 SUMMARY:**

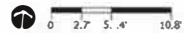
53-452 KAM HWY.  
HAULUA, HI 96717

<b>PROJECT SUMMARY:</b>	
EXIST. LIVING AREA	550 SF.
EXIST. OPEN CONC. FL.	335 SF.
EXIST. PORCH	55 SF.
TOTAL:	940 SF.
TOTAL LIVING AREA:	550 SF.
LOT SIZE:	4,820 SF.
PERCENTAGE OF LOT:	11.5%

- CONSTRUCTION NOTES:**
1. SINGLE WALL CONSTRUCTION
  2. POST & BLOCK FOUNDATION
  3. COMPOSITE ASPHALT SHINGLE ROOF
  4. COMPACTED GRAVEL DRIVEWAY



1 LIMITED COMMON ELEMENT UNIT #2 - 53-452 KAMEHAMEHA HWY.  
3/16" = 1'-0"



**KAHENA WAI ESTATES**  
53-428 TO 53-458 Kamehameha Hwy.  
Hauula, HI 96717  
TMK: 5-3-005:030, 4.7625 ACRES

REV.	DATE	DESCRIPTION

**SHEET DESCRIPTION**  
LIMITED COMMON  
ELEMENT #2  
53-452 KAM HWY.  
UNIT #2 PLAN  
& ELEVATIONS

NOTE:  
SHEET ADDED PER DPP COMMENT  
FOR SIMPLY PLAN & ELEVATIONS  
FOR ALL UNITS ON PROPERTY.

# Unit # 3

## UNIT #3 SUMMARY:

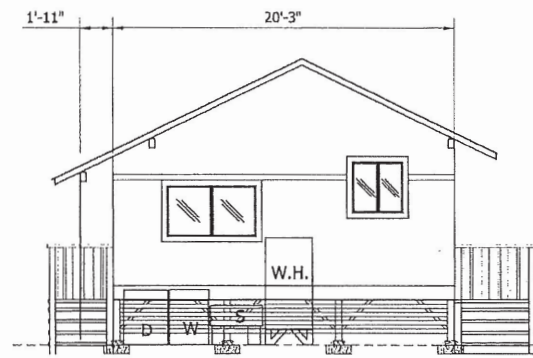
53-458 KAM HWY.  
HAUULA, HI 96717

### PROJECT SUMMARY:

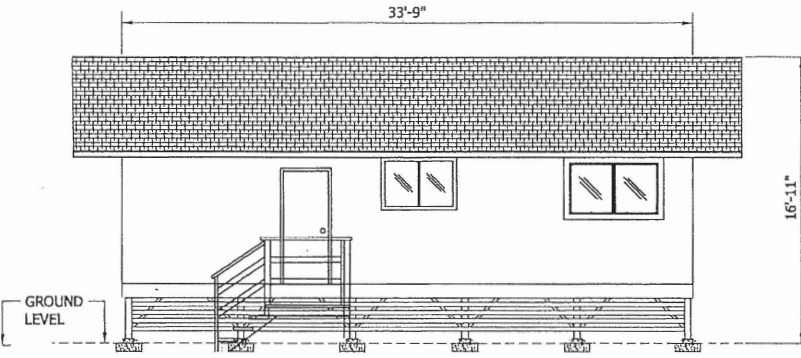
EXIST. LIVING AREA	678 SF.
TOTAL:	678 SF.
TOTAL LIVING AREA:	678 SF.
LOT SIZE:	3,997 SF.
PERCENTAGE OF LOT:	17.0 %

### CONSTRUCTION NOTES:

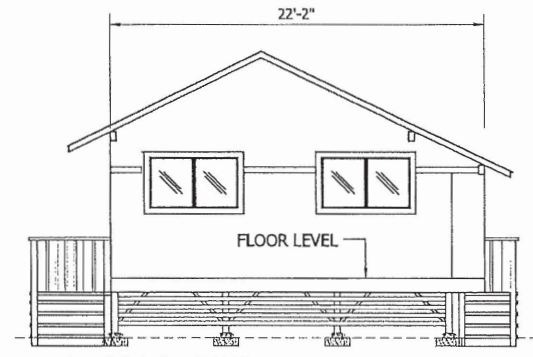
1. SINGLE WALL CONSTRUCTION
2. POST & BLOCK FOUNDATION
3. COMPOSITE ASPHALT SHINGLE ROOF
4. COMPACTED GRAVEL DRIVEWAY



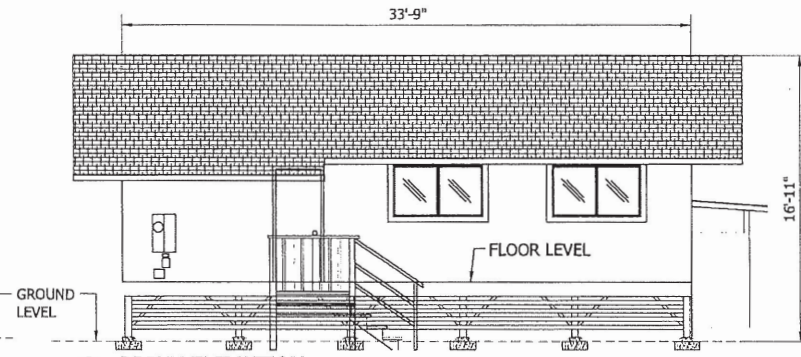
4 BACK ELEVATION  
3/16" = 1'-0"



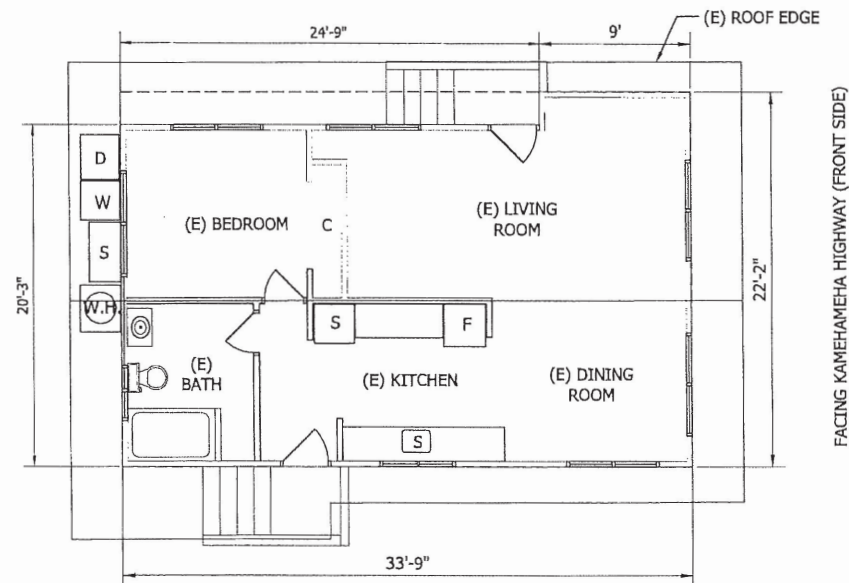
5 LEFT ELEVATION  
3/16" = 1'-0"



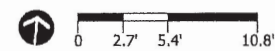
2 FRONT ELEVATION  
3/16" = 1'-0"



3 RIGHT ELEVATION  
3/16" = 1'-0"



1 LIMITED COMMON ELEMENT UNIT #3 - 53-458 KAMEHAMEHA HWY.  
3/16" = 1'-0"



**KAHENA WAI ESTATES**  
53-428 TO 53-458 Kamehameha Hwy.  
Hauula, HI 96717  
TMK: 5-3-005:030, 4.7625 ACRES

REV. #	DATE	DESCRIPTION

SHEET DESCRIPTION:  
LIMITED COMMON  
ELEMENT #3  
53-458 KAM HWY.  
UNIT #3 PLAN  
ELEVATIONS

SHEET NO. 4  
**S-3**

OF 6 SHEETS

NOTE:  
SHEET ADDED PER DPP COMMENT  
FOR SIMPLY PLAN & ELEVATIONS  
FOR ALL UNITS ON PROPERTY.

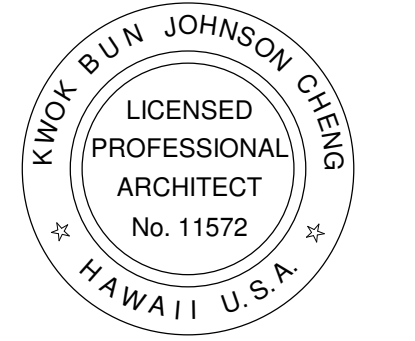


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**Unit #4**

# NEW SINGLE FAMILY DWELLING

53-424 KAMEHAMEHA HIGHWAY #4  
HAUULA, HAWAII 96717  
TMK: 5-3-005:070



The work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in the current Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors and Landscape Architects.")

*Knox Bun Johnson Cheng*  
Expiration Date 04/30/24 05/15/2022

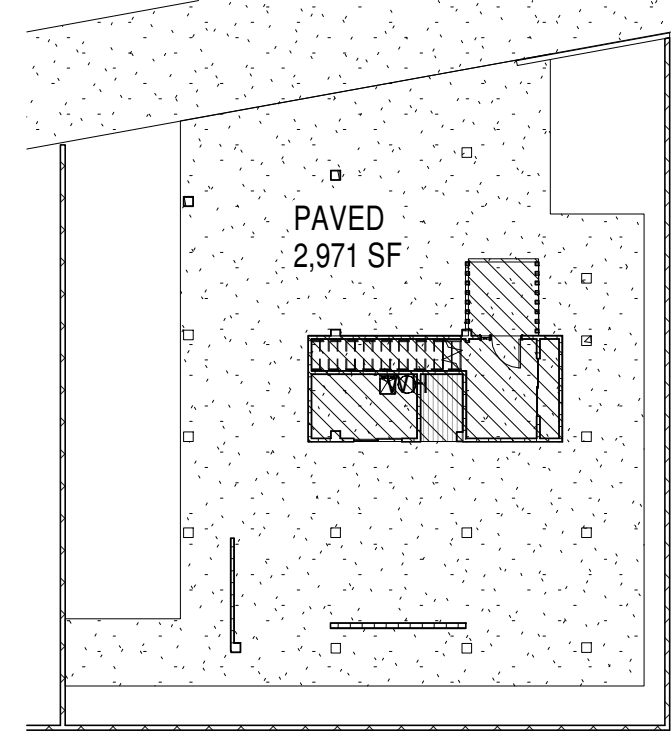
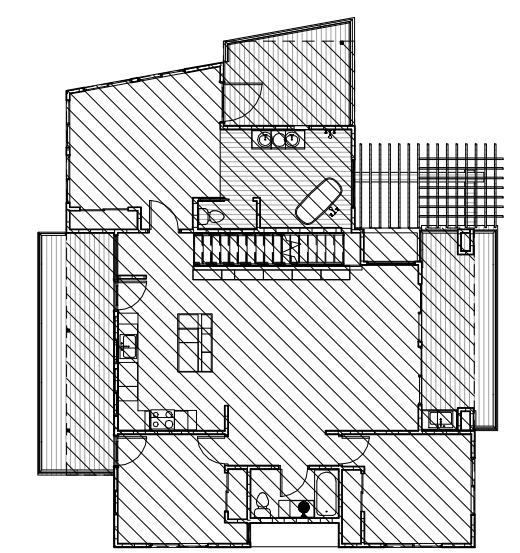
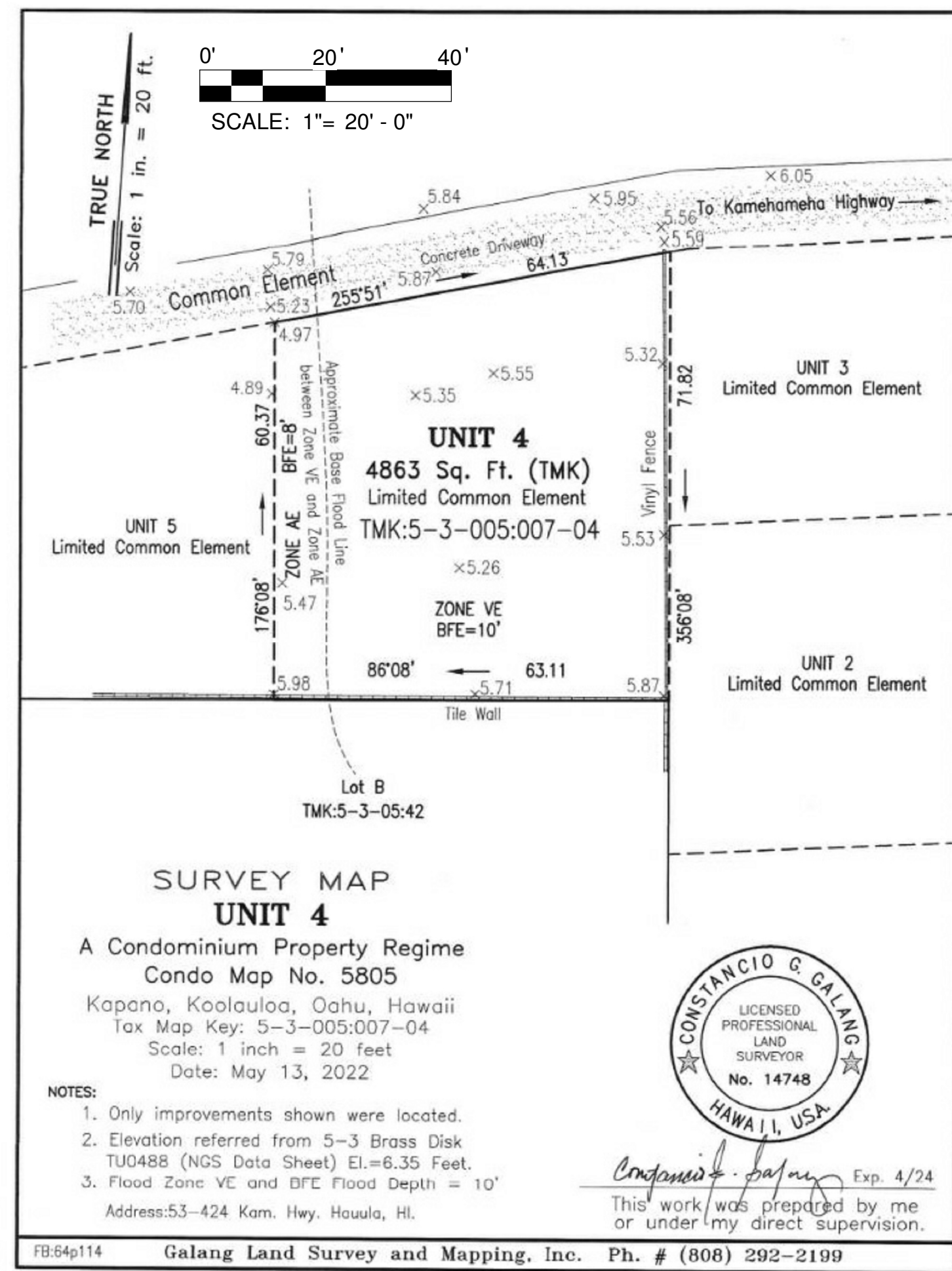
Contractor shall carefully verify all dimensions, materials, existing site conditions and field measurements, study and compare the construction documents and notify the Architect of any discrepancy, inconsistency or omission he may discover before proceeding with the work. Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for the coordinating and the supervision of all construction work under the contract. All work shall be performed in conformance with all applicable provisions of the Uniform Building Code and all governmental regulations.

REVISION		
REV	DATE	DESCRIPTION

	Project:	NEW SINGLE FAMILY DWELLING 53-424 KAMEHAMEHA HIGHWAY #4 HAUULA, HAWAII 96717 5-3-005:070
	Description:	TITLE SHEET

DATE	05/15/2022
JOB NO.	53-424 KAM
DRAWN BY	JC
DESIGNED BY	JC

SHEET NUMBER
<b>A01</b>
1 OF SHEETS



**PROJECT DATA**

**PROJECT SCOPE:**  
CONSTRUCT NEW SINGLE FAMILY DWELLING

**ADDRESS:** 53-424 KAMEHAMEHA HIGHWAY #4

**LUO DATA:**  
TMK: 5-3-005:070 CPR LOT #4  
LOT AREA: 211,397 SF (LOT #4: 4,171 SF)  
ZONING: R-5 / AG-2

MAXIMUM BUILDING AREA ALLOWED(50%) LOT #4: 2,085.5 SF

**BUILDING AREA:**  
SINGLE FAMILY DWELLING 2071.18 SF

**FLOOR AREA:**  
SINGLE FAMILY DWELLING 350.00 SF (LOWER)  
TOTAL 1,874.73 SF (MAIN)  
2,124.73 SF 0.51 < 0.6 FAR

NO ADDITIONAL REQUIREMENT PER BILL 57 / ORD 20-43.

**BATHROOM COUNTS**  
SINGLE FAMILY DWELLING 2 BATH  
MAX ALLOW PER BILL 57 / ORD 20-43 4 BATH PER UNIT

**PARKING** FOR 2,124.73 SF  
PARKING PER BILL 2 / ORD 20-41  
PAVED AREA 2,971 SF (3,128 SF MAX=75% OF LOT SIZE)

REQUIRED	PROVIDED
2	3 COVERED
2,971 SF	(3,128 SF MAX=75% OF LOT SIZE)

INDEX TO DRAWINGS	
A01	TITLE SHEET
A02	PROJECT INFO, PLANS
A03	ELEVATIONS, SECTION

**KNOK BUN JOHNSON CHENG**  
LICENSED PROFESSIONAL ARCHITECT  
No. 11572  
HAWAII U.S.A.

The work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in the current Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors and Landscape Architects.")

*Knok Bun Johnson Cheng*  
Expiration Date 04/30/24 05/15/2022

Contractor shall carefully verify all dimensions, materials, existing site conditions and field measurements, study and compare the construction documents and notify the Architect of any discrepancy, inconsistency or omission he may discover before proceeding with the work. Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for the coordinating and the supervision of all construction work under the contract. All work shall be performed in conformance with all applicable provisions of the Uniform Building Code and all governmental regulations.

REVISION		
REV	DATE	DESCRIPTION

REVISION		
REV	DATE	DESCRIPTION

**KBJCHENG**  
Architecture and Planning

Project: NEW SINGLE FAMILY DWELLING  
53-424 KAMEHAMEHA HIGHWAY #4  
HAULULA, HAWAII 96717  
5-3-005:070

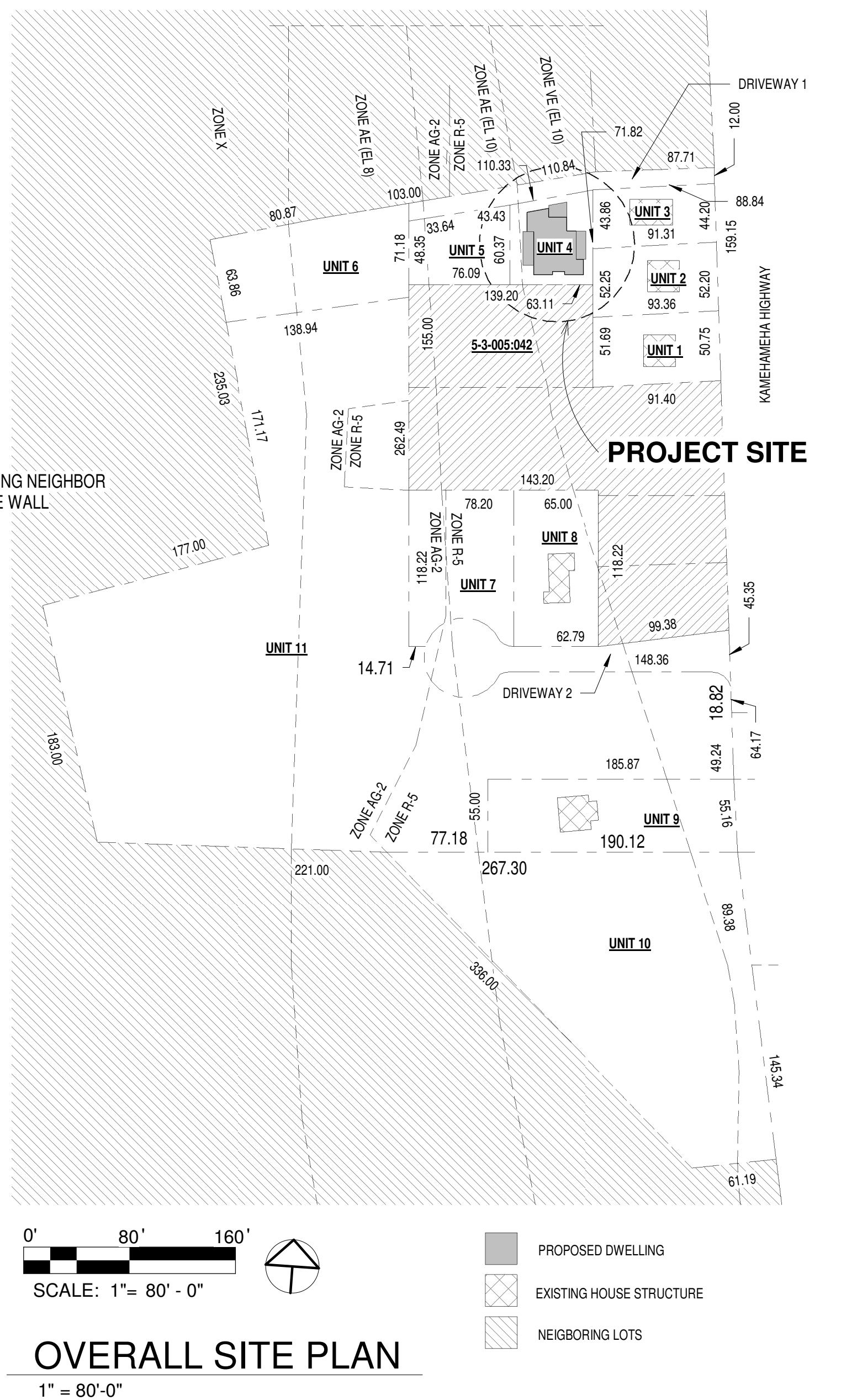
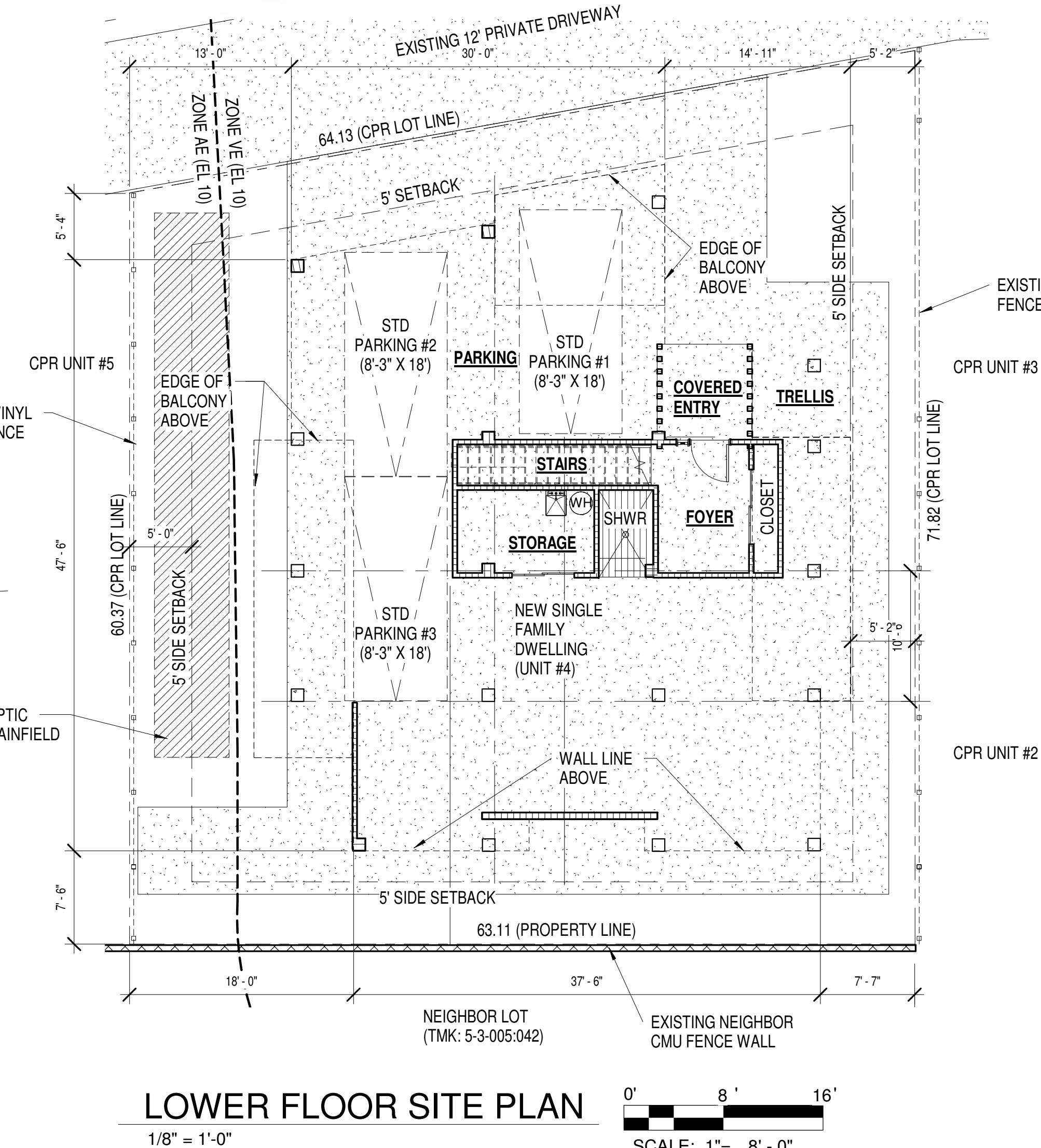
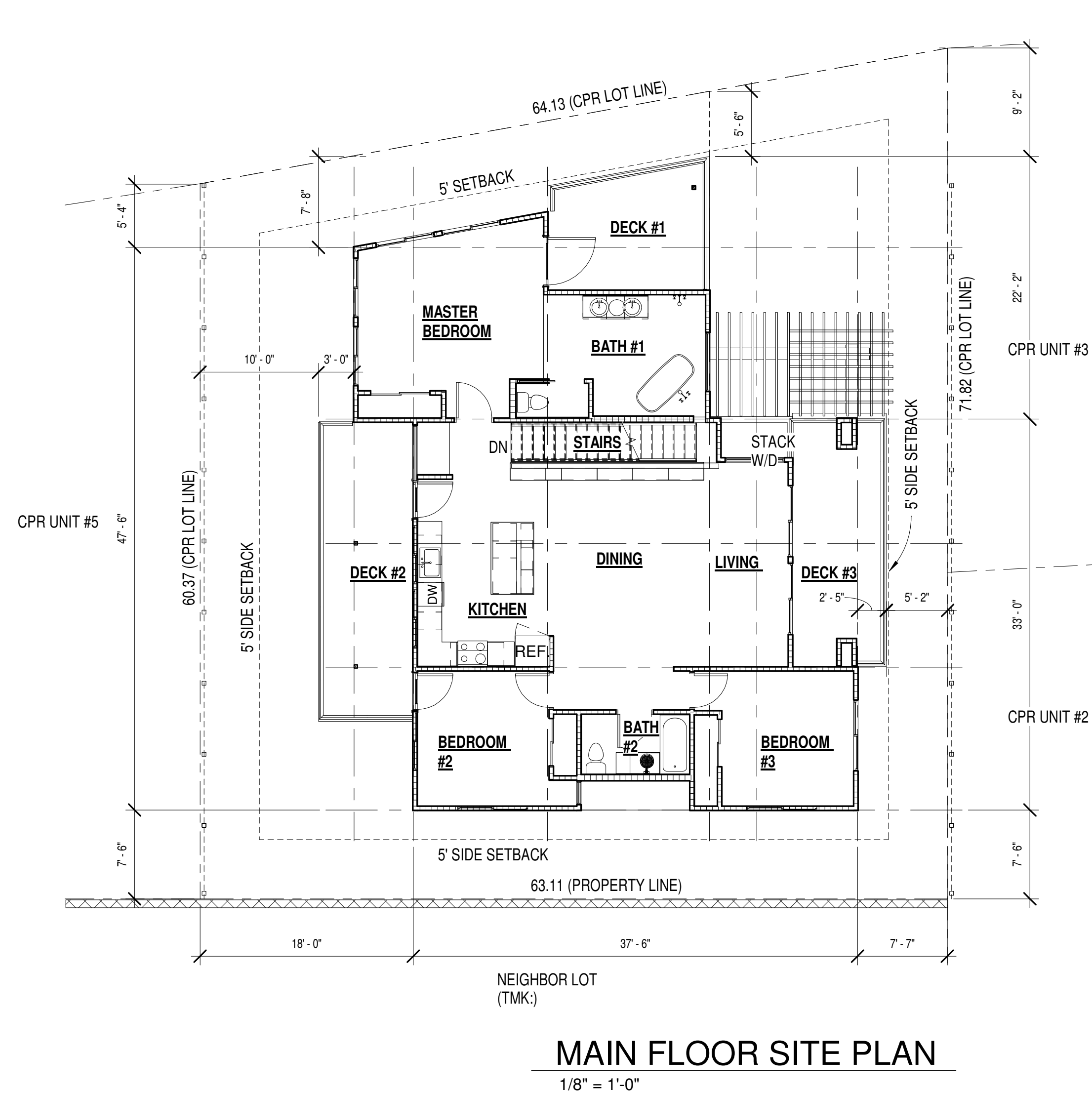
PROJECT INFO, PLANS

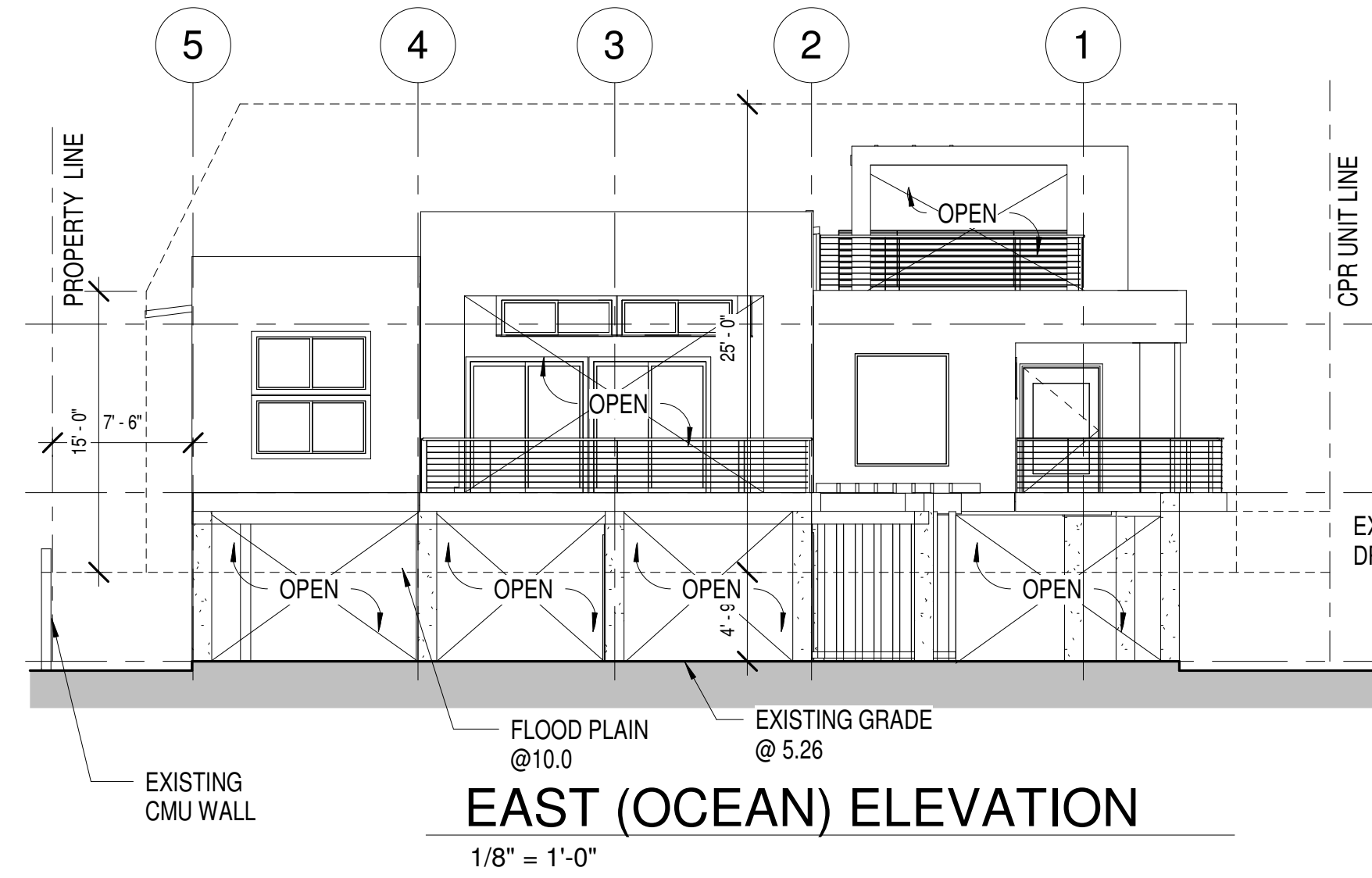
DATE	05/15/22
JOB NO.	53-424 KAM
DRAWN BY	JC
DESIGNED BY	JC

SHEET NUMBER

**A02**

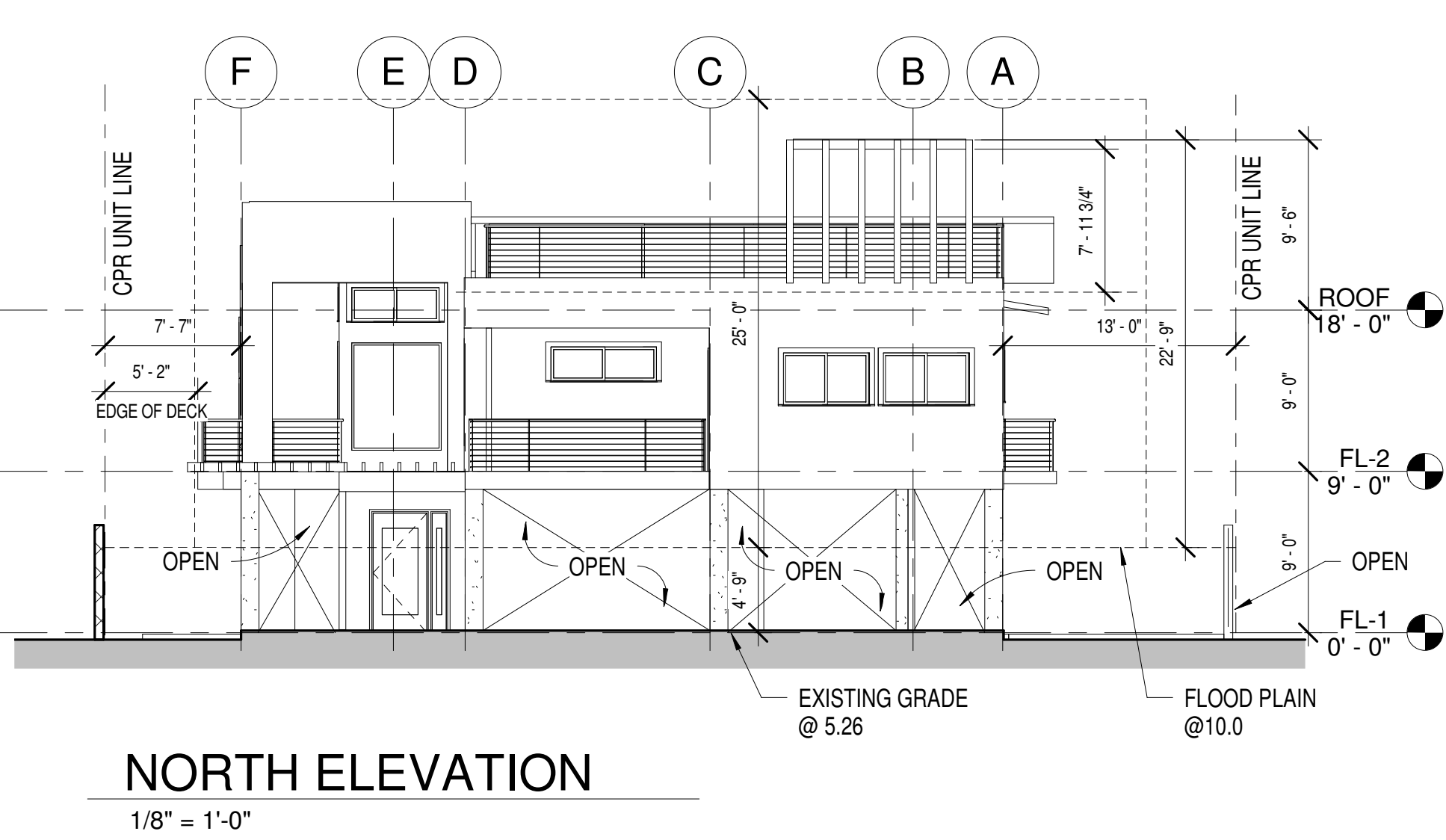
OF SHEETS





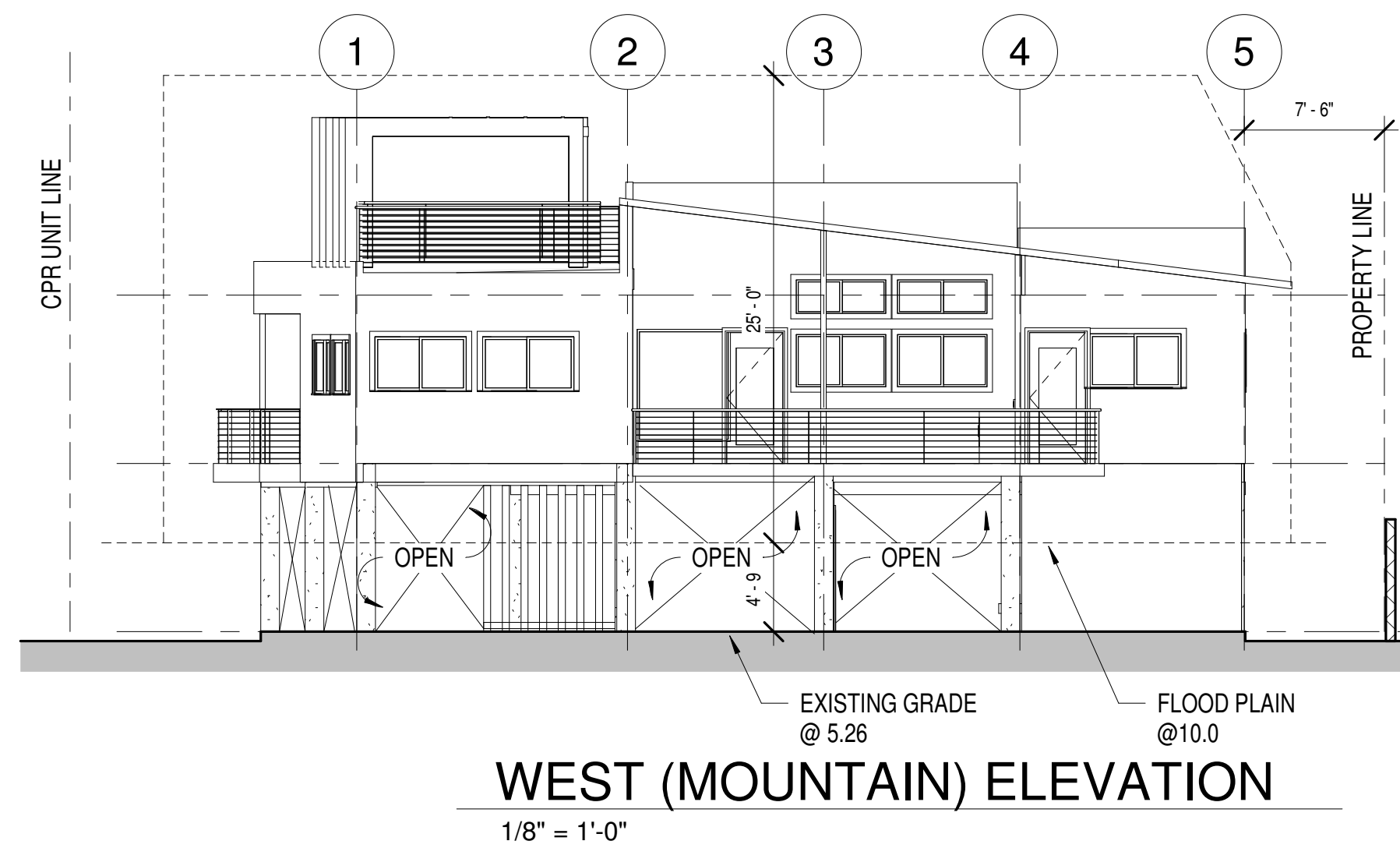
**EAST (OCEAN) ELEVATION**

1/8" = 1'-0"



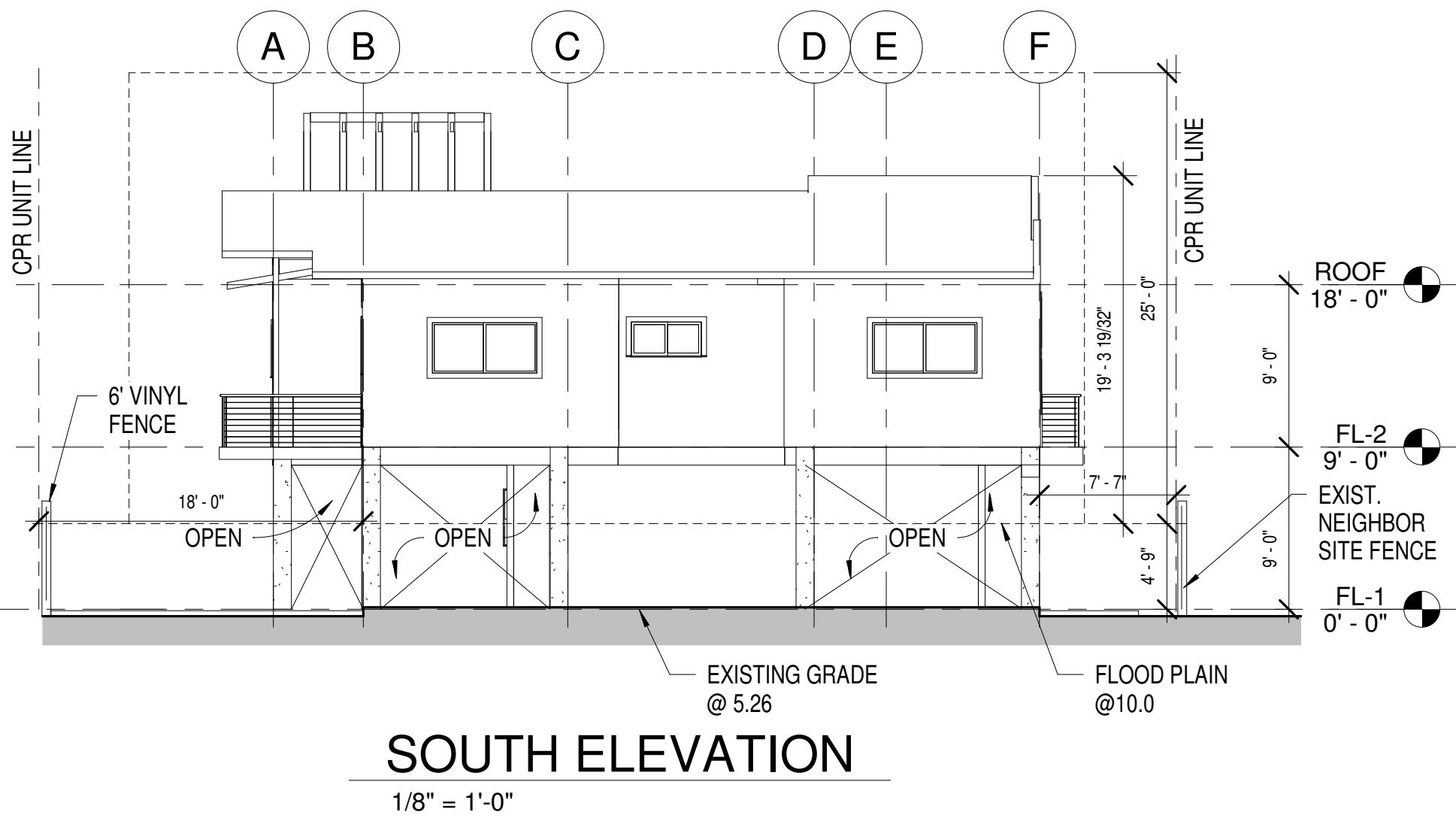
**NORTH ELEVATION**

1/8" = 1'-0"



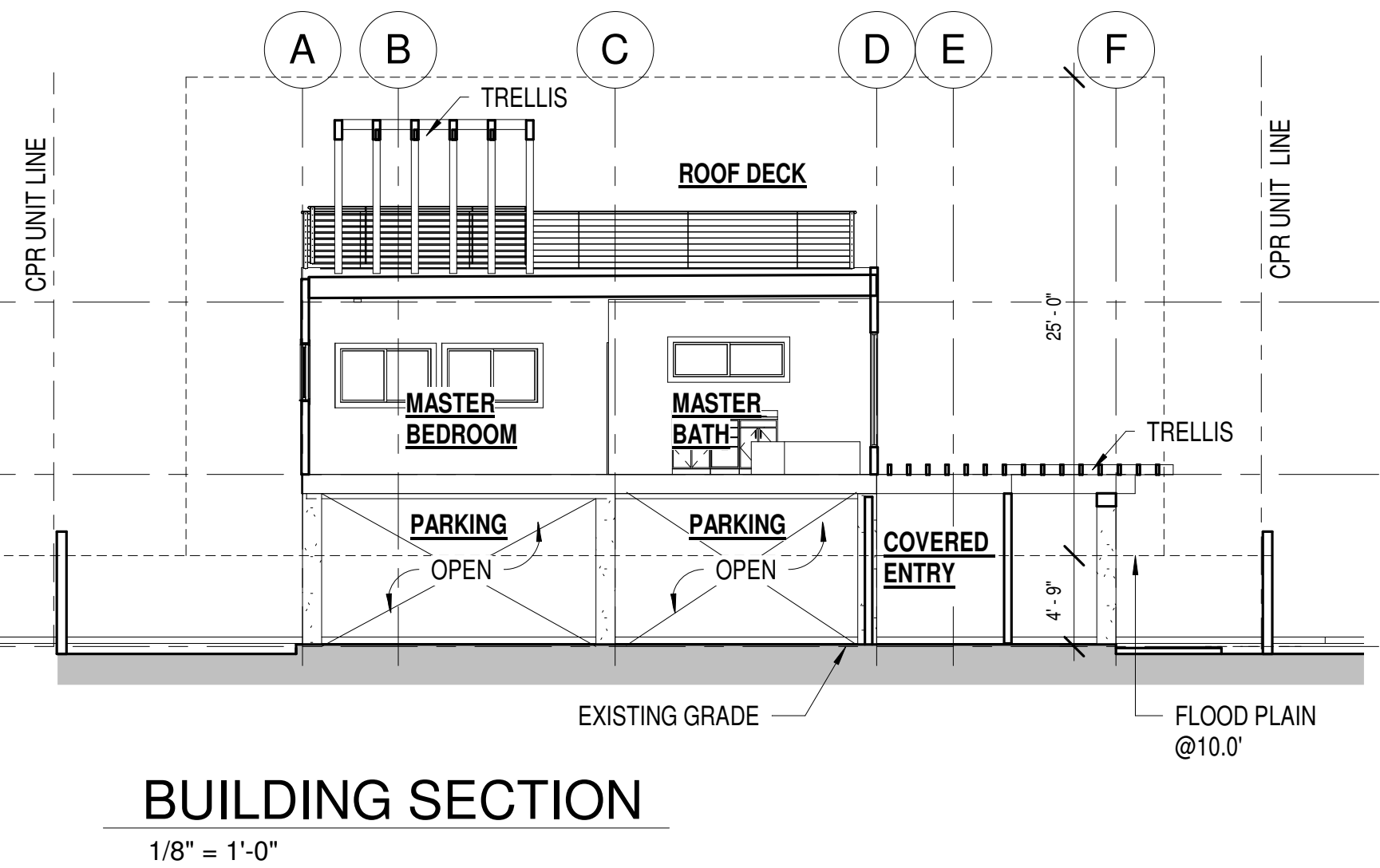
**WEST (MOUNTAIN) ELEVATION**

1/8" = 1'-0"



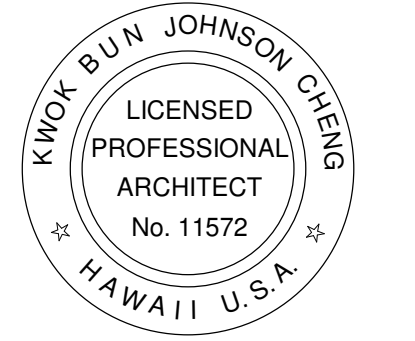
**SOUTH ELEVATION**

1/8" = 1'-0"



**BUILDING SECTION**

1/8" = 1'-0"



The work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in the current Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors and Landscape Architects.")

*Knox Bun Johnson Cheng*  
Expiration Date 04/30/24 05/15/2022

Contractor shall carefully verify all dimensions, materials, existing site conditions, and field measurements, study and compare the construction documents and notify the Architect of any discrepancy, inconsistency or omission he may discover before proceeding with the work. Contractor shall be solely responsible for all construction means, methods, techniques, equipment and procedures and for the coordinating and the supervision of all construction work under the contract. All work shall be performed in accordance with all applicable provisions of the Uniform Building Code and all governmental regulations.

REVISION		
REV	DATE	DESCRIPTION

**KBJCHENG**  
Architecture and Planning

Project: NEW SINGLE FAMILY DWELLING  
53-424 KAMEHAMEHA HIGHWAY #4  
HALULA, HAWAII 96717  
5-3-005070

Description: ELEVATIONS, SECTION

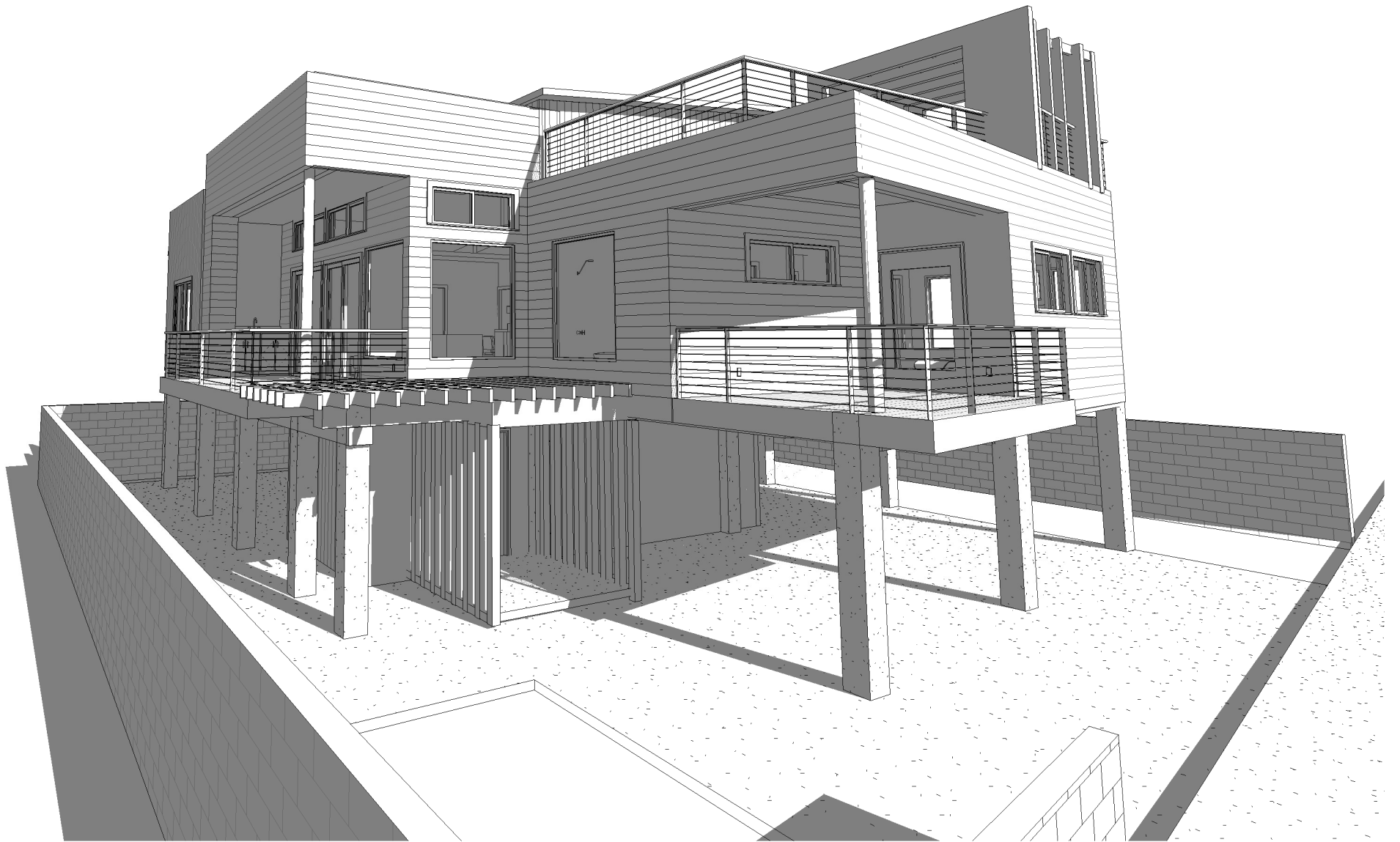
DATE	05/16/22
JOB NO.	53-424 KAM
DRAWN BY	Author
DESIGNED BY	Designer

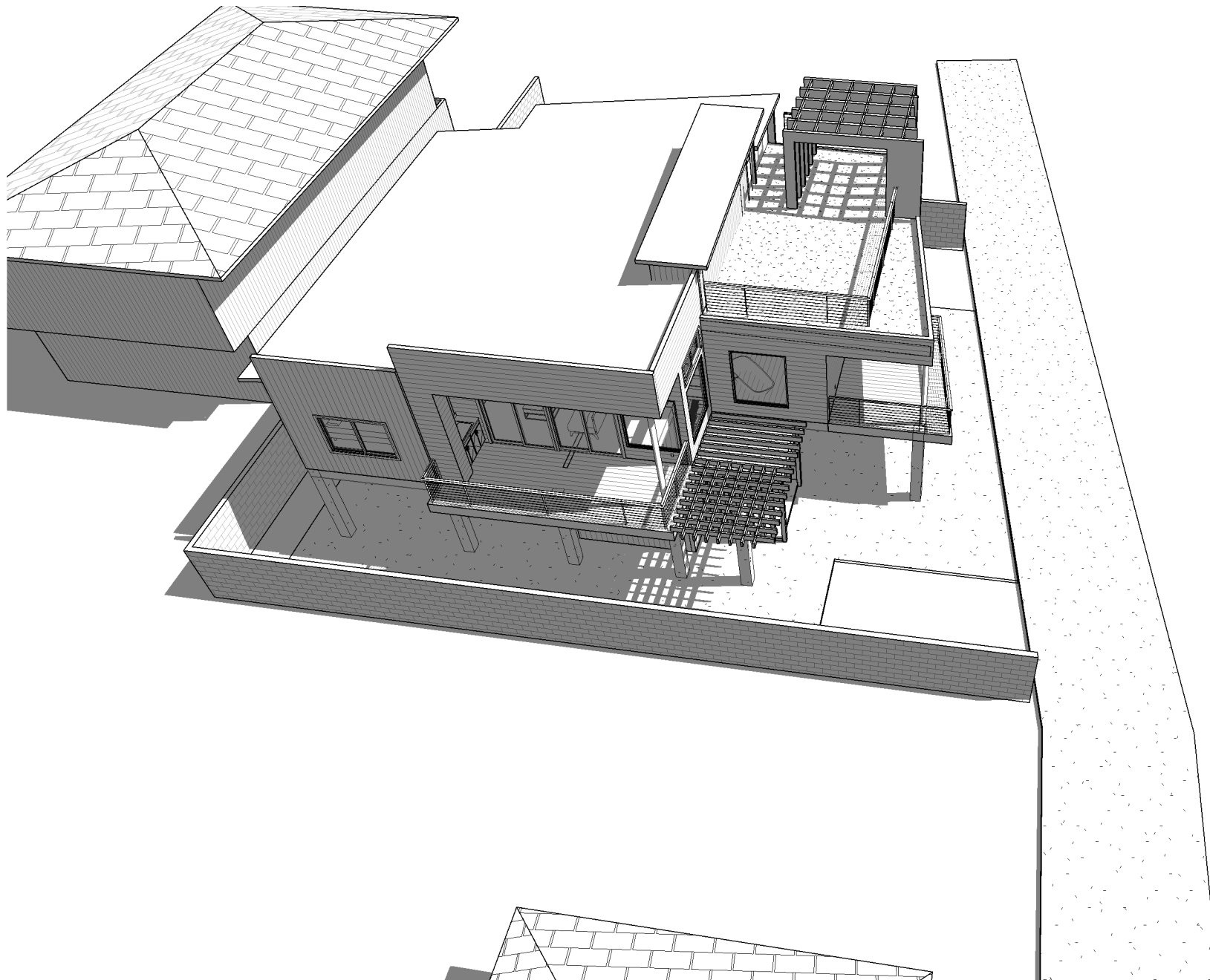
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**A03**

OF SHEETS

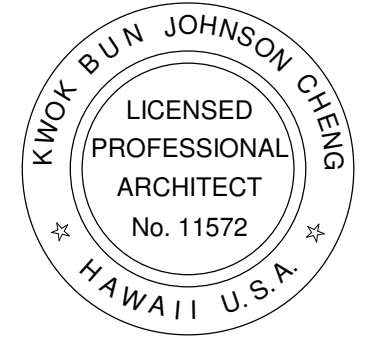






# NEW SINGLE FAMILY DWELLING

53-424 KAMEHAMEHA HIGHWAY #4  
HAUULA, HAWAII 96717  
TMK: 5-3-005:070



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*Knox Bun Johnson Cheng*

Expiration Date 04/30/24 05/15/2022

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#### REVISION

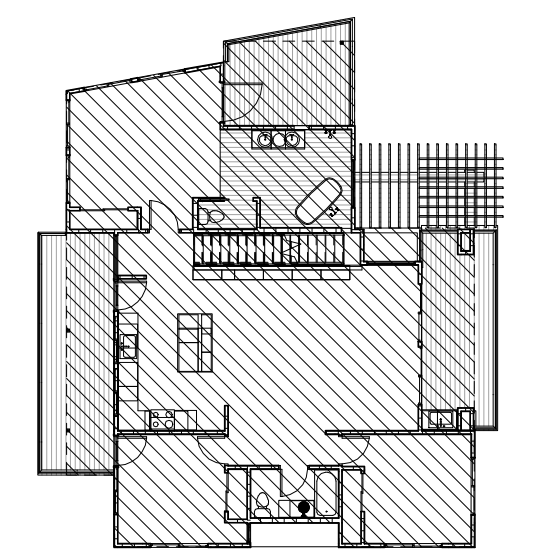
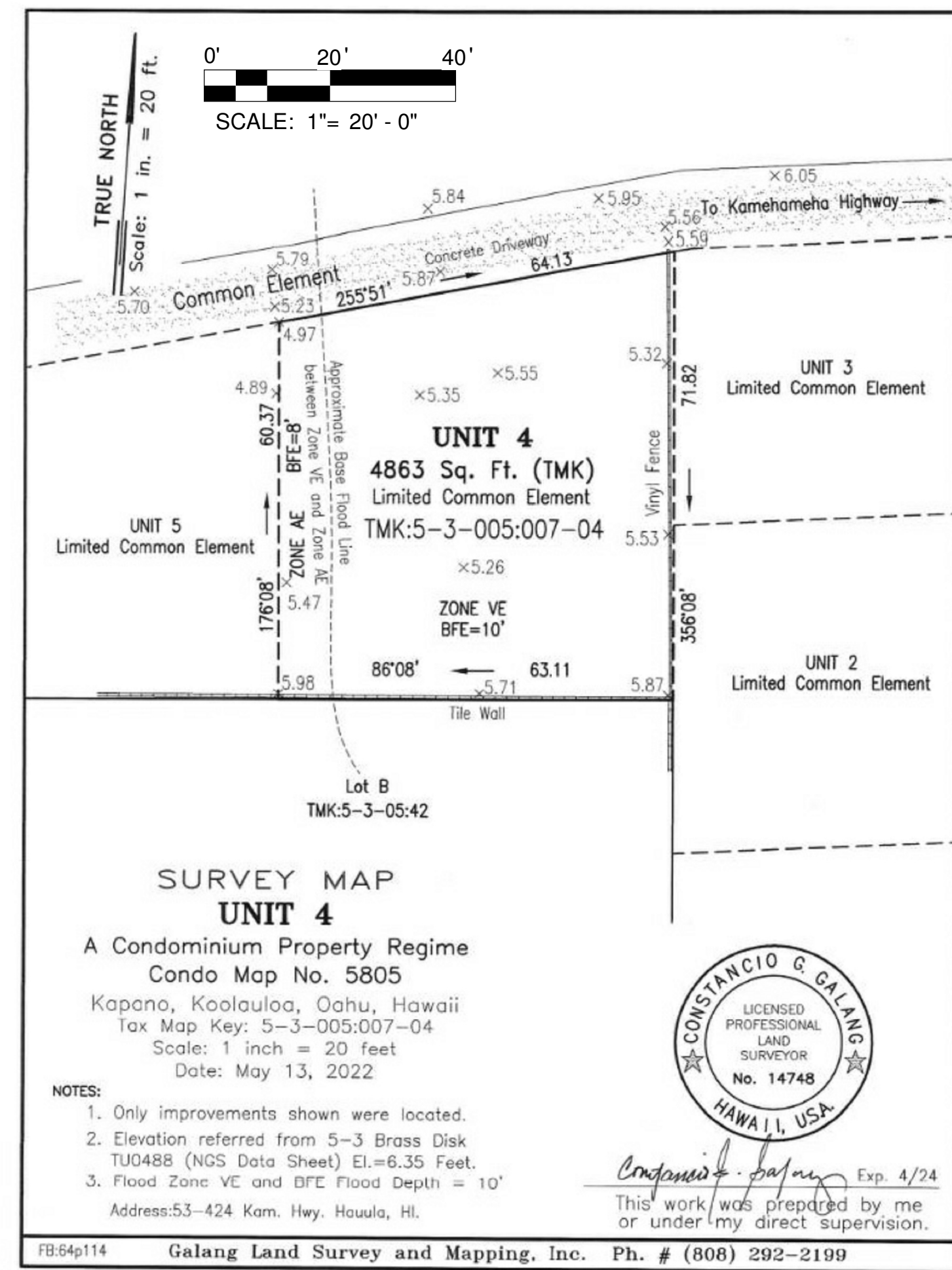
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REV	DATE	DESCRIPTION
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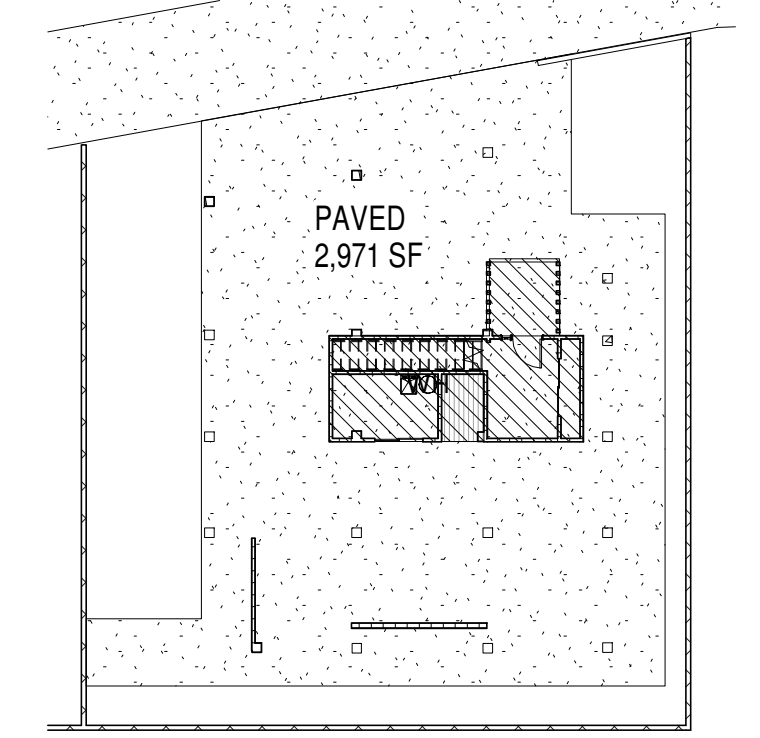
	Project:	NEW SINGLE FAMILY DWELLING 53-424 KAMEHAMEHA HIGHWAY #4 HAUULA, HAWAII 96717 5-3-005:070
	Description:	TITLE SHEET

DATE	05/15/2022
JOB NO.	53-424 KAM
DRAWN BY	JC
DESIGNED BY	JC

SHEET NUMBER
<b>A01</b>
1 OF SHEETS



**MAIN FLOOR AREA PLAN**  
1" = 20'-0"



**LOWER FLOOR AREA PLAN**  
1" = 20'-0"

**PROJECT DATA**

**PROJECT SCOPE:**  
CONSTRUCT NEW SINGLE FAMILY DWELLING

**ADDRESS:** 53-424 KAMEHAMEHA HIGHWAY #4

**LUO DATA:**  
TMK: 5-3-005:070 CPR LOT #4  
LOT AREA: 211,397 SF (LOT #4: 4,171 SF)  
ZONING: R-5 / AG-2

MAXIMUM BUILDING AREA ALLOWED(50%) LOT #4: 2,085.5 SF

**BUILDING AREA:**  
SINGLE FAMILY DWELLING 2071.18 SF

**FLOOR AREA:**  
SINGLE FAMILY DWELLING 350.00 SF (LOWER)  
TOTAL 1,874.73 SF (MAIN)  
2,124.73 SF 0.51 < 0.6 FAR

NO ADDITIONAL REQUIREMENT PER BILL 57 / ORD 20-43.

**BATHROOM COUNTS**  
SINGLE FAMILY DWELLING 2 BATH  
MAX ALLOW PER BILL 57 / ORD 20-43 4 BATH PER UNIT

**PARKING** FOR 2,124.73 SF  
PARKING PER BILL 2 / ORD 20-41  
PAVED AREA 2,971 SF (3,128 SF MAX=75% OF LOT SIZE)

REQUIRED	PROVIDED
2	3 COVERED
2,971 SF	(3,128 SF MAX=75% OF LOT SIZE)

INDEX TO DRAWINGS	
A01	TITLE SHEET
A02	PROJECT INFO, PLANS
A03	ELEVATIONS, SECTION

**KNOK BUN JOHNSON CHENG**  
LICENSED PROFESSIONAL ARCHITECT  
No. 11572  
HAWAII U.S.A.

The work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in the current Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors and Landscape Architects.")

*Knok Bun Johnson Cheng*

Expiration Date 04/30/24 05/15/2022

Contractor shall carefully verify all dimensions, materials, existing site conditions and field measurements, study and compare the construction documents and notify the Architect of any discrepancy, inconsistency or omission he may discover before proceeding with the work. Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for the coordinating and the supervision of all construction work under the contract. All work shall be performed in conformance with all applicable provisions of the Uniform Building Code and all governmental regulations.

REVISION		
REV	DATE	DESCRIPTION

**KBJCHENG**  
Architecture and Planning

Project: NEW SINGLE FAMILY DWELLING  
53-424 KAMEHAMEHA HIGHWAY #4  
HALULA, HAWAII 96717  
5-3-005:070

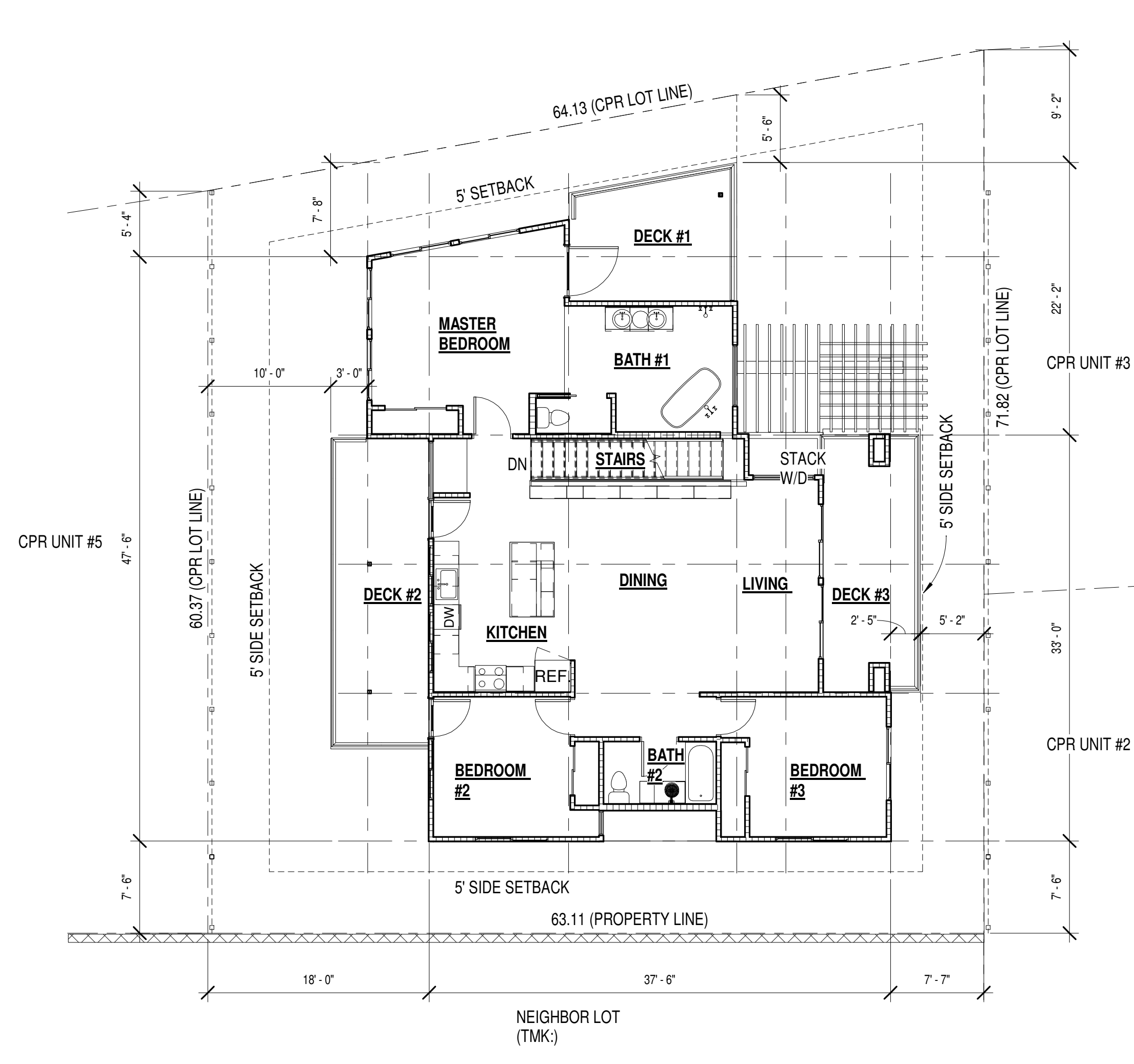
Description: PROJECT INFO, PLANS

DATE	05/15/22
JOB NO.	53-424 KAM
DRAWN BY	JC
DESIGNED BY	JC

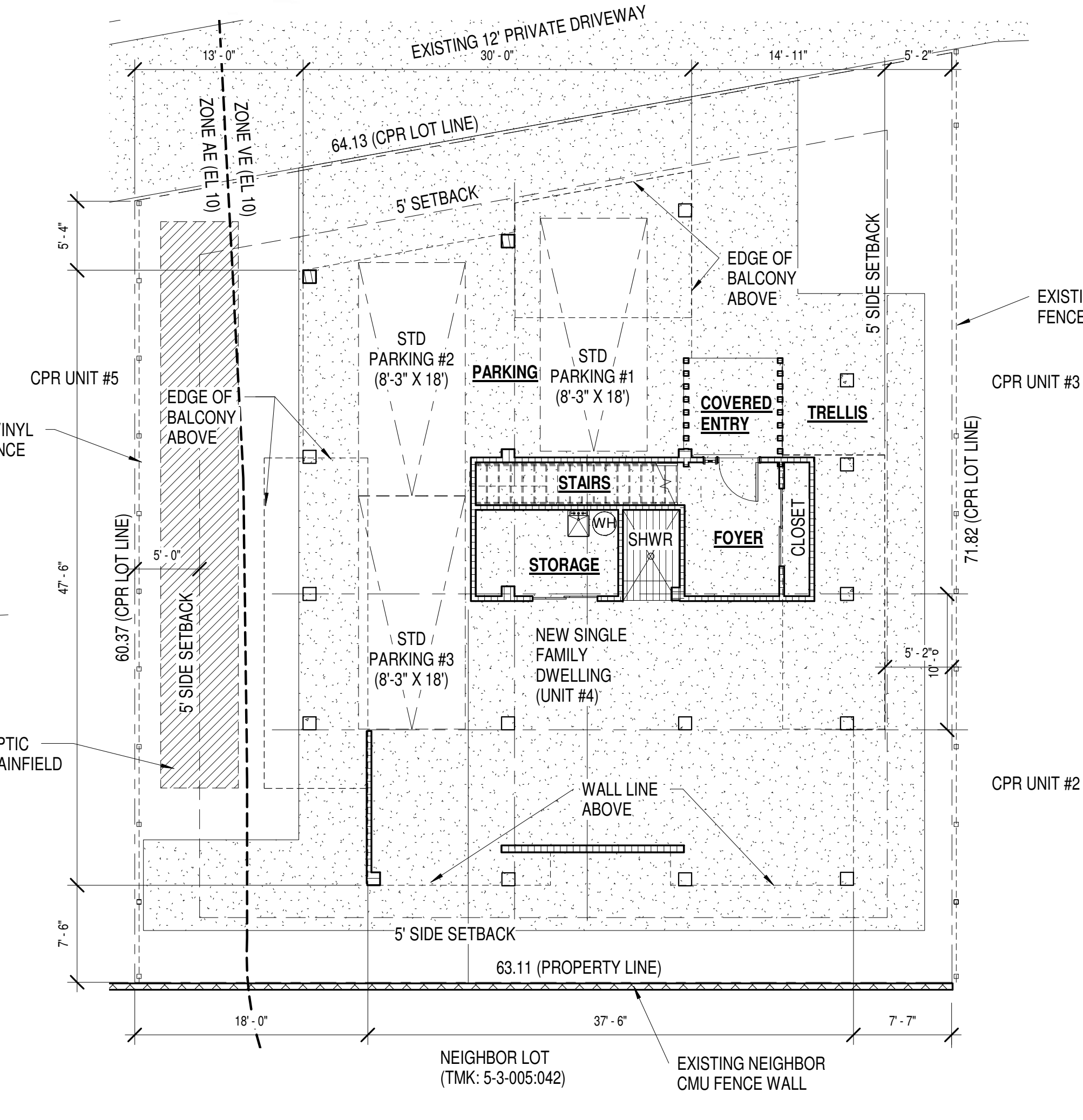
SHEET NUMBER

**A02**

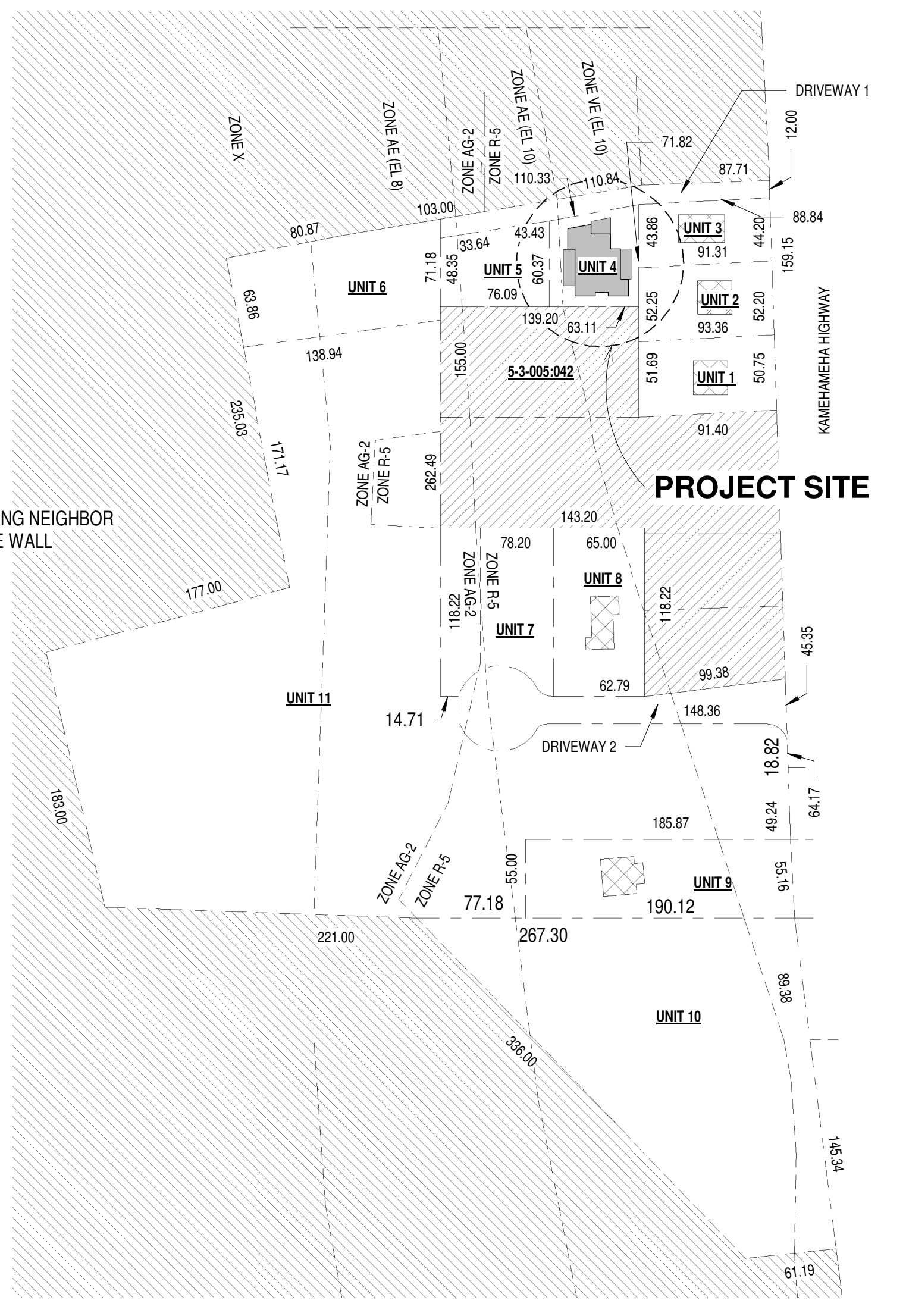
OF SHEETS



**MAIN FLOOR SITE PLAN**  
1/8" = 1'-0"

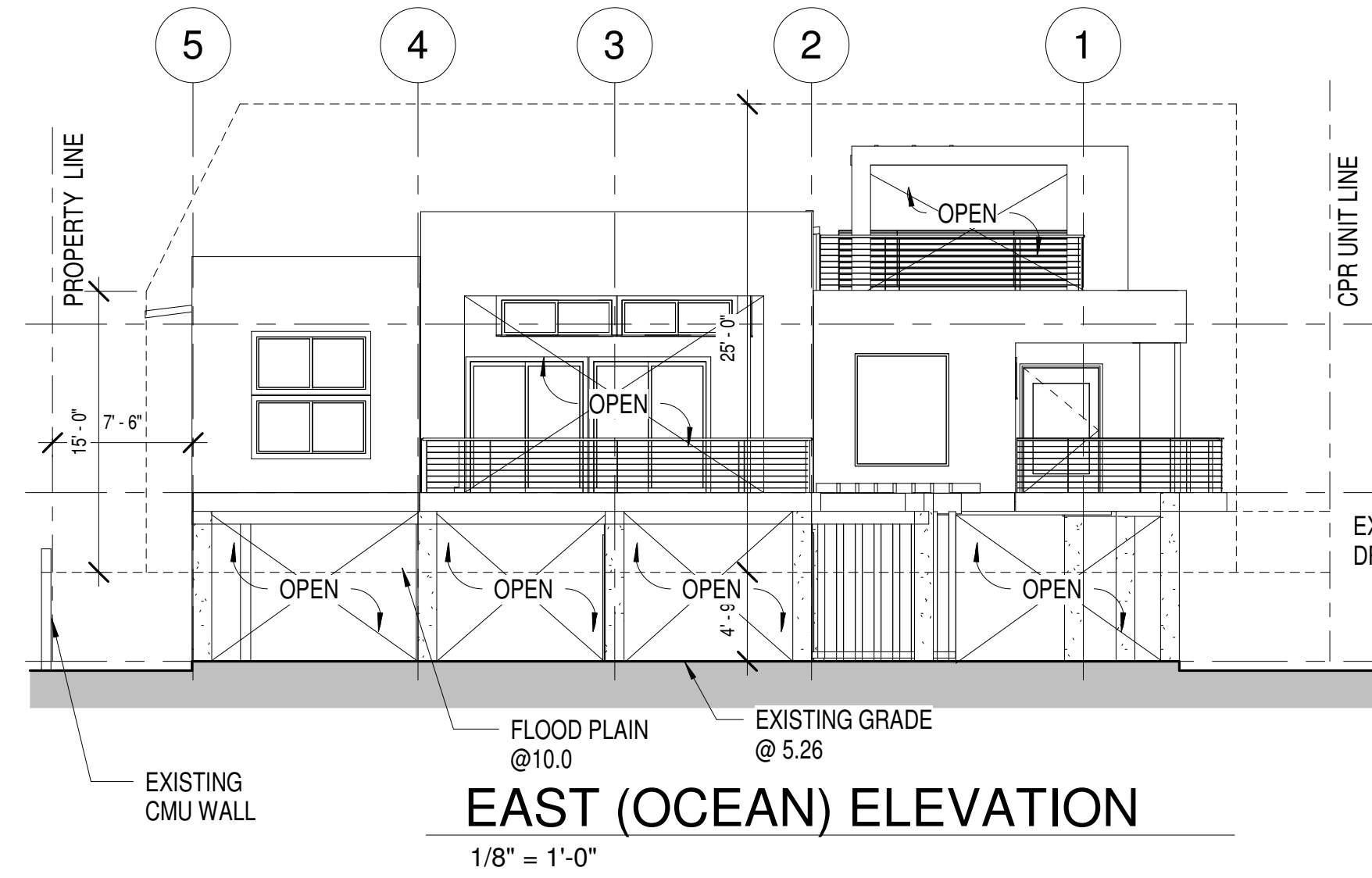


**LOWER FLOOR SITE PLAN**  
1/8" = 1'-0"



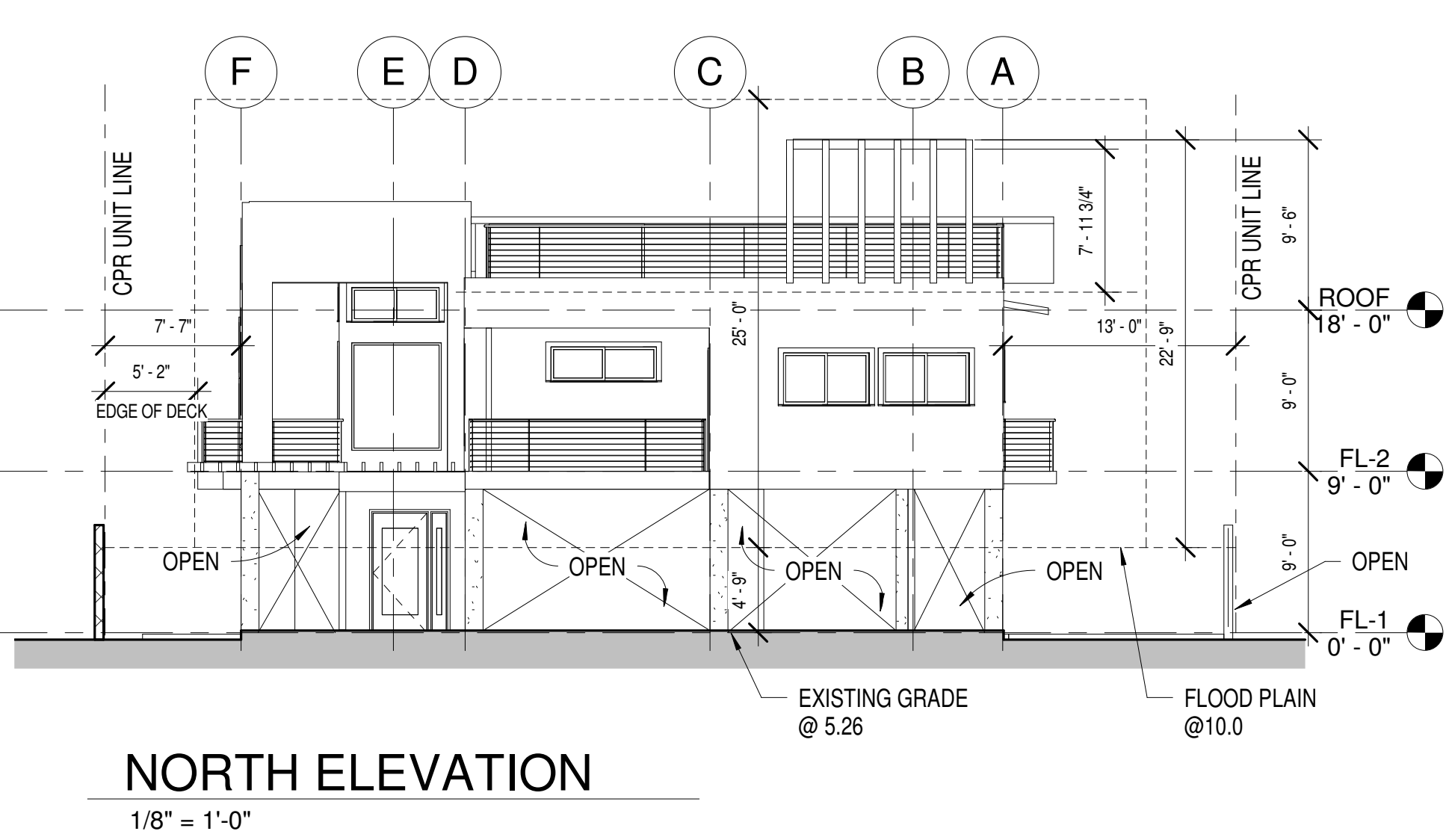
**OVERALL SITE PLAN**  
1" = 80'-0"





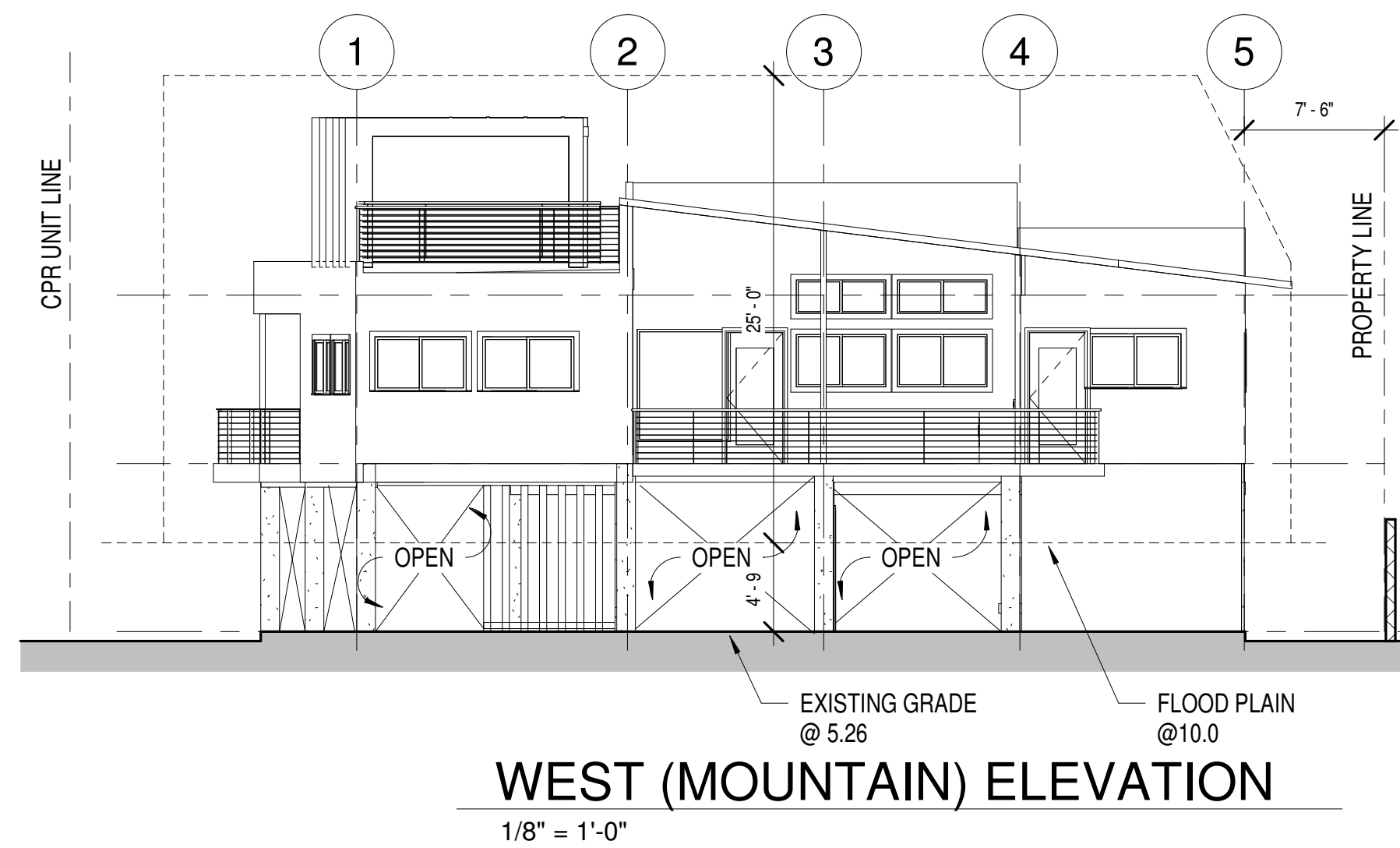
**EAST (OCEAN) ELEVATION**

1/8" = 1'-0"



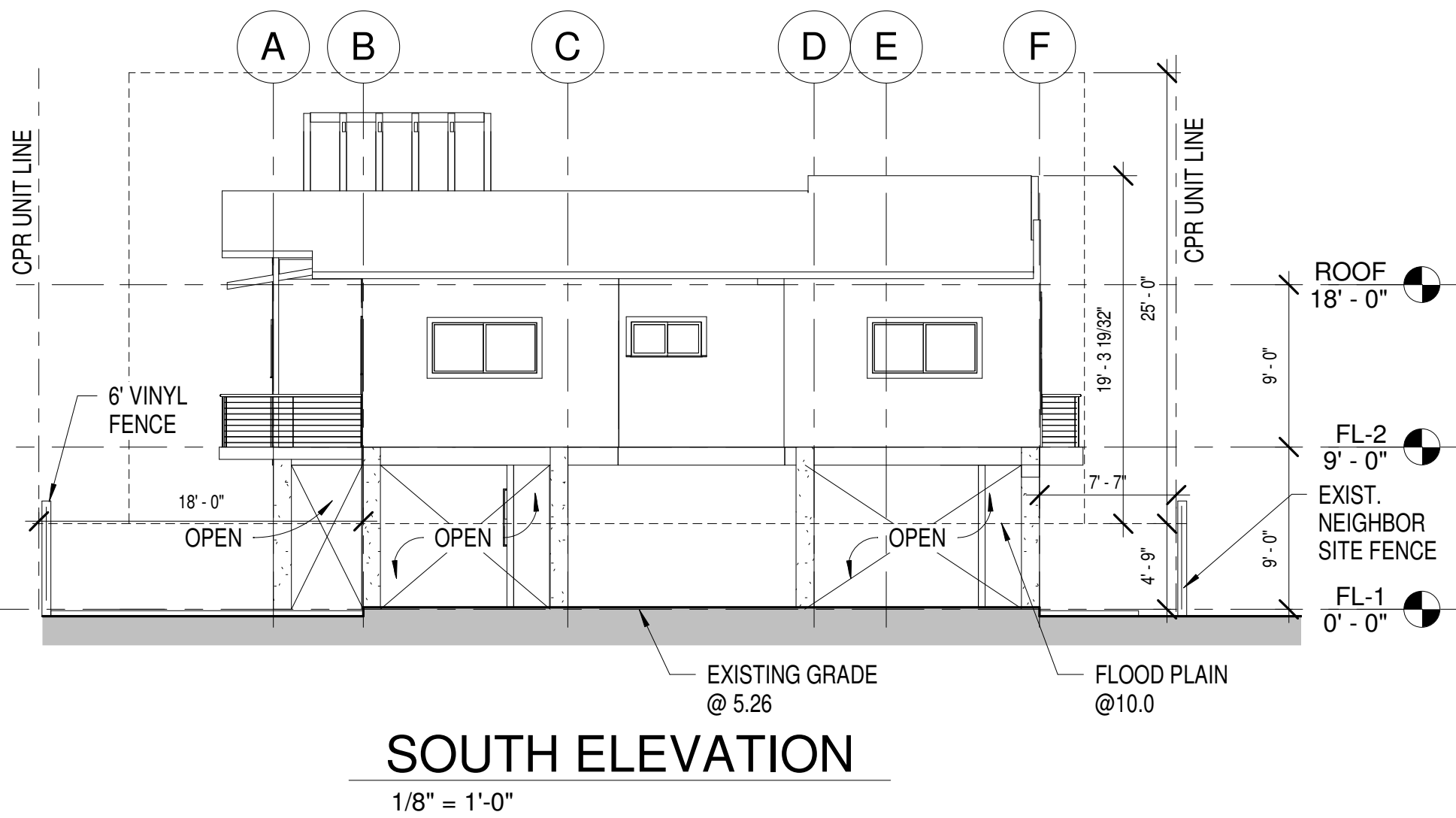
**NORTH ELEVATION**

1/8" = 1'-0"



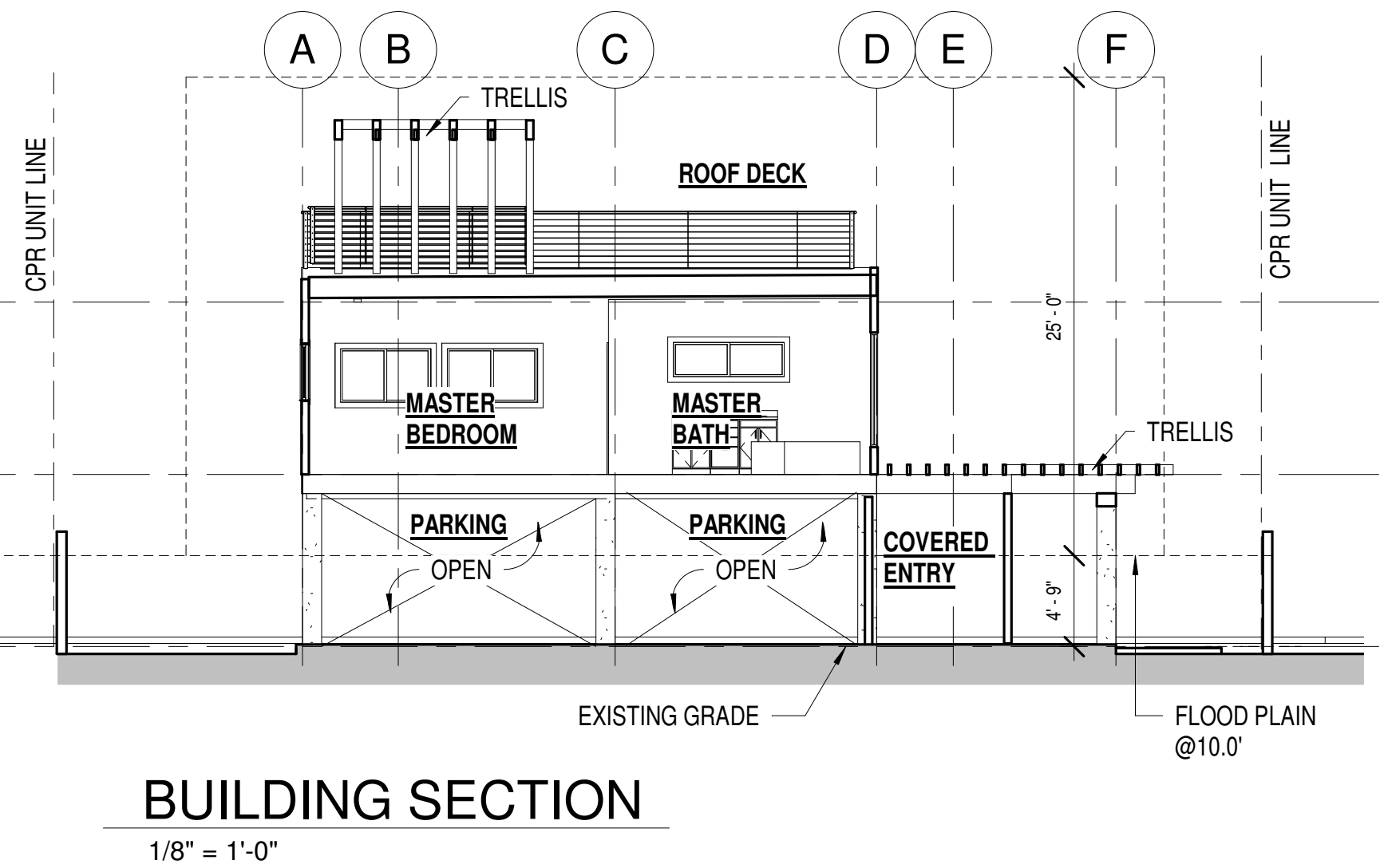
**WEST (MOUNTAIN) ELEVATION**

1/8" = 1'-0"



**SOUTH ELEVATION**

1/8" = 1'-0"



**BUILDING SECTION**

1/8" = 1'-0"

The work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in the current Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors and Landscape Architects.")

Expiration Date 04/30/24 05/15/2022

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REVISION		
REV	DATE	DESCRIPTION

KBJCHENG

Architecture and Planning

Project: NEW SINGLE FAMILY DWELLING  
 53-424 KAMEHAMEHA HIGHWAY #4  
 HALULU, HAWAII 96717  
 5-3-005070

ELEVATIONS, SECTION

DATE	05/16/22
JOB NO.	53-424 KAM
DRAWN BY	Author
DESIGNED BY	Designer

SHEET NUMBER

A03

OF SHEETS

**RSWMP NOTES:**

RESIDENTIAL STORM WATER MANAGEMENT NOTES FOR SINGLE-FAMILY AND TWO-FAMILY DWELLING PROJECTS:

(i) USE SITE DESIGN STRATEGIES TO REDUCE THE IMPERVIOUS SURFACE AREAS TO THE MAXIMUM EXTENT PRACTICAL. THE TOTAL IMPERVIOUS SURFACE AREA FOR THE LOT MAY NOT EXCEED 75%, PER LUO SECTION 21-3.70.1(G).

(ii) TOTAL IMPERVIOUS AREA = 71.33%

**SPECIAL INSPECTION**

- #1 CONCRETE
- #13 SPECIAL GRADING, EXCAVATION AND FILLING
- #16 SHEATHED SHEAR WALLS AND DIAPHRAGMS
- #17 COMPLETE LOAD PATH AND UPLIFT TIES
- #18 TERMITE PROTECTION

**PLUMBING / WATER NOTES:**

- ALL NEW PLUMBING FIXTURES ARE LOW FLOW UNLESS OTHERWISE NOTED.
- WATER METER FOR THE PROPOSED PROJECT DOES NOT SERVE ANY IRRIGATION AND/OR AUTOMATIC FIRE SPRINKLER SYSTEM.

**BWS NOTE:**

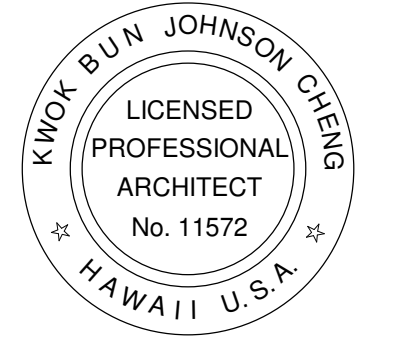
WATER METER DO NOT SERVE ANY IRRIGATION AND AUTOMATIC FIRE SPRINKLER SYSTEM

**WALL LEGEND:**

- WALL CONSTRUCTION**
- EXTERIOR WALLS:**  
2X4 STUD @16"OC W/ 1/2" PLYWOOD AND 5/8" EXTERIOR SIDING W/ R-13 INSULATION IN WALL CAVITY, AND 1/2" GYP BD ON INTERIOR  
5/8" TYPE 'X' GYP BD ON INTERIOR AT ADU
- INTERIOR WALLS:**  
2X4 STUD @16"OC W/ 1/2" GYP BD BOTH SIDES
- INTERIOR SUPPORTING WALLS:**  
2X4 STUD @16"OC W/ 1/2" GYP BD BOTH SIDES  
5/8" TYPE 'X' GYP BD BOTH SIDES AT ADU
- PLUMBING WALLS:**  
2X6 STUD @16"O.C. W/ 1/2" CEMENT BD TO WET SIDE, 1/2" GYP BD TO DRY SIDE
- STRUCTURAL SHEAR WALLS:**  
ADD 1/2" PLYWD ON ONE SIDE OF STUD WALL

**EXTERIOR LIGHT FIXTURE LEGEND:**

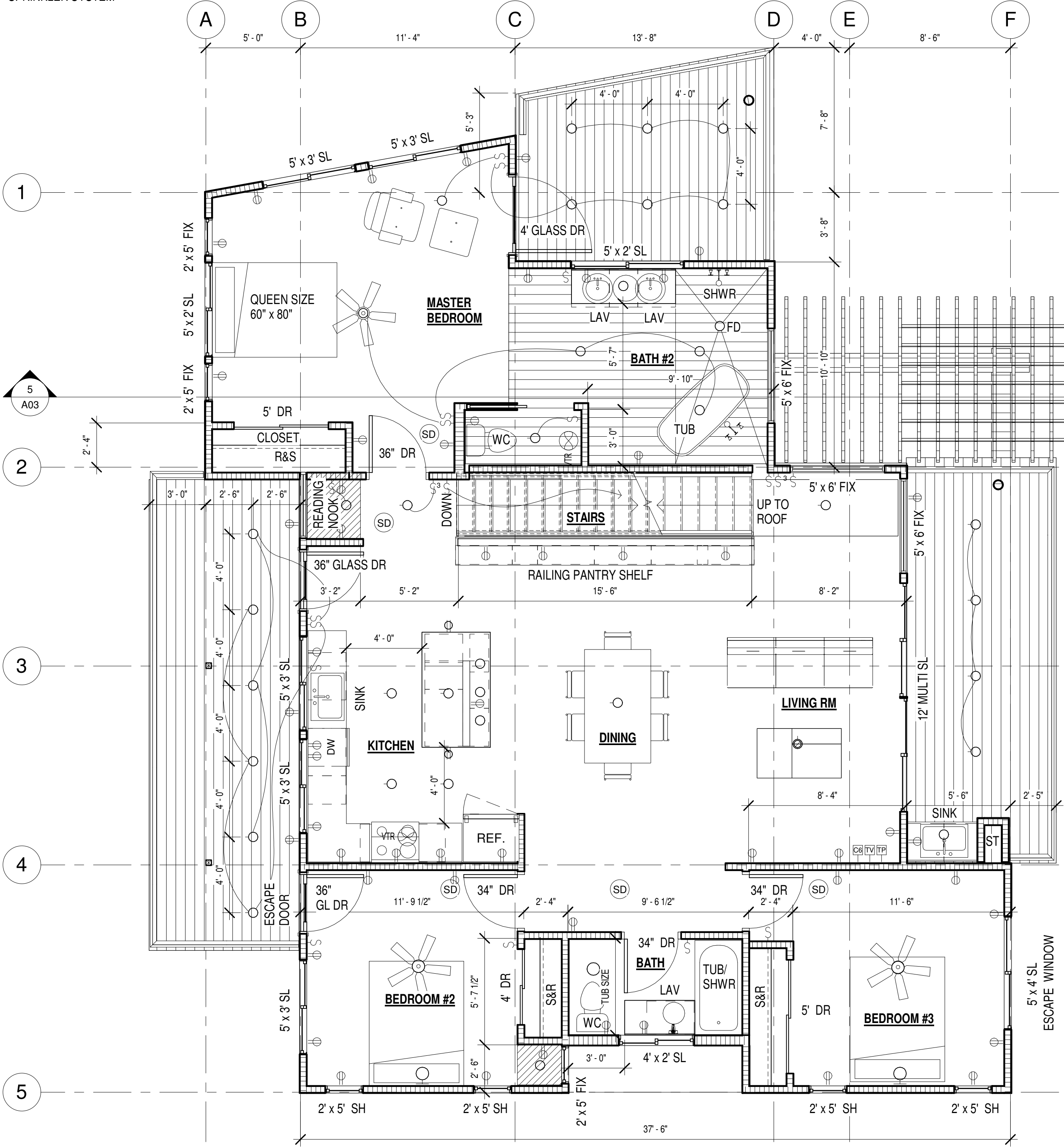
- 6" RECESS DOWNLIGHT FIXTURE
- ⊙ 6" SURFACE MOUNTED DOWNLIGHT FIXTURE
- NONE WALL SCONCES



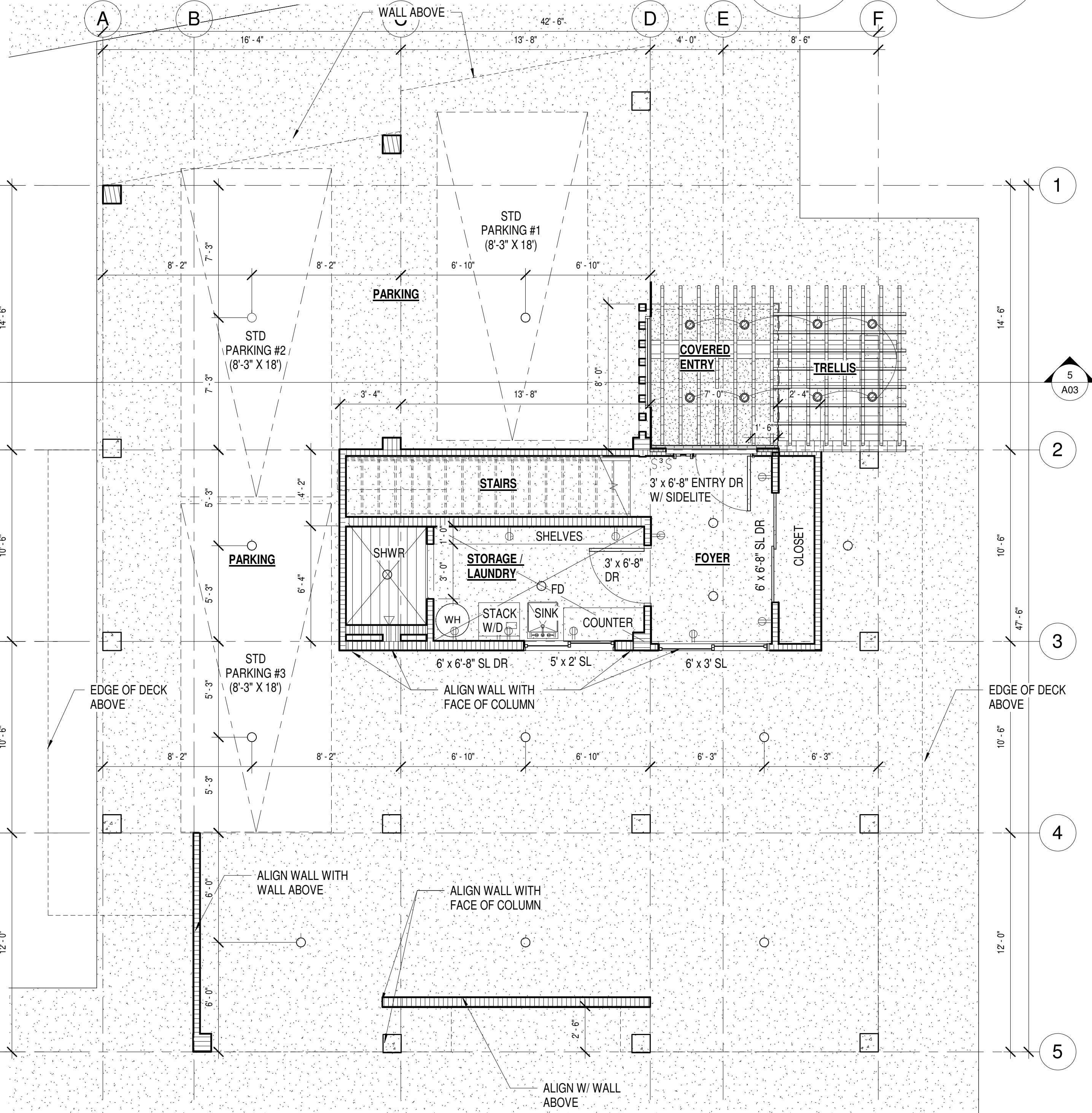
The work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in the current Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors and Landscape Architects".)  
*Knok Bun Johnson Cheng*  
Expiration Date 04/30/24 05/15/2022

Contractor shall carefully verify all dimensions, materials, existing site conditions and field measurements, study and compare the construction documents and notify the Architect of any discrepancy, inconsistency or omission he may discover before proceeding with the work. Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for the coordinating and the supervision of all construction work under the contract. All work shall be performed in conformance with all applicable provisions of the Uniform Building Code and all governmental regulations.

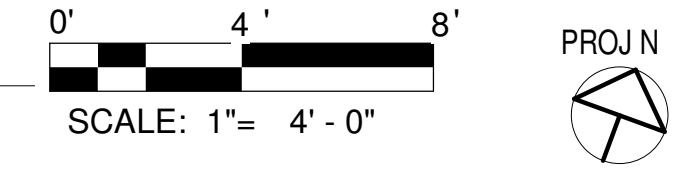
REVISION		
REV	DATE	DESCRIPTION
1	06/20/2022	SMA



**MAIN FLOOR PLAN**  
1/4" = 1'-0"



**LOWER FLOOR PLAN**  
1/4" = 1'-0"



**KBJCHENG**  
Architecture and Planning

Project: NEW SINGLE FAMILY DWELLING  
59-424 KAMEHAMEHA HIGHWAY #4  
HALULU, HAWAII 96717  
5-3-005070

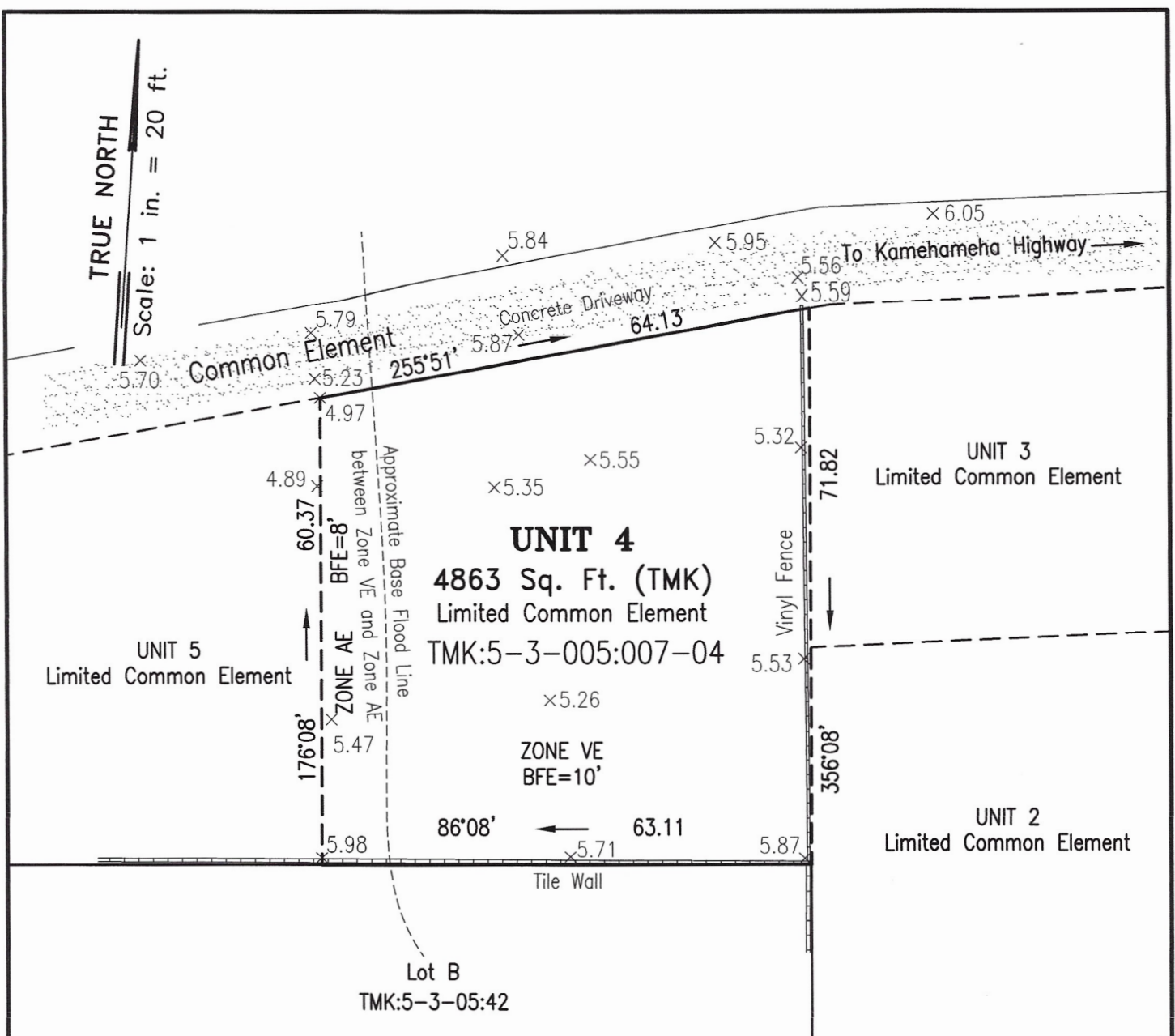
FLOOR PLANS

DATE	10/24/2018
JOB NO.	53-424 KAM
DRAWN BY	JC
DESIGNED BY	JC

SHEET NUMBER  
**A03.1**  
2 OF SHEETS

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TRUE NORTH  
Scale: 1 in. = 20 ft.



**SURVEY MAP  
UNIT 4**

A Condominium Property Regime  
Condo Map No. 5805

Kapano, Koolauloa, Oahu, Hawaii  
Tax Map Key: 5-3-005:007-04  
Scale: 1 inch = 20 feet  
Date: May 13, 2022

**NOTES:**

1. Only improvements shown were located.
2. Elevation referred from 5-3 Brass Disk TU0488 (NGS Data Sheet) El.=6.35 Feet.
3. Flood Zone VE and BFE Flood Depth = 10'  
Address: 53-424 Kam. Hwy. Hauula, HI.



*Constancio G. Galang* Exp. 4/24  
This work was prepared by me or under my direct supervision.





**Galang Land Survey  
& Mapping, INC.**

# Invoice

05/13/22  
Invoice # 1447

TO: Mr. Pulin Brahmbhatt

53-424 Kamehameha Highway  
Hauula, HI. 96717  
TMK: 5-3-005:007-04

(808) 428-1975

Survey Date: 5/6/2022

Due Date  
5/28/22

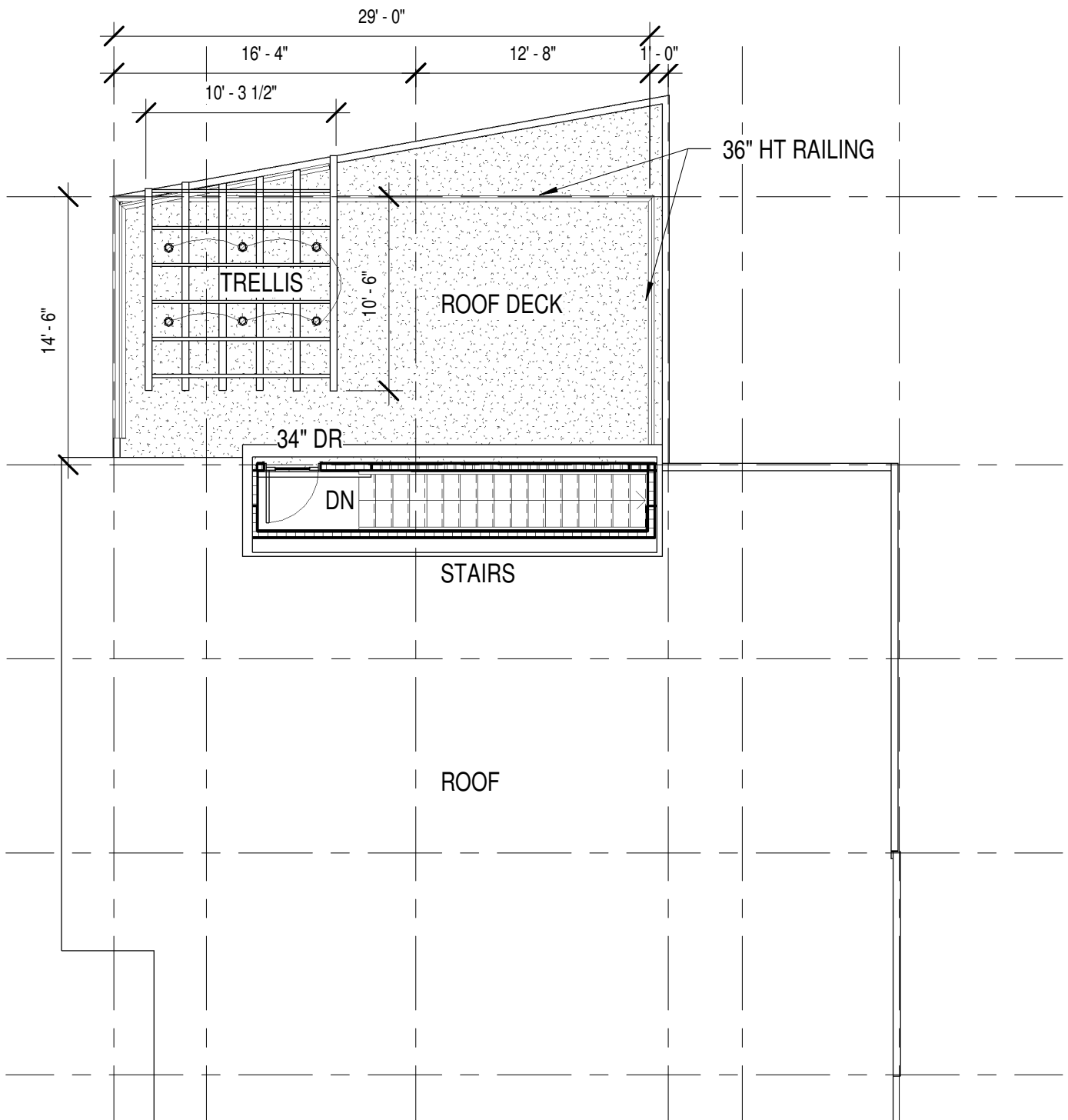
Qty	Description	Line Total
1.00	Survey Map	\$ 1,000.00

Subtotal	\$	1,000.00
Tax	\$	47.12
Total	\$	1,047.12

**Upon receipt of Invoice, any unpaid balance after 15 days will be subjected to maximum statutory interest per month**

**Make all checks payable to  
[Constancio Galang or Galang Land Survey and Mapping, INC]**

**92-680 Palailai Street Kapolei, HI. 96707  
Tel: (808)672-6396 Email: [galangsurvey@gmail.com](mailto:galangsurvey@gmail.com)  
Mahalo and Aloha!**



DAVID Y. IGE  
GOVERNOR OF HAWAII



ELIZABETH A. CHAR, M.D.  
DIRECTOR OF HEALTH

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

In reply, please refer  
to:

WW 718 Final CL Nishal Brahmhatt  
53-424 Kam Hwy Hauula

October 28, 2022

Mr. Dennis Poma, P.E.  
ASCI Hawaii Inc.  
94-515 Ukee Street, Suite 301  
Waipahu, Hawaii 96797

Dear Mr. Poma:

Subject: **Variance Application No. WW 736 Docket No. 22-VWW-23 ID 722**  
Final Decision Regarding Individual Wastewater System for  
Mr. Nishal Brahmhatt, 53-424 Kamehameha Highway  
Hauula, Hawaii 96717 TMK (1) 5-3-005-070: 0004

The Department of Health (Department) has granted your request for the subject variance per the enclosed Decision and Order dated October 28, 2022 for five (5) years. We are also enclosing the Department's Findings of Fact and Conclusions of Law.

If there are any questions relating to the variance, please contact Ms. Sina Pruder, Chief of the Wastewater Branch at (808) 586-4294.

Sincerely,

A handwritten signature in blue ink that reads "Joanna L. Seto".

JOANNA L. SETO, P.E., CHIEF  
Environmental Management Division

LM/SP:lmj

Enclosures: Final Decision Documents

c: Agent: Mr. Dennis Poma, via mail & email: [dennis.poma@acsihawaii.com](mailto:dennis.poma@acsihawaii.com)  
Applicant: Mr. Nishal Brahmhatt, via email: [b.nishal@gmail.com](mailto:b.nishal@gmail.com)  
Clean Water Branch (AW), via email  
Safe Drinking Water Branch (DL, IZ), via email  
Wastewater Branch, Oahu Staff Engineer (STS), via email  
Honolulu Board of Water Supply, via email: [manager-SOH@hbws.org](mailto:manager-SOH@hbws.org)  
City & County of Honolulu, DPP, via mail  
Neighborhood Board # 28 – Hauula, via email: [nco@honolulu.gov](mailto:nco@honolulu.gov)

STATE OF HAWAII  
DEPARTMENT OF HEALTH

In the Matter of the Variance Application WW 736 )	Docket No. 22-VWW-23
For Individual Wastewater System )	ID 722
Mr. Nishal Brahmhatt )	
53-424 Kamehameha Highway )	
Hauula, Hawaii 96717 )	
TMK (1) 5-3-005-070: 0004 )	
_____ )	

DECISION AND ORDER

Pursuant to Hawaii Revised Statutes (HRS), Chapter 342D and Hawaii Administrative Rules (HAR), Chapter 62 of Title 11, "Wastewater Systems," and based upon the application and staff review, the variance request from the provisions of HAR sections 11-62-33.1(b)(6) and 11-62-34(c)(1)(C) is hereby granted for five (5) years with the following conditions:

1. Plans for an NSF/ANSI 245 certified aerobic treatment unit (ATU) with ultraviolet disinfection and leach field shall be submitted to the Wastewater Branch for review and approval. The installation of the ATU system shall conform to requirements of HAR, Chapter 11-62. In addition, the ATU system shall be approved in writing before it may be used.
2. The project shall connect to the County sewer system should it become available to the area.
3. There is no automatic renewal. Should the applicant wish to renew this variance application, the applicant must submit an Application for Variance for renewal, 180 days prior to expiration date.

DATED: Pearl City, Hawaii, October 28, 2022.



\_\_\_\_\_  
JOANNA L. SETO, P.E., CHIEF  
Environmental Management Division



STATE OF HAWAII  
DEPARTMENT OF HEALTH

In the Matter of the Variance Application WW 736 )	Docket No. 22-VWW-23
For Individual Wastewater System )	ID 722
Mr. Nishal Brahmhatt )	
53-424 Kamehameha Highway )	
Hauula, Hawaii 96717 )	
TMK (1) 5-3-005-070: 0004 )	
_____ )	

FINDINGS OF FACT AND CONCLUSIONS OF LAW

Department of Health (DOH) staff reviewed an application from Mr. Nishal Brahmhatt for a five (5) year variance from sections 11-62-33.1(b)(6) and 11-62-34(c)(1)(C) of Hawaii Administrative Rules (HAR), Chapter 62 of Title 11, "Wastewater Systems."

A public notice of the application was printed in the August 9, 2022 issue of the *Honolulu Star Advertiser* newspaper. Three (3) comments pertaining to the application were received during the 30 days following the publication of the public notice.

Findings of Fact

Mr. Dennis Poma is the authorized agent to act for the applicant. The variance request is for the construction of a new individual wastewater system to be installed at 53-424 Kamehameha Highway, Hauula, Hawaii 96717 and TMK (1) 5-3-005-070: 0004.

Additional statements and information for this project have been provided in the variance application. Please contact the Wastewater Branch at (808) 586-4294 for a copy of the Application for Variance.

The following agencies submitted the following comments:

1. The Clean Water Branch stated that they will defer to the Wastewater Branch's final decision. Please call Mr. Alec Wong, Branch Chief of the Clean Water Branch at (808) 586-4309, if you have any questions or comments.
2. The Safe Drinking Water Branch has no objection to the granting of the variance application. If you have any questions on these comments, please contact Ms. Iris Van Der Zander at (808) 586-4258.
3. The Wastewater Branch submitted the following comments:
  - A. Plans for an NSF/ANSI 245 certified aerobic treatment unit (ATU) with ultraviolet disinfection and leach field shall be submitted to the Wastewater Branch for review and approval. The installation of the ATU system shall conform to requirements of HAR, Chapter 11-62. In addition, the ATU system shall be approved in writing before it may be used.
  - B. The project shall connect to the County sewer system should it become available to the area.

- C. Upon agreement of the conditions stated above, we recommend the granting of this variance.

Conclusions of Law

Hawaii Revised Statutes Section 342D-7(c), states that in part, no variance shall be granted by the DOH unless the application and supporting information clearly show that:

1. The continuation of the function or operation involved in the discharge of waste occurring or proposed to occur by the granting of this variance is in the public interest as defined in section 342D-6.
2. The discharge occurring or proposed to occur does not substantially endanger human health or safety.
3. Compliance with the rules or standards from which the variance is sought would produce serious hardship without equal or greater benefits to the public.

Based upon the foregoing findings of fact, it is concluded that the above requirements have been met.

Comment and Recommendation

Based upon the foregoing findings of fact and conclusions of law, it is my recommendation that the variance request be granted for five (5) years with the following conditions:

1. Plans for an NSF/ANSI 245 certified ATU with ultraviolet disinfection and leach field shall be submitted to the Wastewater Branch for review and approval. The installation of the ATU system shall conform to requirements of HAR, Chapter 11-62. In addition, the ATU system shall be approved in writing before it may be used.
2. The project shall connect to the County sewer system should it become available to the area.
3. There is no automatic renewal. Should the applicant wish to renew this variance application, the applicant must submit an Application for Variance for renewal, 180 days prior to expiration date.

DATED: Pearl City, Hawaii, October 28, 2022.



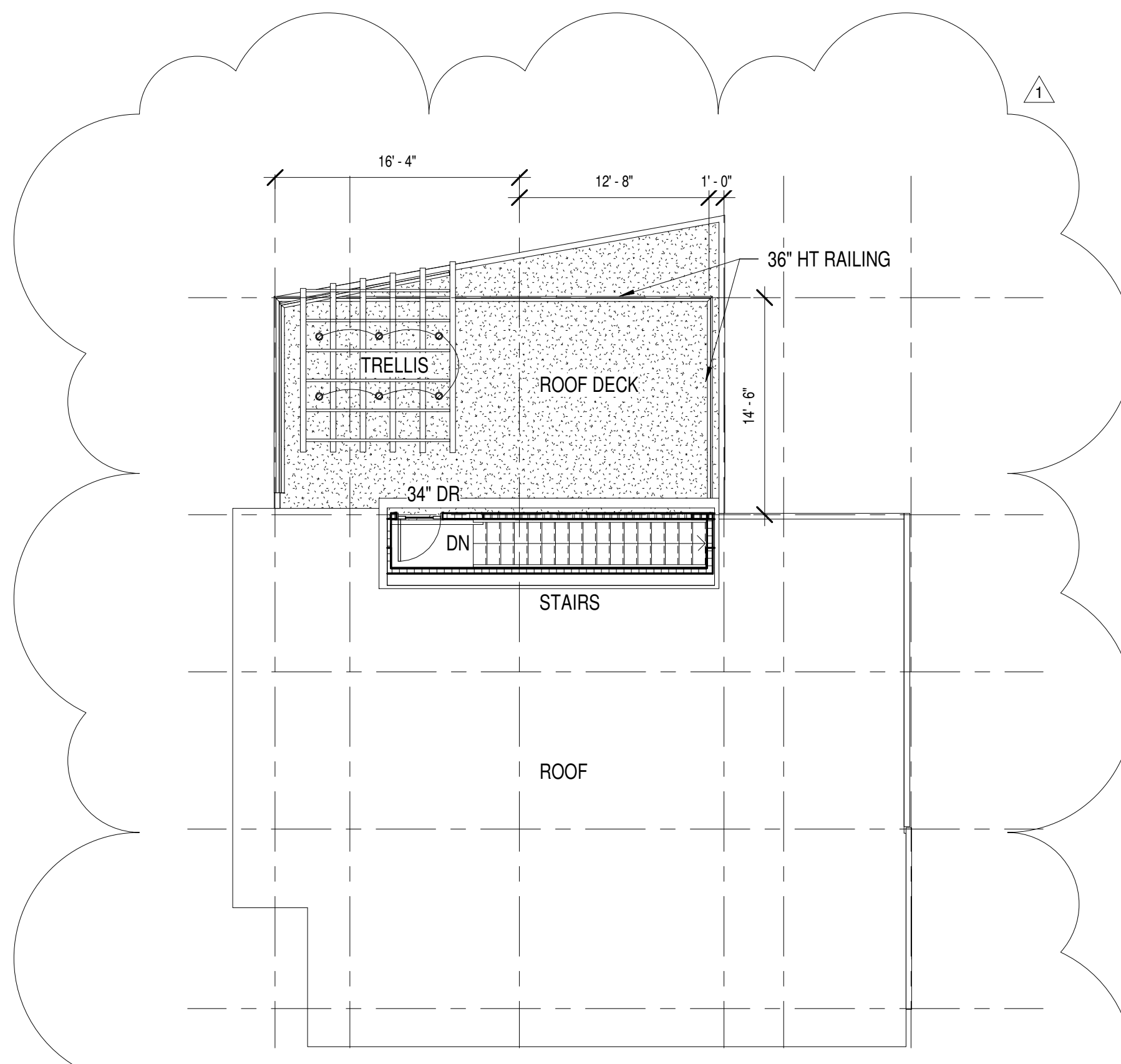
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JOANNA L. SETO, P.E., CHIEF  
Environmental Management Division

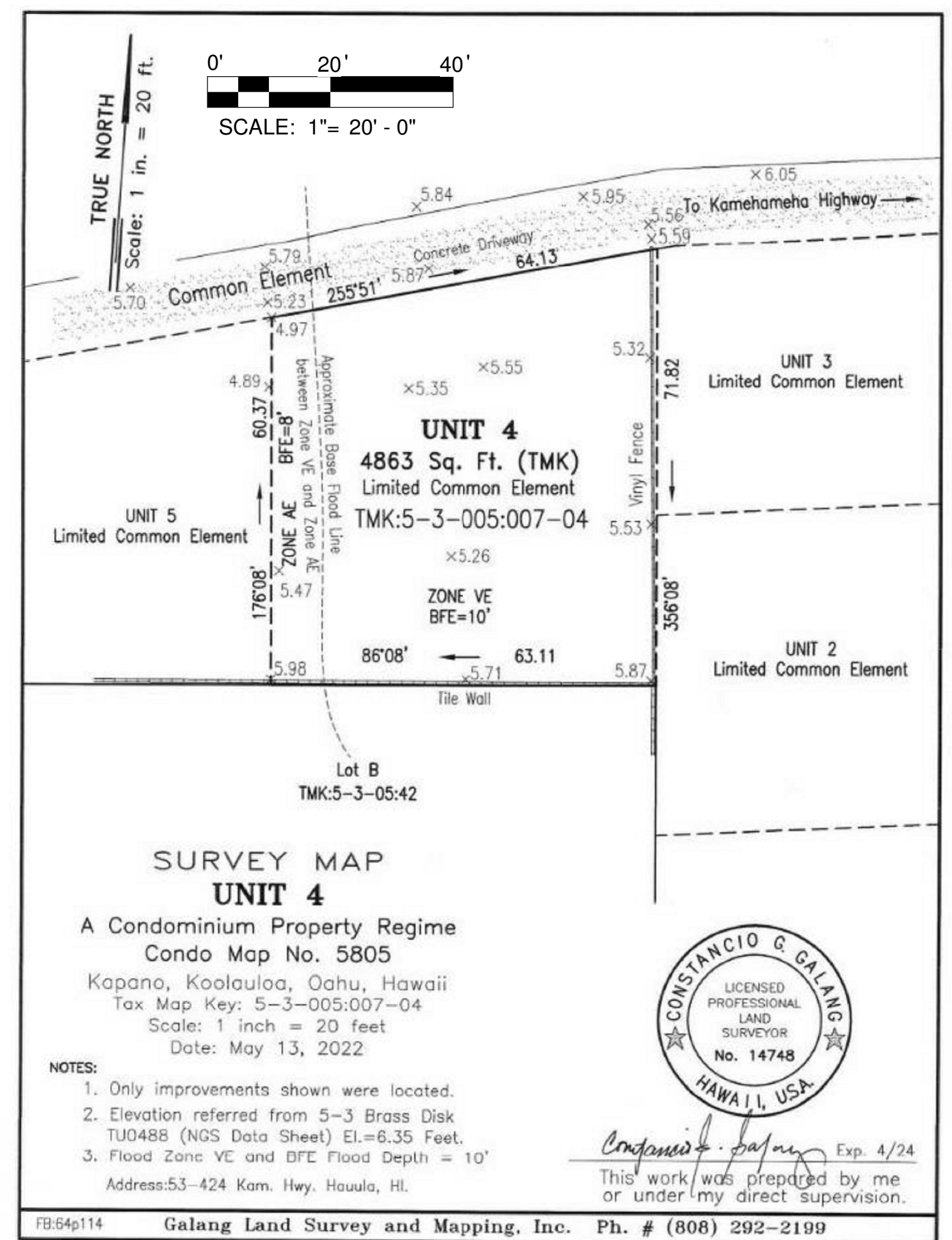
The foregoing findings of fact and conclusions of law are hereby adopted.

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**ROOF AND ROOF DECK PLAN**  
1/8" = 1'-0"



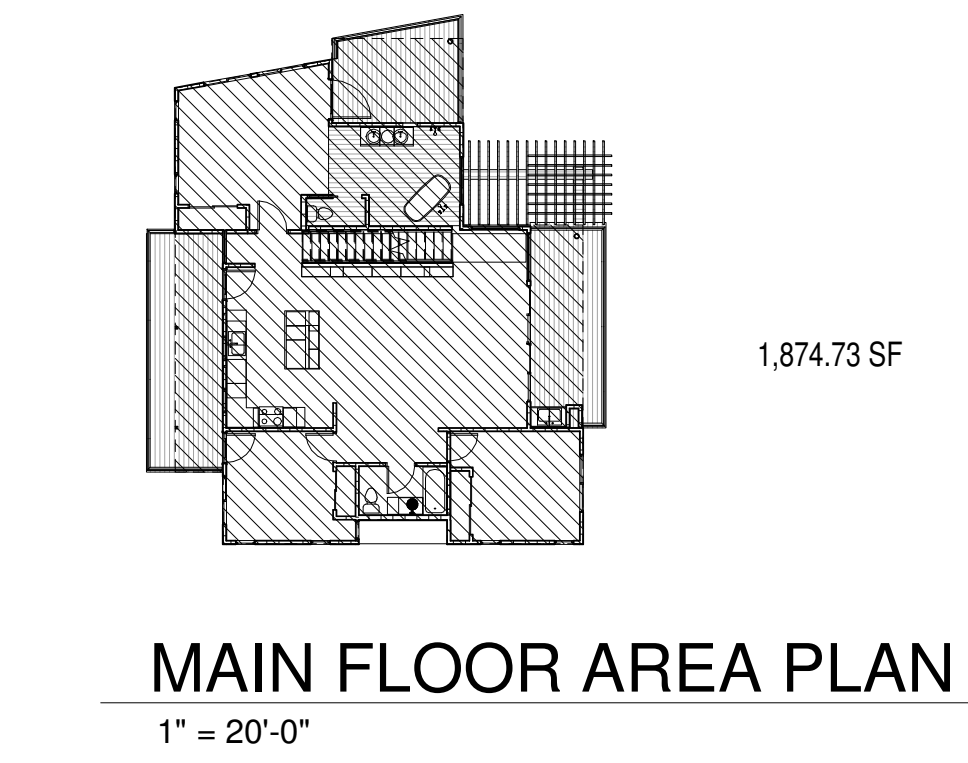
**SURVEY MAP**  
**UNIT 4**  
A Condominium Property Regime  
Condo Map No. 5805  
Kapana, Koolauloa, Oahu, Hawaii  
Tax Map Key: 5-3-005:007-04  
Scale: 1 inch = 20 feet  
Date: May 13, 2022

**NOTES:**  
1. Only improvements shown were located.  
2. Elevation referred from 5-3 Brass Disk TU0488 (NGS Data Sheet) EL=6.35 Feet.  
3. Flood Zone VC and BFE Flood Depth = 10'

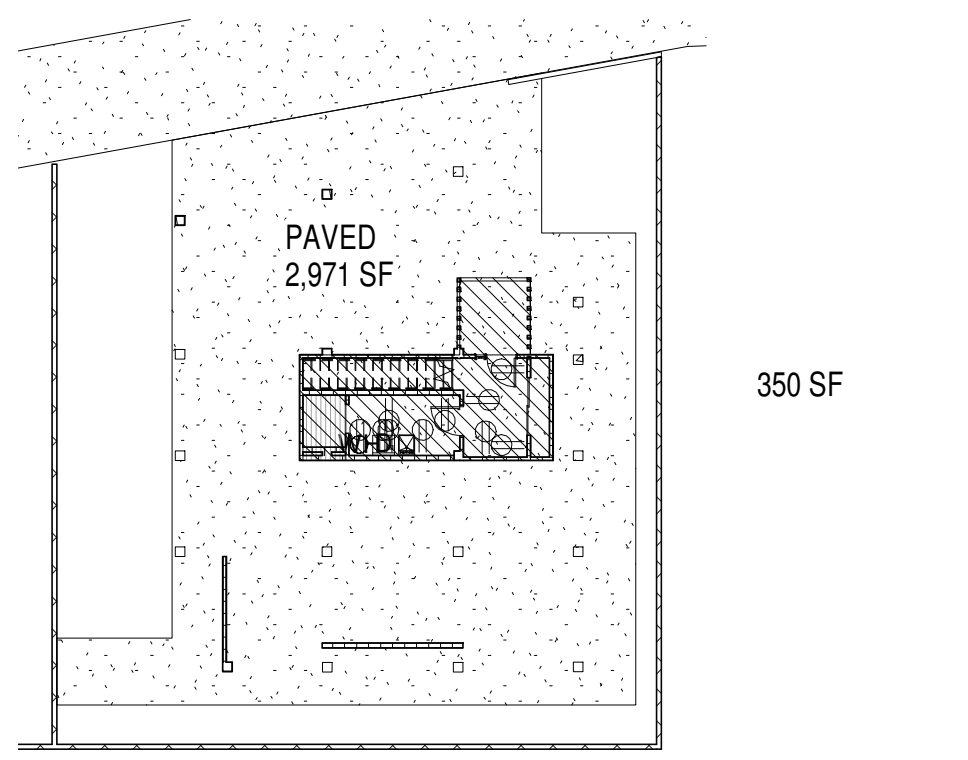
Address: 53-424 Kam. Hwy. Hauula, HI.

**CONSTANCIO G. GALANG**  
LICENSED PROFESSIONAL LAND SURVEYOR  
No. 14748  
HAWAII, U.S.A.  
Exp. 4/24  
This work was prepared by me or under my direct supervision.

Galang Land Survey and Mapping, Inc. Ph. # (808) 292-2199



**MAIN FLOOR AREA PLAN**  
1" = 20'-0"



**LOWER FLOOR AREA PLAN**  
1" = 20'-0"

INDEX TO DRAWINGS

A01	TITLE SHEET
A02	PROJECT INFO, PLANS
A03	ELEVATIONS, SECTION

**PROJECT DATA**  
**PROJECT SCOPE:**  
CONSTRUCT NEW SINGLE FAMILY DWELLING

**ADDRESS:** 53-424 KAMEHAMEHA HIGHWAY #4

**LUO DATA:**  
TMK: 5-3-005:070 CPR LOT #4  
LOT AREA: 211,397 SF (LOT #4: 4,171 SF)  
ZONING: R-5/AG-2

**MAXIMUM BUILDING AREA ALLOWED(50%):** LOT #4: 2,085.5 SF

**BUILDING AREA:**  
SINGLE FAMILY DWELLING 2071.18 SF

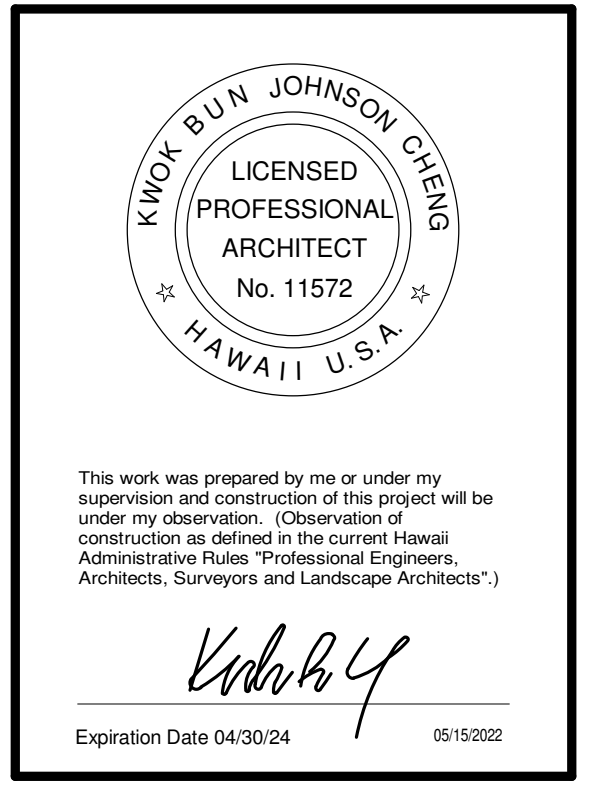
**FLOOR AREA:**  
SINGLE FAMILY DWELLING 350.00 SF (LOWER)  
1,874.73 SF (MAIN)  
TOTAL 2,124.73 SF 0.51 < 0.6 FAR

**NO ADDITIONAL REQUIREMENT PER BILL 57 / ORD 20-43.**

**BATHROOM COUNTS**  
SINGLE FAMILY DWELLING 2 BATH  
MAX ALLOW PER BILL 57 / ORD 20-43 4 BATH PER UNIT

**PARKING FOR 2,124.73 SF**  
PARKING PER BILL 2 / ORD 20-41

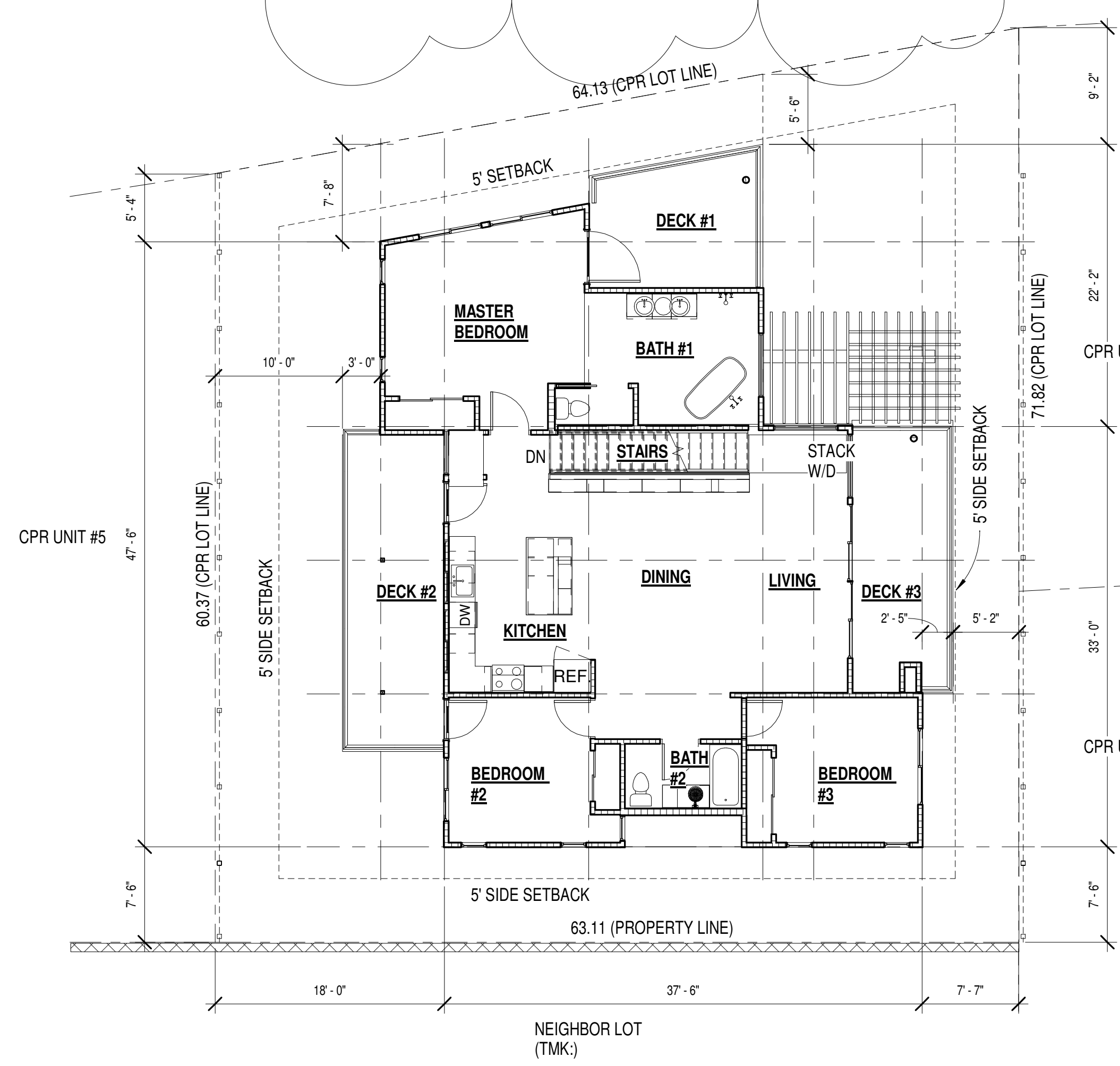
**PAVED AREA** 2,971 SF (3,128 SF MAX=75% OF LOT SIZE)



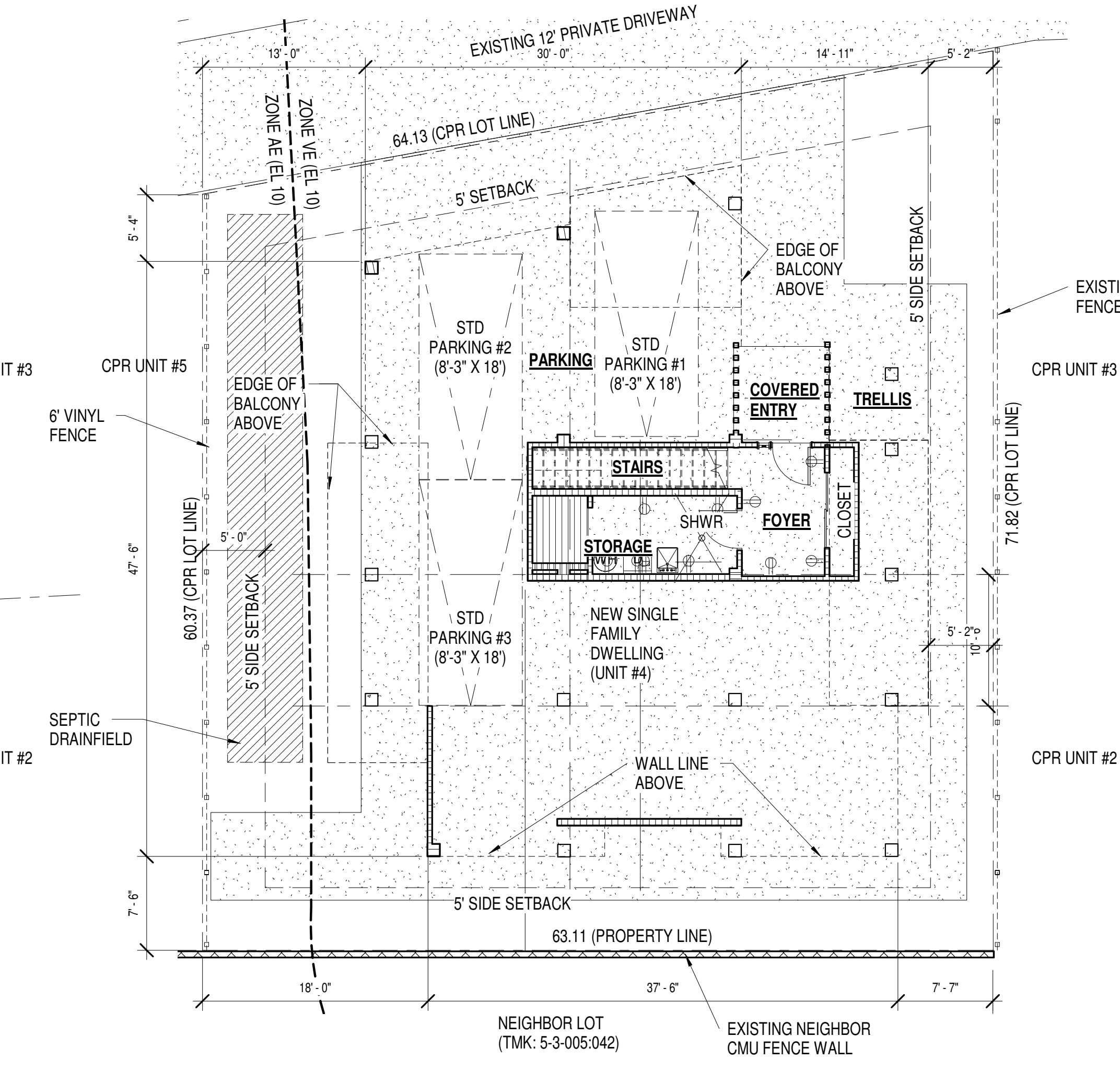
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REVISION

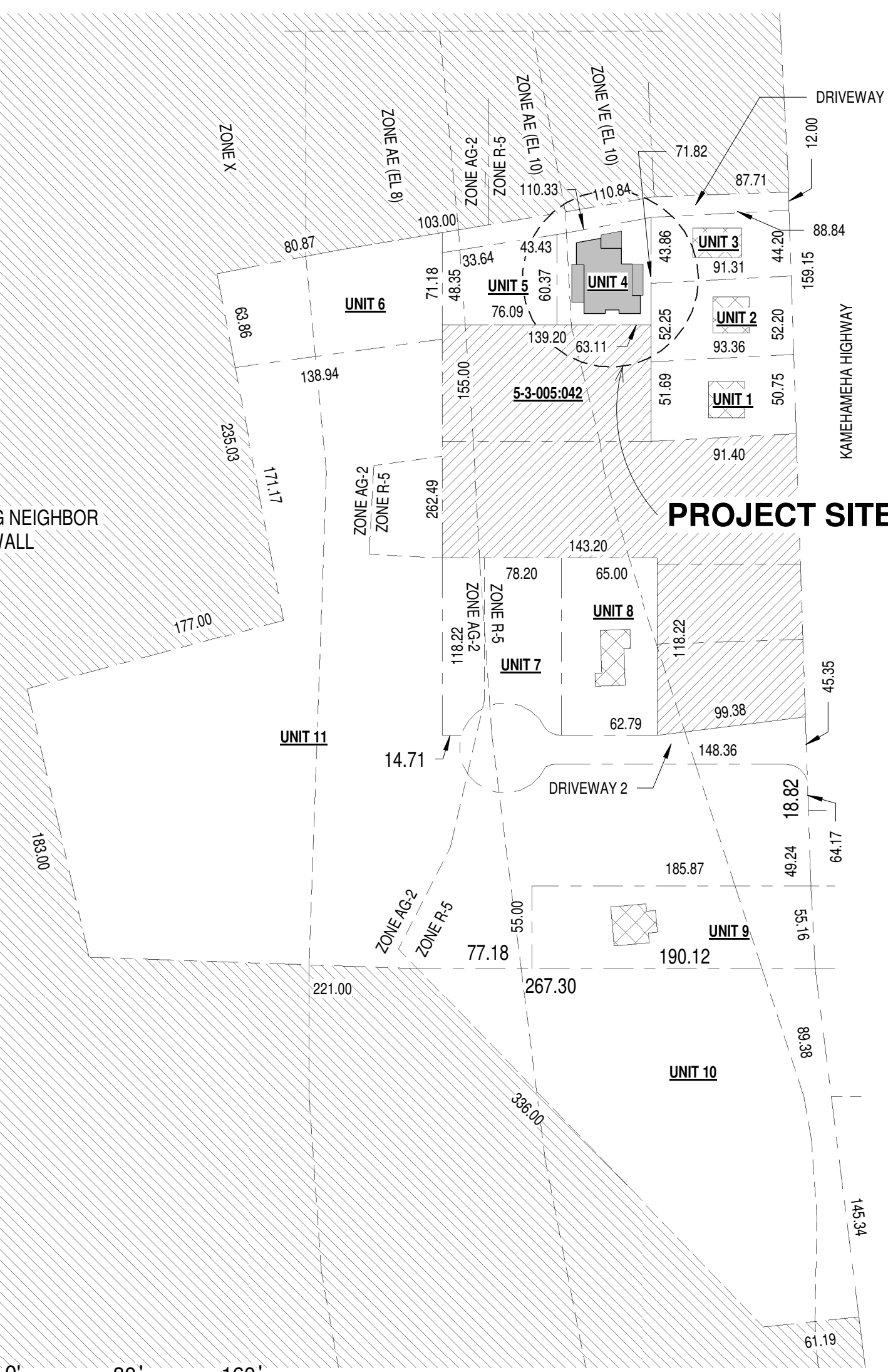
REV	DATE	DESCRIPTION
1	06/20/2022	SMA



**MAIN FLOOR SITE PLAN**  
1/8" = 1'-0"



**LOWER FLOOR SITE PLAN**  
1/8" = 1'-0"



**OVERALL SITE PLAN**  
1" = 80'-0"

**KBJCHENG**  
Architecture and Planning

Project: NEW SINGLE FAMILY DWELLING  
53-424 KAMEHAMEHA HIGHWAY #4  
HAULUA, HAWAII 96717  
5-3-005:070

PROJECT INFO, PLANS

DATE	05/15/22
JOB NO.	53-424 KAM
DRAWN BY	JC
DESIGNED BY	JC

SHEET NUMBER

**A02**

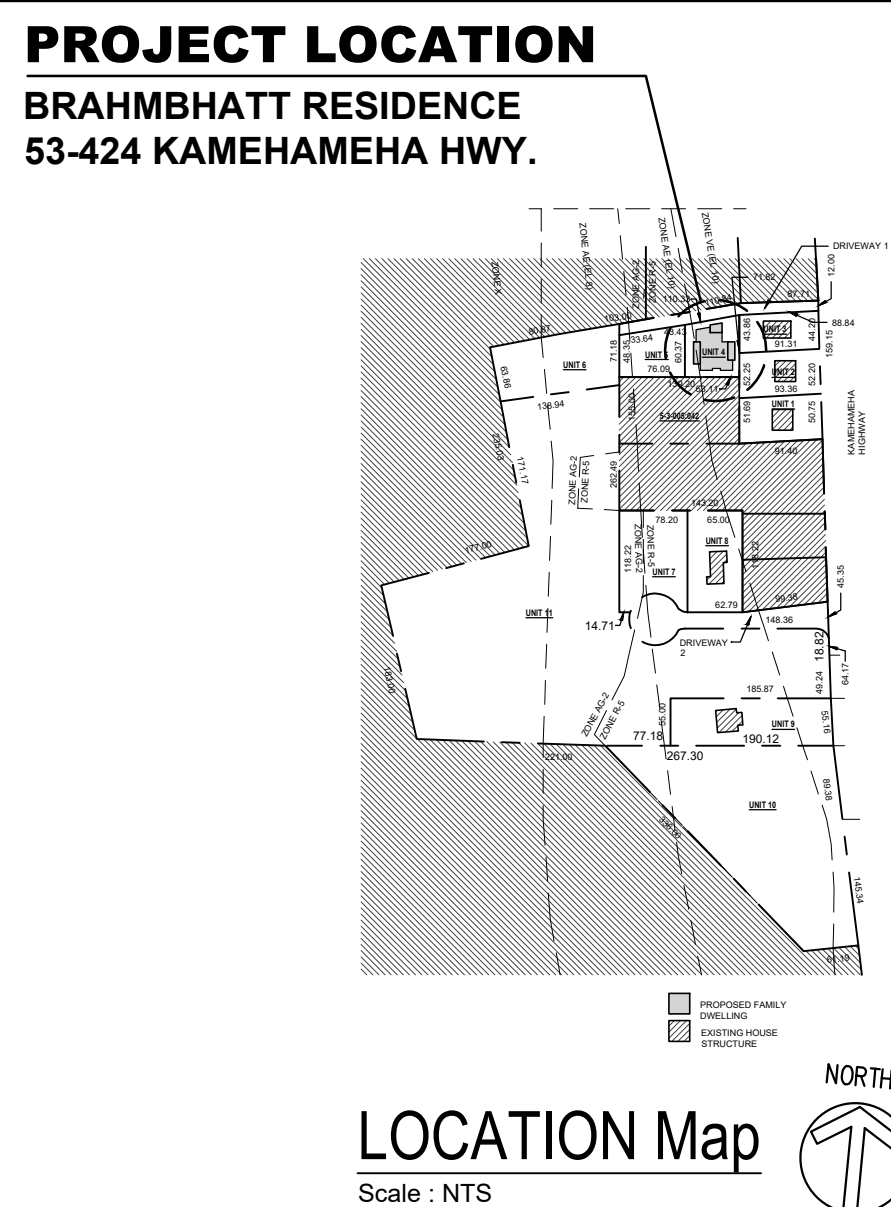
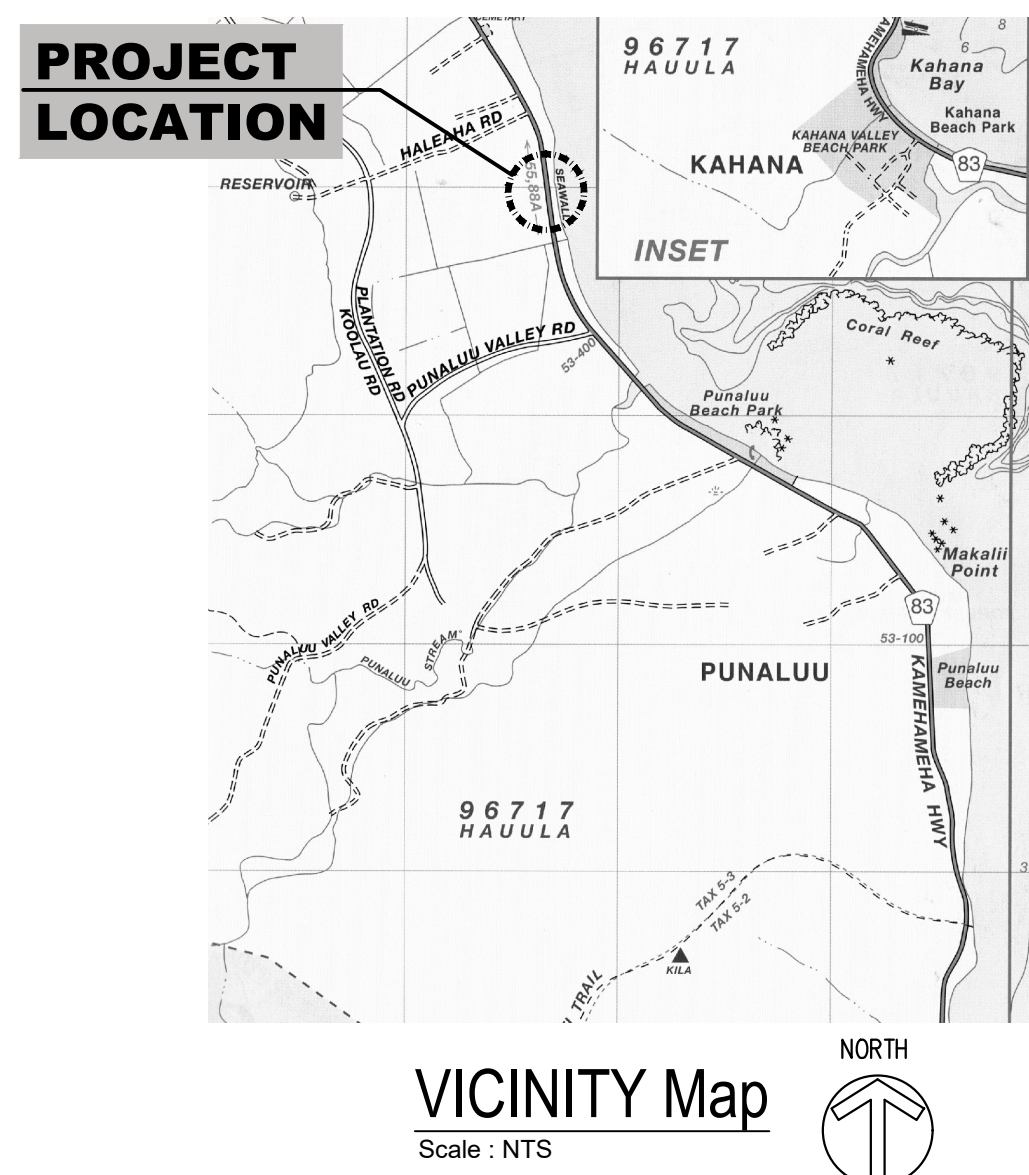
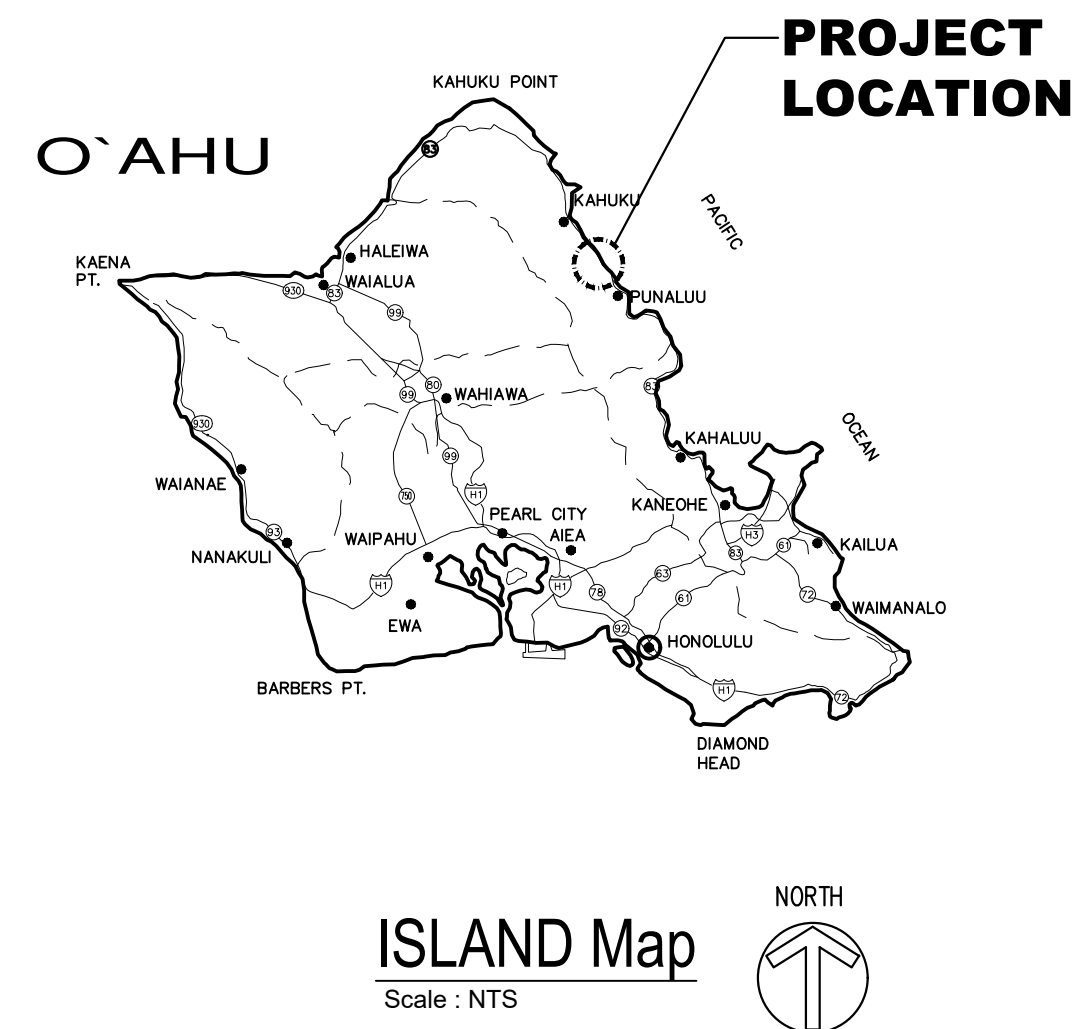
OF SHEETS



# INDIVIDUAL WASTEWATER SYSTEMS FOR BRAHMBHATT RESIDENCE NEW 3BR DWELLING

53-424 KAMEHAMEHA HWY. UNIT 4, HAUULA, HI 96717  
TMK: (1) 5-3-005:070\_0004

NOT FOR CONSTRUCTION  
FOR VARIANCE



**GENERAL CONSTRUCTION NOTES:**

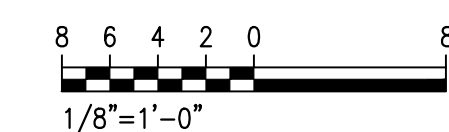
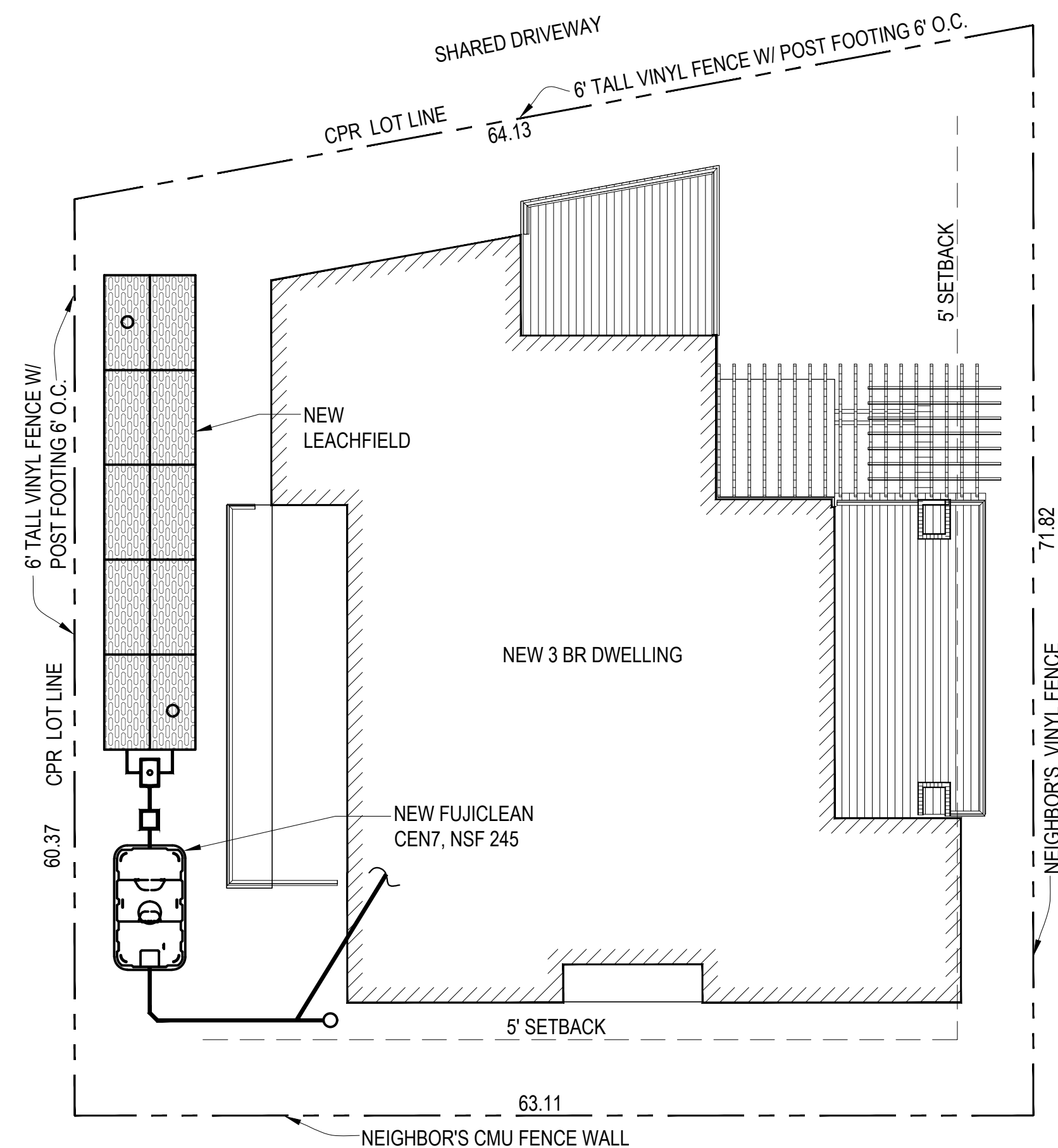
- INSTALLATION OF THIS IWS MUST BE DONE BY A LICENSED CONTRACTOR WHO IS THOROUGHLY FAMILIAR WITH THE CONSTRUCTION REQUIREMENTS AND IS EXPERIENCED IN THE FIELD.
- ALL WORK COVERED UNDER THIS PLAN SHALL CONFORM TO THE LOCAL PLUMBING CODES, UNIFORM PLUMBING CODES, AND DEPARTMENT AND HEALTH REGULATIONS, STATE OF HAWAII.
- ALL BENDS >22.5 DEGREES, AND EVERY 100' INTERVAL, IN THE WASTELINE (BEFORE AND AFTER THE SEPTIC TANK) SHALL BE PROVIDED WITH PROPER CLEANOUT TO GRADE (COTG).
- HORIZONTAL DRAINAGE PIPE TO THE TREATMENT TANK SHALL BE SLOPED ONE FOURTH (1/4) INCH PER FOOT AND MAXIMUM OF 40 FEET IN LENGTH UNLESS APPROVED BY THE ENGINEER.
- ALL WORK MUST BE INSPECTED BY THE DESIGN ENGINEER. EXPOSURE OF THE WASTEWATER SYSTEM WILL BE REQUIRED FOR AN INSPECTION BY THE DESIGN ENGINEER PRIOR TO BACKFILLING. ALSO, DURING THE FINAL INSPECTION, THE IWS CONTRACTOR OR HOMEOWNER SHALL HAVE AVAILABLE A COMPLETED LICENSED CONTRACTOR FORM REQUIRED BY THE WASTEWATER BRANCH (OAHU). IF THE FORM IS NOT PROVIDED FINAL INSPECTION APPROVAL WILL NOT BE GRANTED.
- THE CONTRACTOR OR HOMEOWNER MUST NOTIFY THE IWS DESIGN ENGINEER OF ANY CHANGES TO THE APPROVED PLAN AND SHALL OBTAIN HIS OR HER APPROVAL BEFORE PROCEEDING WITH THE CHANGES.
- THE CONTRACTOR SHALL PROVIDE EFFECTIVE MEASURES FOR THE CONTROL OF FUGITIVE DUST EMISSIONS FROM THE PROJECT AND SURROUNDING AREAS CAUSED BY HIS/HER OPERATIONS. THE CONTRACTOR SHALL CONDUCT ALL OPERATIONS SO THAT EXCAVATION, EMBANKMENT, AND IMPORTED MATERIAL SHALL BE DAMPENED DURING THE GRADING OPERATION TO PREVENT DUST PROBLEMS. THESE MEASURES SHALL MEET THE REQUIREMENTS OF STATE ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, AIR POLLUTION CONTROL (11-60 & 11-58).
- FINAL ELEVATION OF THE SEPTIC TANK, DISTRIBUTION BOX AND DISPOSAL FIELD WILL BE DETERMINED BY THE CONTRACTOR BASED ON THE ELEVATION OF THE DRAIN LINE FROM THE BUILDING AND MINIMUM DRAIN LINE SLOPES SHOWN ON THESE DRAWINGS.
- APPROVED BACKFILL MATERIAL INCLUDES SANDY LOAM, SAND, PEA GRAVEL OR CRUSHED SCREENINGS S4C. MATERIAL USED FOR BACKFILL SHALL CONTAIN NO STONE, ROCK CONCRETE OR OTHER MATERIAL LARGER THAN 3 INCHES. NO VEGETABLE/ORGANIC MATTER OR "ADOBE" CLAY SHALL BE PERMITTED.
- BACKFILL MATERIAL AROUND THE SEPTIC SYSTEM OR AEROBIC UNIT AND OTHER STRUCTURES SHALL BE COMPACTED IN 12 INCH (MAXIMUM) LIFTS TO 90 % COMPACTION. WATER JETTING WILL BE PERMITTED ONLY IN SANDY SOILS WITH APPROVAL OF THE ENGINEER.
- THE MINIMUM COVERAGE OVER THE SEPTIC TANK OR AEROBIC UNIT AND DISTRIBUTION BOX SHALL BE 12 INCHES. MINIMUM COVER OVER THE ABSORPTION FIELD SHALL BE 12 INCHES. COVER MATERIAL SHALL BE A SOIL. COARSE MATERIALS SUCH AS CINDER OR GRAVEL ARE NOT RECOMMENDED DUE TO POSSIBLE ODOR PROBLEMS.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND INVERT OF ALL EXISTING UNDERGROUND UTILITIES BEFORE COMMENCING THE WORK. ANY DISCREPANCIES DISCOVERED BETWEEN THE FIELD CONDITIONS AND THE DESIGN DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER. ALL EXISTING UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE PROTECTED AND ANY DAMAGE TO THEM SHALL BE REPAIRED AND PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PERSONAL INJURY RESULTING FROM CONTACT WITH THE EXISTING UTILITIES.
- CONSTRUCTION PLANS ARE VALID FOR A PERIOD OF ONE YEAR FROM THE DATE OF APPROVAL; IF CONSTRUCTION DOES NOT COMMENCE WITHIN THIS ONE-YEAR TIME FROM THE DATE OF APPROVAL THE CONSTRUCTION PLANS SHALL BE RESUBMITTED TO DEPARTMENT OF HEALTH FOR REVIEW AND APPROVAL.
- WHEREVER CONNECTIONS TO THE EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPLORE THE EXISTING LINES PRIOR TO EXCAVATION OF MAIN TRENCHES TO VERIFY THEIR LOCATION AND DEPTH.
- SHOULD HISTORIC REMAINS SUCH AS ARTIFACTS, BURIALS, CONCENTRATIONS OF SHELL OR CHARCOAL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, WORK SHALL CEASE IMMEDIATELY IN THE IMMEDIATE VICINITY OF THE FIND, AND THE FIND SHALL BE PROTECTED FROM FURTHER DAMAGE. THE CONTRACTOR SHALL CONTACT THE STATE HISTORIC PRESERVATION DIVISION (PH 629-8015), WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND AN APPROPRIATE MITIGATION MEASURE, IF NECESSARY.
- BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE EMPLOYED AT ALL TIMES TO THE MAXIMUM EXTENT PRACTICABLE TO PREVENT DAMAGE BY SEDIMENTATION, EROSION OR DST TO STREAMS, WATERCOURSES, NATURAL AREAS AND THE PROPERTY OF OTHERS.

**GENERAL NOTES:**

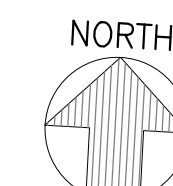
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER NO LATER THAN 3 BUSINESS DAYS PRIOR TO COMMENCEMENT OF EXCAVATION FOR THE IWS.
- INSPECTION OF THE COMPLETED SYSTEM MUST BE DONE BY THE ENGINEER BEFORE BACKFILLING.
- ALL EQUIPMENT SUBSTITUTIONS OR LOCATION CHANGES TO BE VERIFIED WITH DESIGN ENGINEER PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL BARRICADES AND SAFETY DEVICES AND TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION OF THE WORK AND THE CONVENIENCE AND SAFETY OF THE PUBLIC.

**CONSTRUCTION NOTES:**

- SEWER LINES SHALL SLOPE AT 2%.
- TO MAKE THE TRANSITION BETWEEN SEPTIC TANK PIPE OUTLET ELEVATION AND THE ABSORPTION BED ELEVATION THE SCOPE OF THE DRAINPIPE FROM THE SEPTIC TANK OUTLET TO THE DISTRIBUTION BOX SHALL BE INCREASED TO SUIT.
- THE SLOPE FROM THE DISTRIBUTION BOX TO THE END OF THE DISTRIBUTION LINE IS TO BE BETWEEN 1" AND 2" PER 50" OF LENGTH.
- ANY LARGE TREES SHALL BE A MINIMUM OF 10 FEET AWAY FROM THE ABSORPTION AREA OR THE USE OF A ROOT INHIBITOR SHALL BE REQUIRED.
- ANY ABNORMAL DRAINAGE TO BE DIVERTED AROUND DISPOSAL AND TANK AREAS USING BERMS, CULVERTS OR DITCHES AS APPROPRIATE.
- CONCRETE ANCHORS REQUIRED ON TANK IF GROUNDWATER IS OBSERVED.
- THE SEASONAL HIGH "GROUND WATER LEVEL" SHALL BE THREE FEET (3 FT) MINIMUM BELOW THE BOTTOM OF THE ABSORPTION FIELDS AND/OR SEEPAGE PIT. THE CONTRACTOR SHALL NOTIFY ACSI IF GROUNDWATER, ROCK, IMPERVIOUS CLAY OF FILL MATERIAL IS FOUND ABOVE THIS LEVEL BEFORE PROCEEDING WITH CONSTRUCTION.
- IF THE CONTRACTOR HAS ANY QUESTIONS PLEASE CONTACT ACSI AT 808-349-9076.



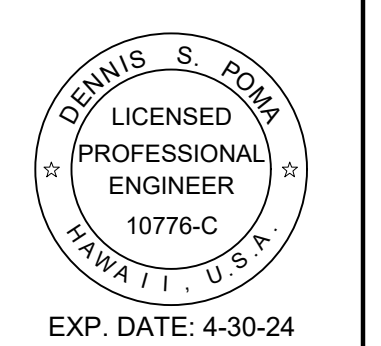
1 SITE LAYOUT PLAN  
C001 Scale: 1/8"=1'-0"



Advanced Compliance Solutions, Inc.

Civil Engineer: Dennis Poma  
94-515 Ukeke Street,  
Suite 301  
Waipahu, Hawaii 96797  
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dennis.poma@acsihawaii.com

BRAHMBHATT RESIDENCE  
53-424 KAMEHAMEHA HWY., HAUULA, HI, 96717  
TMK: (1) 5-3-005:070-0004  
TITLE, LOCATION MAPS, SITE LAYOUT PLAN & NOTES



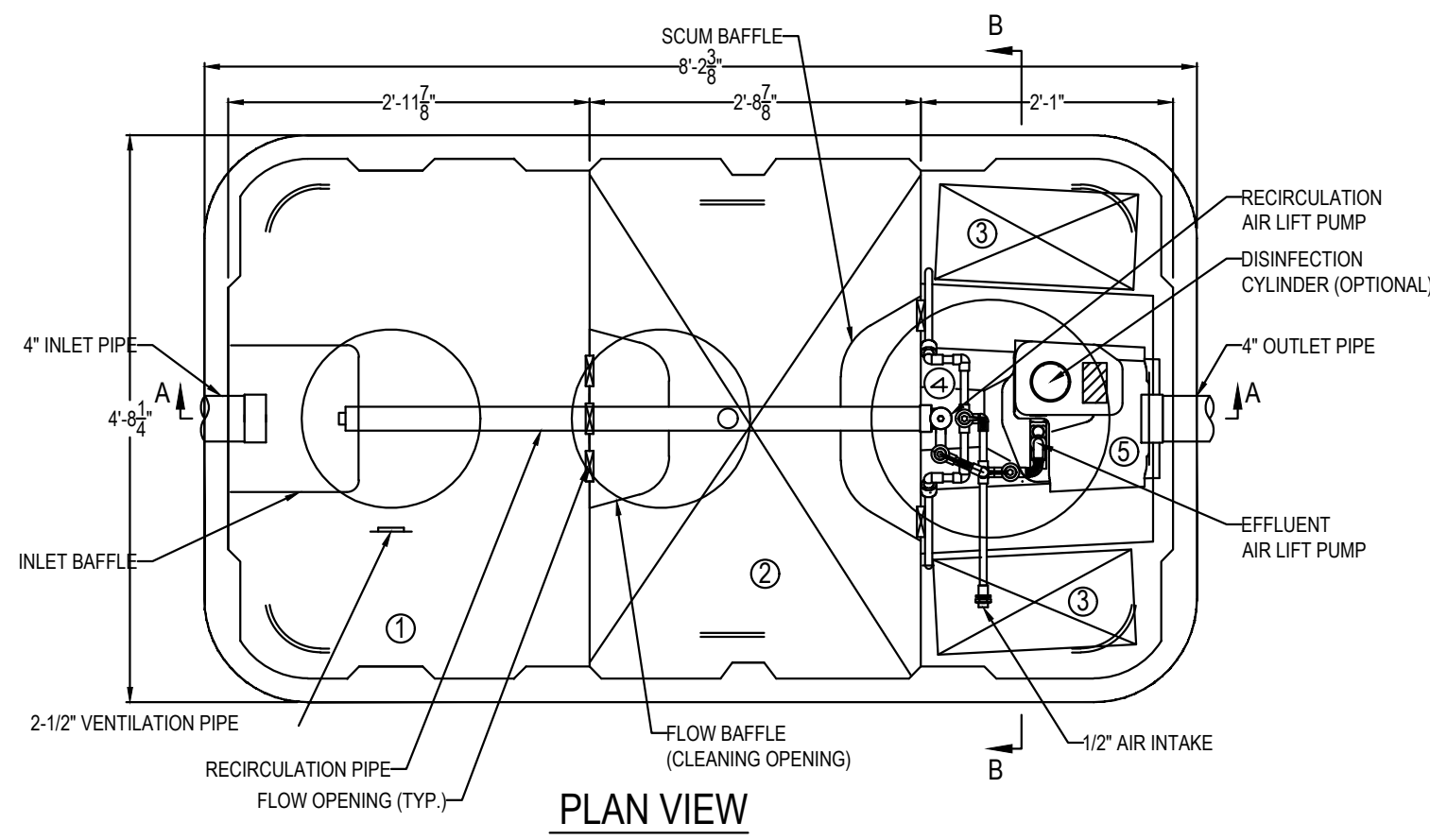
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This work was prepared by me or under my supervision and construction of this project will be under my observation.

date: 5/4/2022  
drawn: TCS  
job number: 22-018  
sheet number:

C001

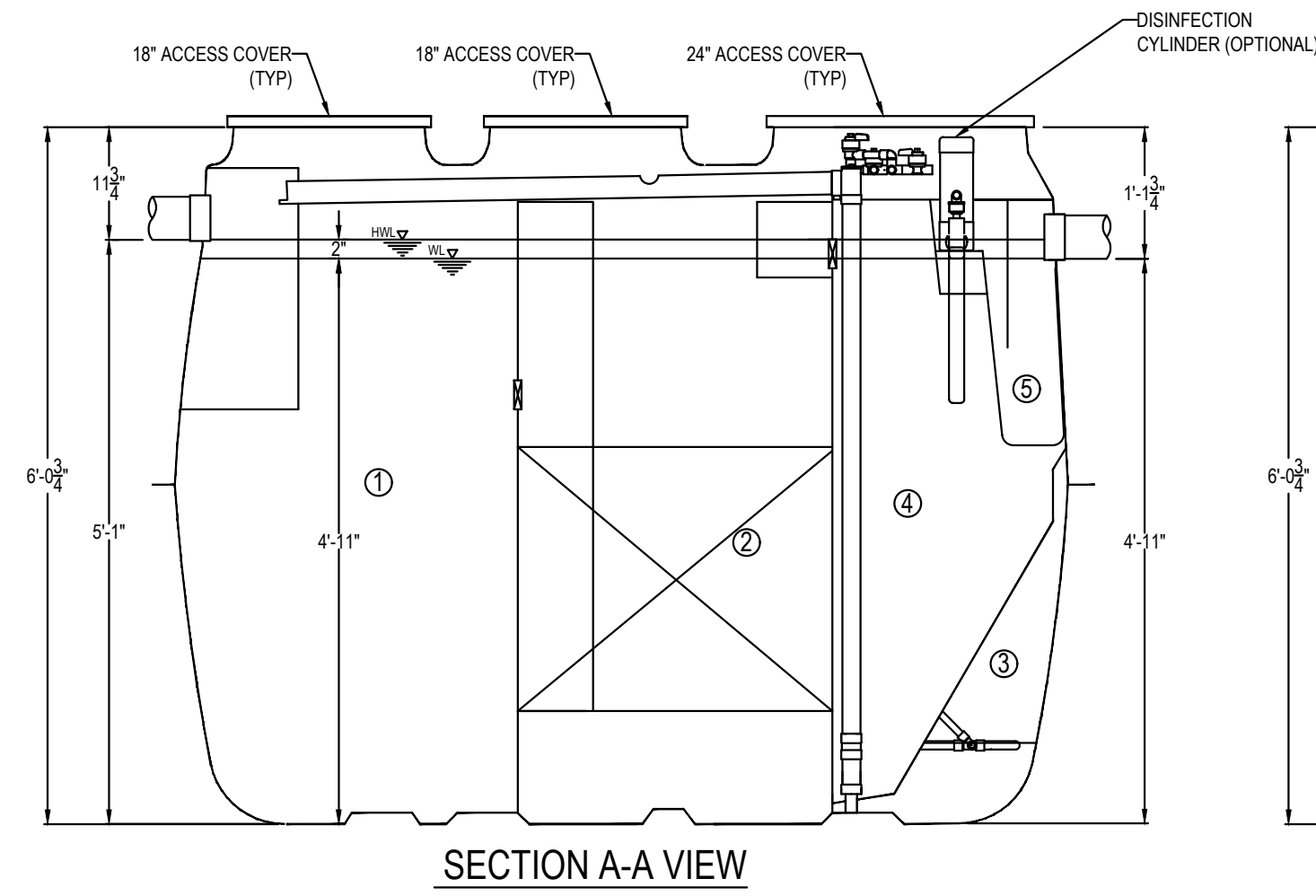
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CHAMBER	Volume (gal)
① Sedimentation Chamber	397
② Anaerobic Filtration Chamber	396
③ Aerobic Contact Filtration Chamber	181
④ Clarification Chamber	90
⑤ Disinfection Chamber	6
<b>Total Volume</b>	<b>1069</b>

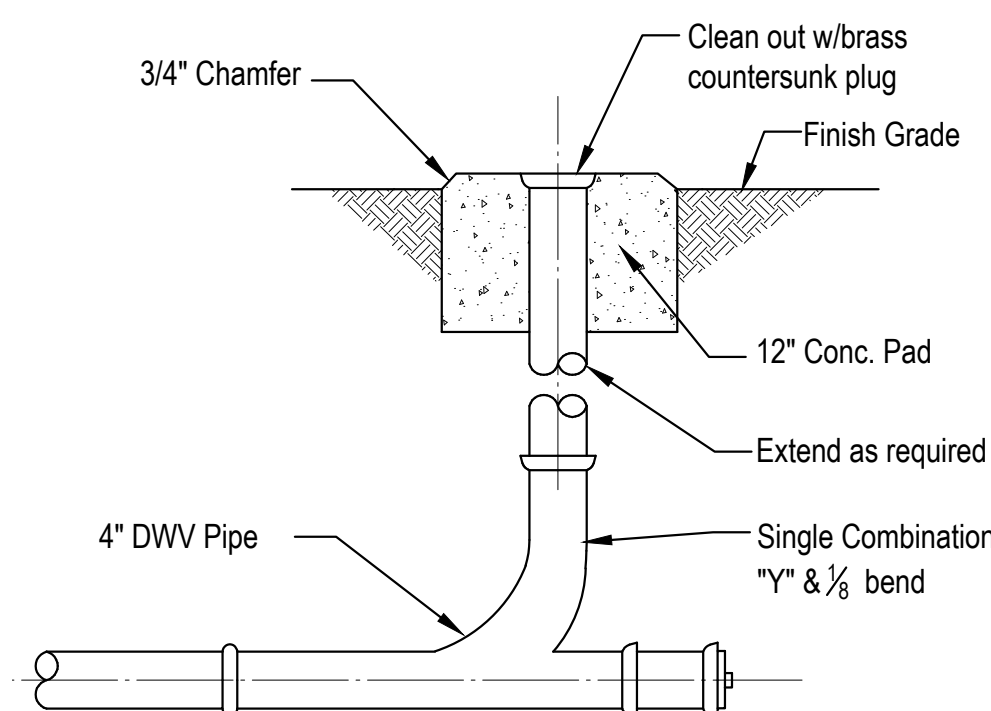
SPECIFICATIONS	
Anaerobic Media	PP / PE
Board Type Aerobic Media	PVC / PP / PE
Aerobic Media	PP / PE
Blower	3.5cfm
Tank	FRP
Piping	PVC / PP / PE
Access Covers	Plastic / Cast Iron
Disinfectant (Optional)	Chlorine Tablets



**1 FUJICLEAN CEN-7 TANK**  
C002 Scale : NTS (OR APPROVED EQUAL)

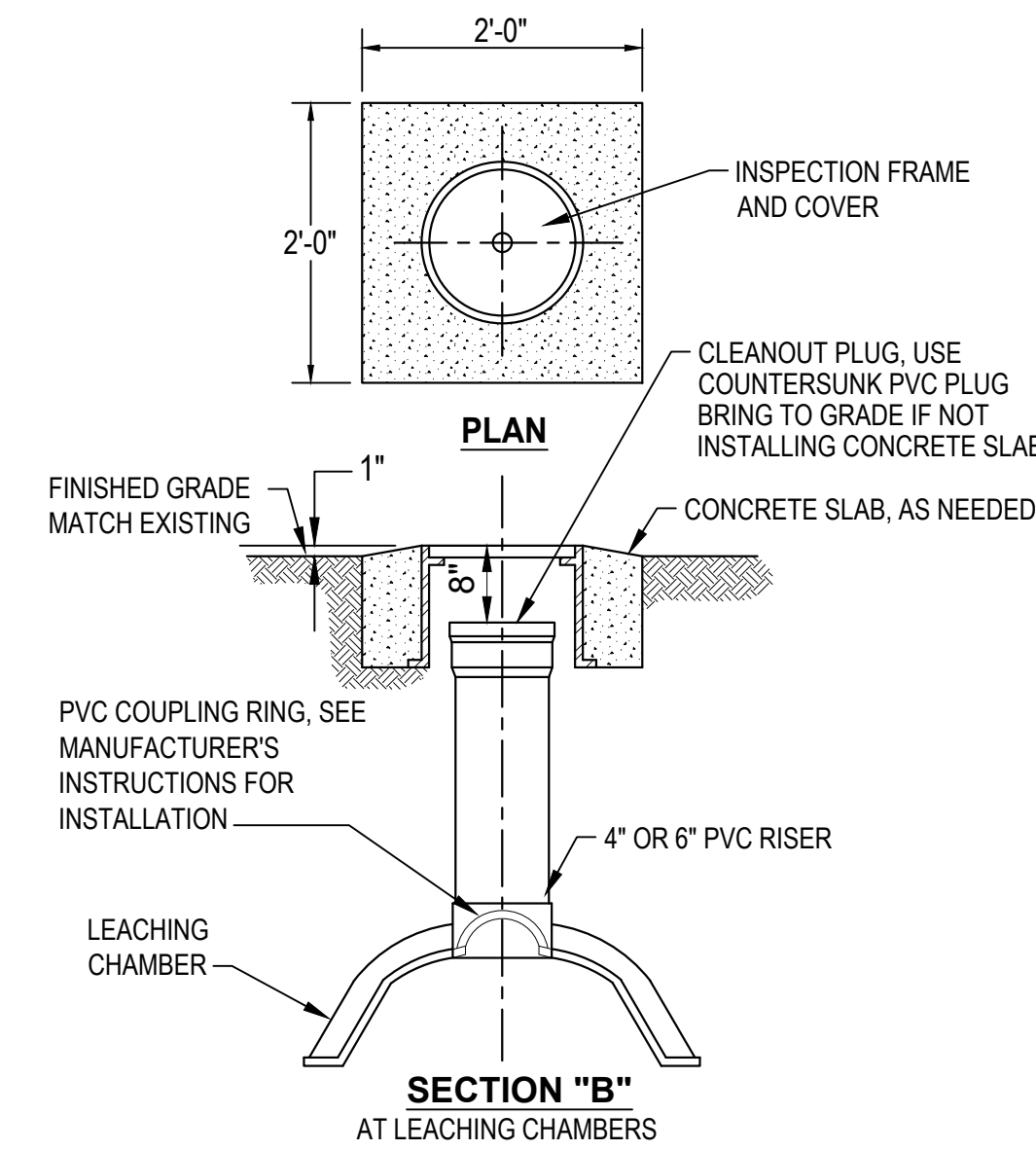
**OPERATIONS AND MAINTENANCE INSTRUCTIONS FOR SEPTIC TANKS AND SLUDGE DISPOSAL**

1. THE SEPTIC TANK SHALL BE INSPECTED ON A YEARLY BASIS BY OPENING THE ACCESS COVER AND CHECKING IF EITHER THE SLUDGE OR SCUM ARE NEAR THE OUTLET PIPE.
2. THE SEPTIC TANK SHALL BE CLEANED OUT IF EITHER A) THE BOTTOM OF THE FLOATING SCUM MAT IS WITHIN THREE INCHES OF THE BOTTOM OF THE OUTLET PIPE; OR B) SLUDGE COMES WITHIN SIX INCHES OF THE BOTTOM OF THE OUTLET PIPE.
3. CLEANING THE TANK WILL CONSIST OF PUMPING OUT THE CONTENTS INTO A TANK TRUCK AND HAULING IT TO A STATE HEALTH DEPARTMENT APPROVED POINT OF DISPOSAL. THE SEPTIC TANK SHOULD NOT BE WASHED OR DISINFECTED AFTER PUMPING. A THREE-INCH DEPTH OF RESIDUAL SLUDGE SHALL BE LEFT IN THE TANK FOR SEEDING PURPOSES.
4. A SEPTIC TANK SHOULD NOT BE ENTERED BY ANYONE UNLESS PROPER SAFETY PROCEDURES ARE FOLLOWED. THERE IS A POTENTIAL HAZARD OF EXPLOSION OF GASES AND/OR ASPHYXIATION OF PERSONNEL IF PRECAUTIONS ARE NOT TAKEN.
5. CHEMICALS OR DISINFECTANTS DO NOT IMPROVE THE OPERATION OF SEPTIC TANKS AND ARE NOT RECOMMENDED. ORDINARY CHEMICALS USED IN THE HOUSEHOLD IN SMALL QUANTITIES WILL NOT ADVERSELY AFFECT THE OPERATION OF THE SEPTIC TANK.
6. PAPER TOWELS, NEWSPAPER, WRAPPING PAPER, RAGS, STICKS, AND GREASE SHOULD NOT BE FLUSHED DOWN THE SEPTIC TANK. THEY WILL NOT DECOMPOSE AND WILL LEAD TO CLOGGING OF THE PIPING AND ADJACENT SOIL.
7. IMPROPER OPERATION AND MAINTENANCE OF THE SEPTIC TANK WILL LEAD TO EARLY FAILURE OF THE DISPOSAL SYSTEM BY CLOGGING THE PIPING AND ADJACENT SOIL. THIS WILL RESULT IN SEPTIC TANK OVERFLOWS AND DISPOSAL SYSTEM FLOODING. COMPLETE REPLACEMENT OF THE DISPOSAL SYSTEM MAY BE THEN REQUIRED.

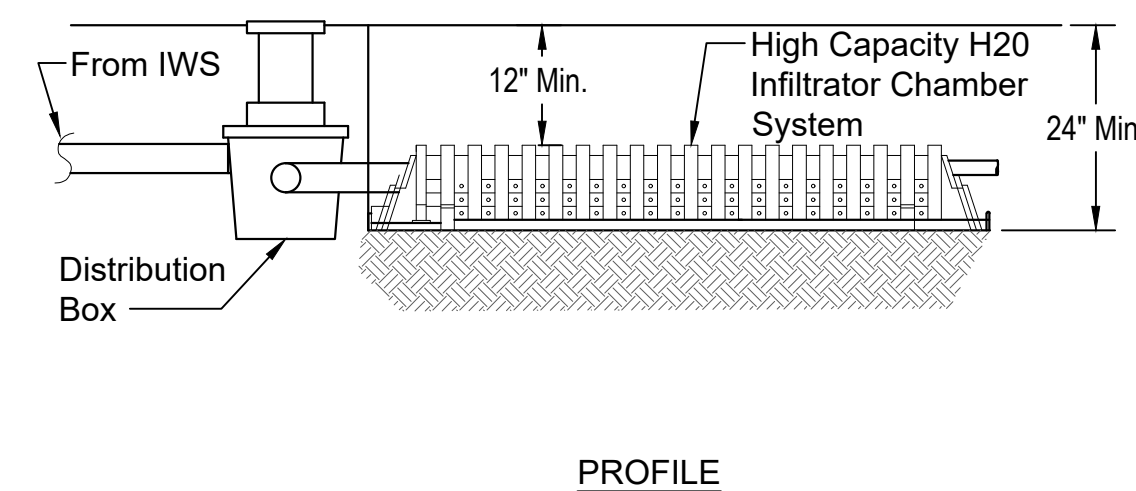


**4 Cleanout To Grade**  
C002 Scale : NTS

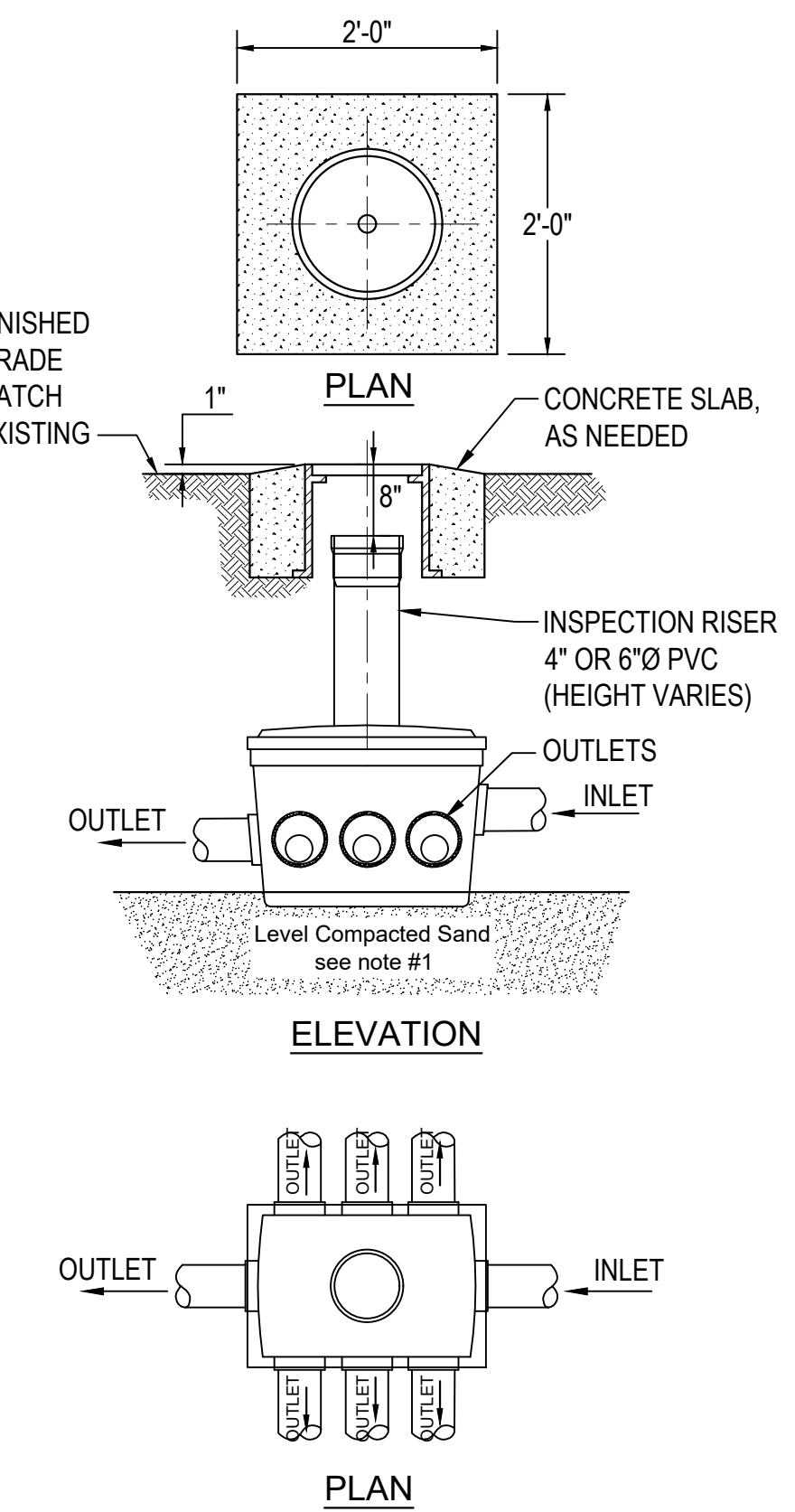
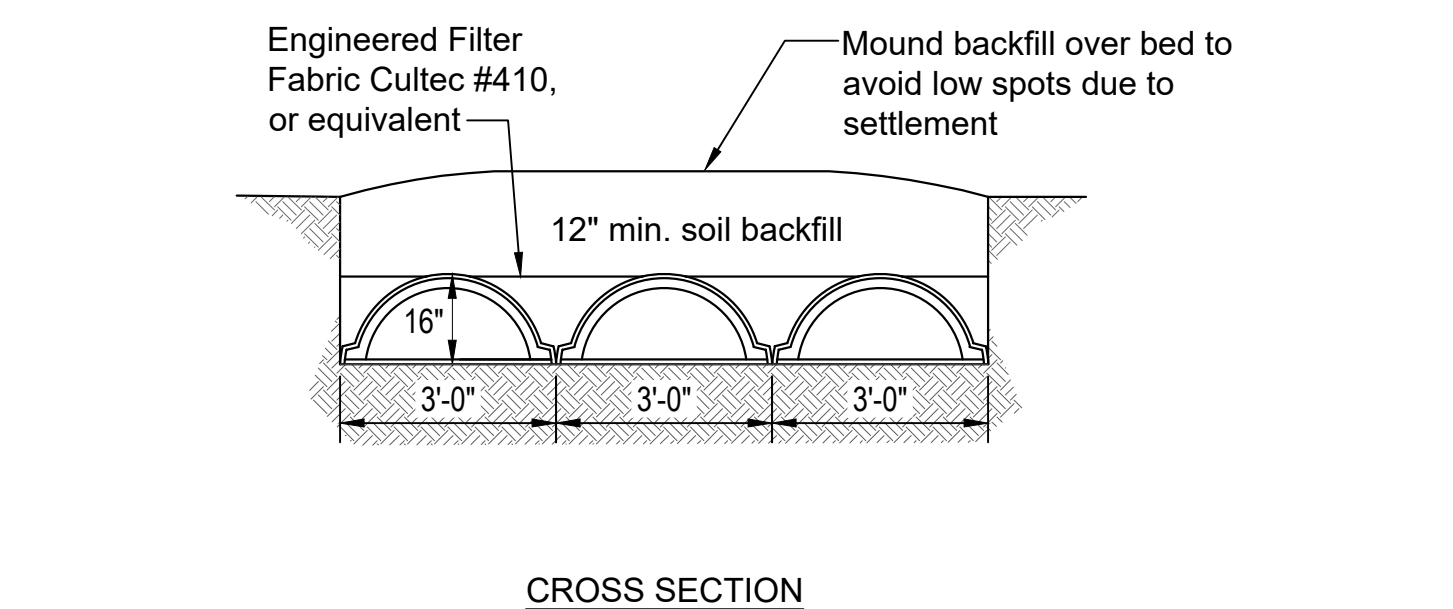
DESIGN CALCULATIONS			
<b>1.0 Site Information</b>			
Owner/Contact	Brahmbhatt	Design Flow	1,000 gpd
Address	53-424 Kamehameha Hwy, Hauula, HI	Treatment Capacity Required	1,000 gpd
		Type of Disposal	Leachfield
T.M.K.	(1) 5-3-005:070_0004		
<b>2.0 Disposal Field Calculation - Leachfield</b>			
Percolation Rate	=	1 mpi	
Required Absorption Area	=	70 sf/200 (from Appendix D, Table III, HAR 11-62)	
Required Disposal Area	=	3 BR (x) 70 sf/br	= 210 sf
Chambers Option	=	17% area reduction	
Adjusted Area	=	210 sf (x) 0.83	= 174 sf
		<b>Required Disposal Area</b>	<b>= 174 sf</b>
Proposed Chamber Field	=	6 ft x 31.25 ft	= <b>187.5 sf</b>



**3 INSPECTION PORT DETAIL**  
C002 Scale : NTS



**5 Gravity Sewer Trench Detail**  
C002 Scale : NTS



**6 DISTRIBUTION BOX**  
C002 Scale : NTS

**H-20 HIGH CAPACITY CHAMBER SYSTEM TYPICAL BED DETAIL**

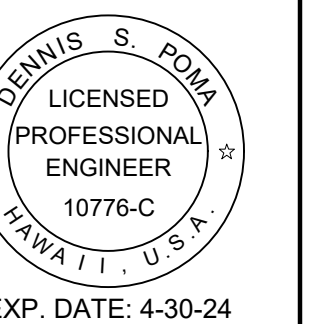
**2**  
C002 Scale : NTS



Civil Engineer: Dennis Poma  
94-515 Ukee Street,  
Suite 301  
Waipahu, Hawaii 96797  
Office: 808.349.9076  
dennis.poma@acsiihawaii.com

**BRAHMBHATT RESIDENCE**  
53-424 KAMEHAMEHA HWY., HAUULA, HI, 96717  
TMK: (1) 5-3-005:070-0004

DETAILS & NOTES



EXP. DATE: 4-30-24

.DPoma Signature.tif

This work was prepared by me or under my supervision and construction of this project will be under my observation.

date: 5/4/2022

drawn: TCS

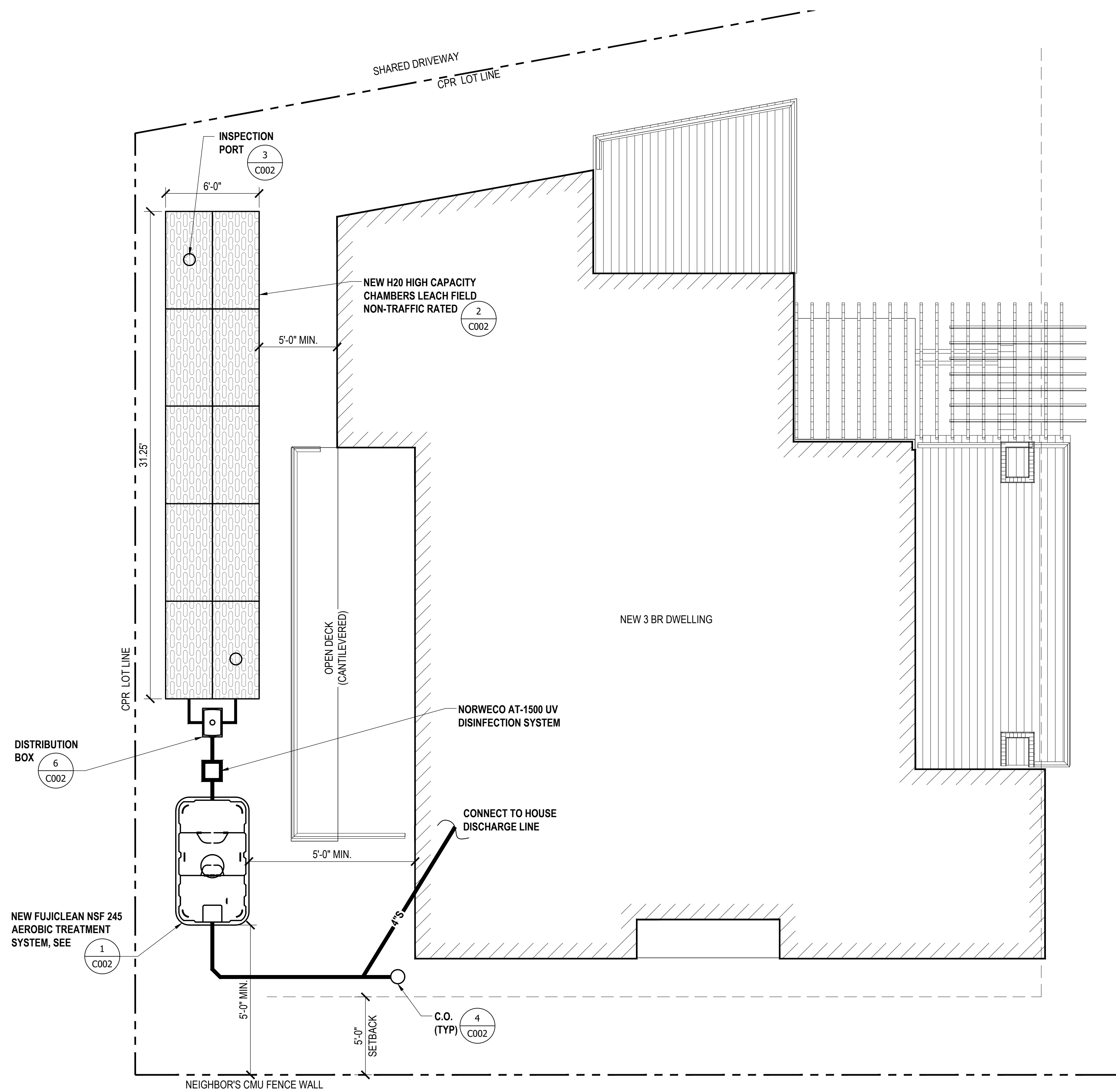
job number: 22-018

sheet number:

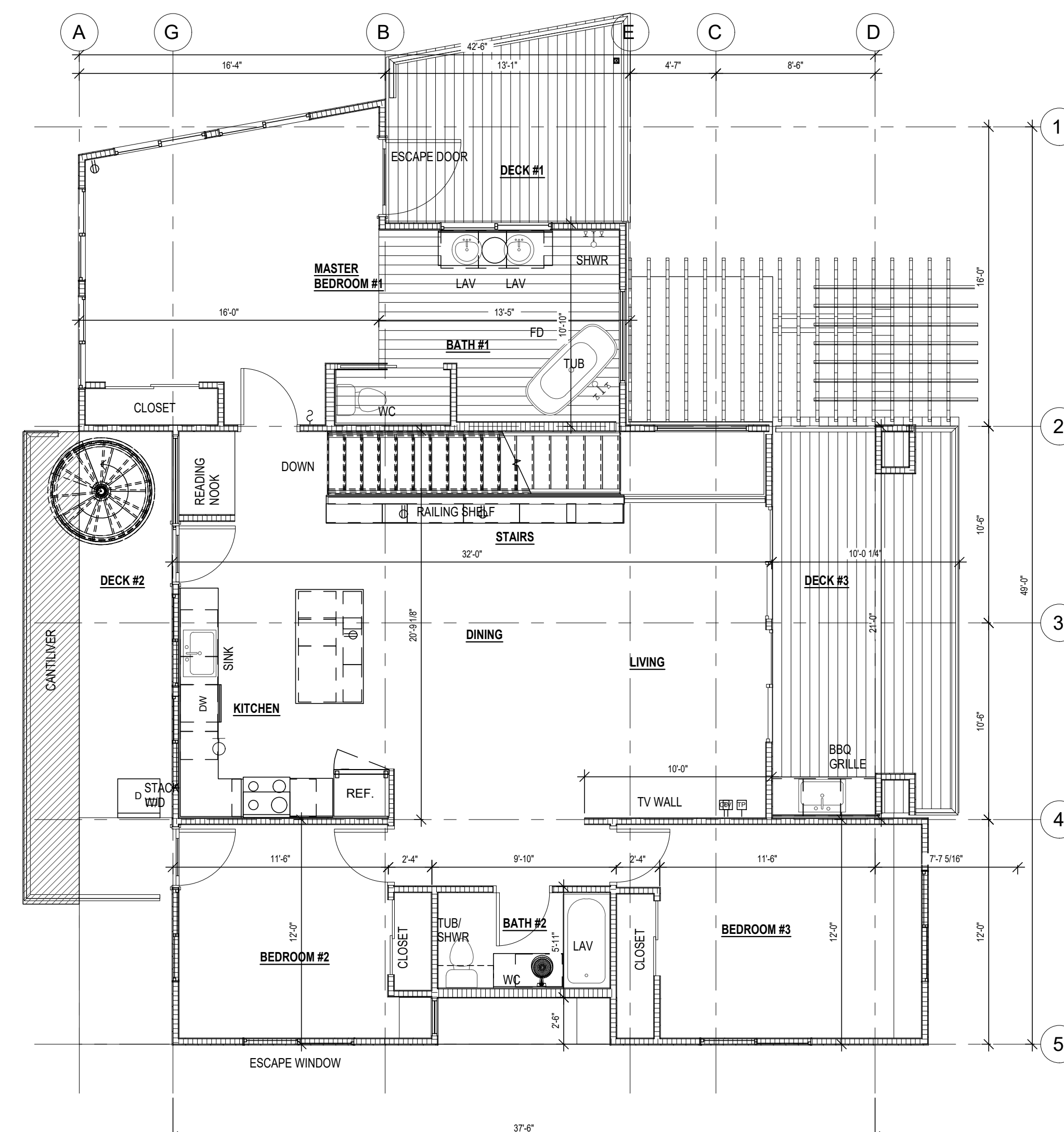
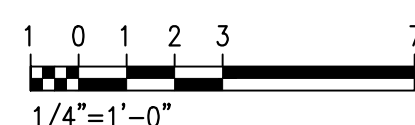
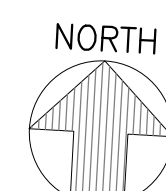
**C002**



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**1 ENLARGED SITE PLAN**  
 C003 Scale : 1/4"=1'-0"



**2 FLOOR PLAN**  
 C003 Scale : 3/16"=1'-0"

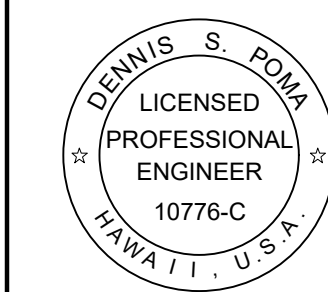


**Advanced Compliance Solutions, Inc.**

Civil Engineer: Dennis Poma  
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 Suite 301  
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 Office: 808.349.9076  
 dennis.poma@acsihawaii.com

**BRAHMBHATT RESIDENCE**  
 53-424 KAMEHAMEHA HWY., HAUULI, HI, 96717  
 TMK: (1) 5-3-005:070-0004

ENLARGED SITE PLAN & FLOOR PLANS



EXP. DATE: 4-30-24

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This work was prepared by me or under my supervision and construction of this project will be under my observation.

date: 5/4/2022

drawn: TCS

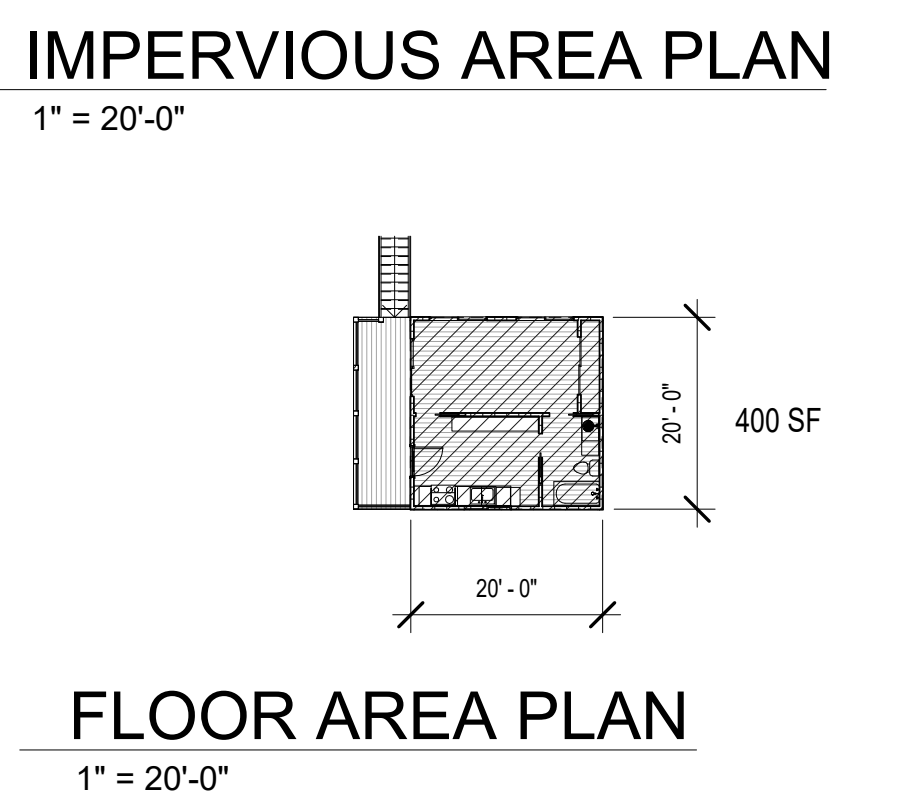
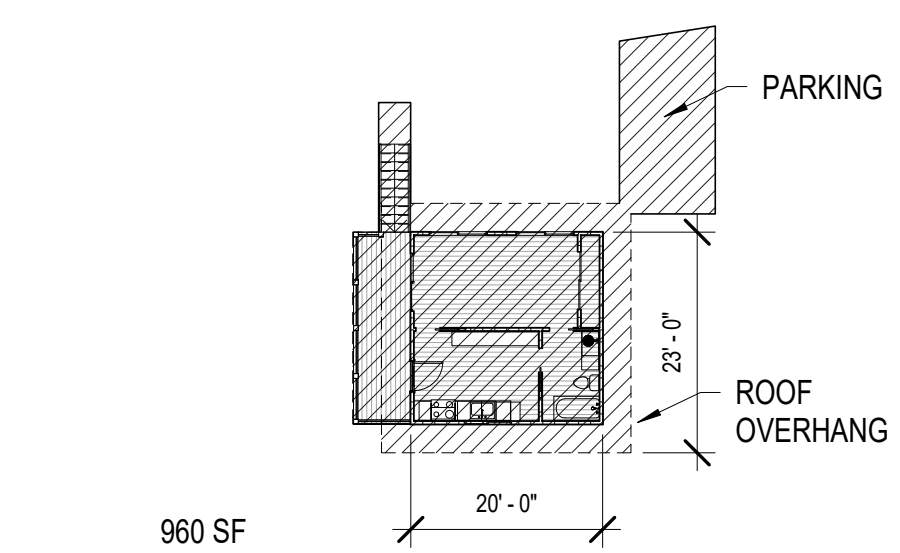
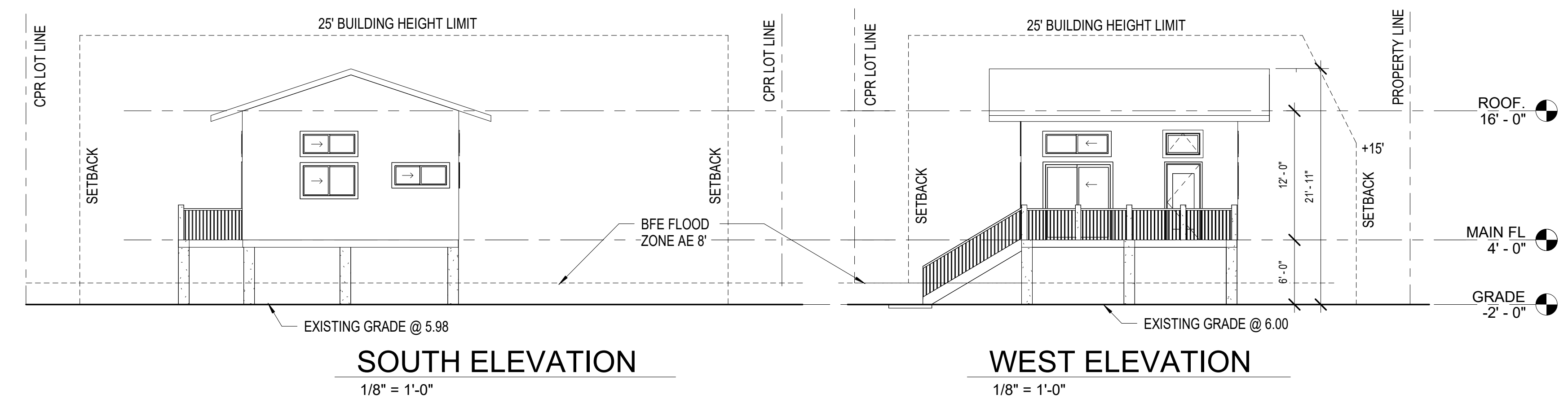
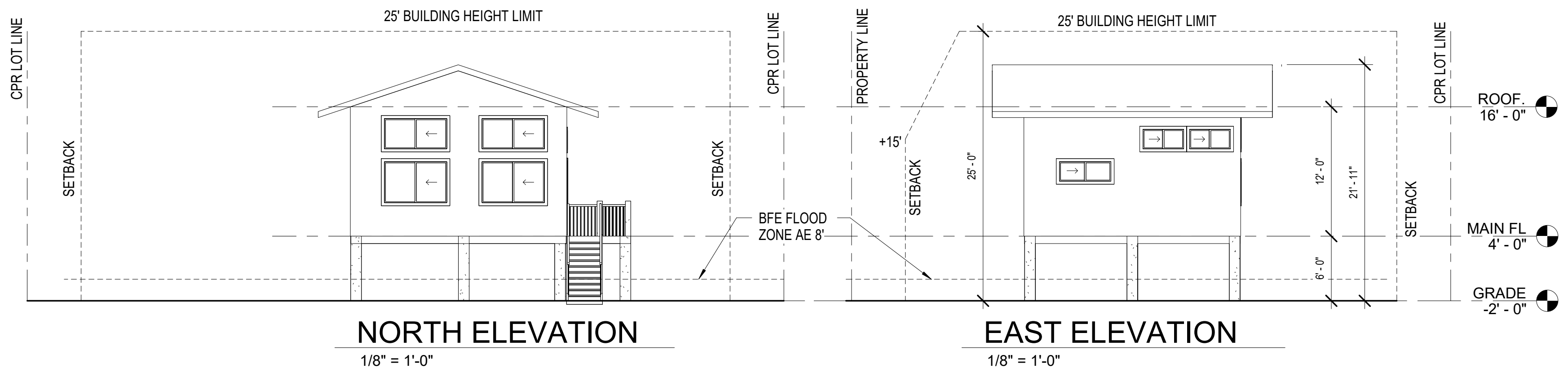
job number: 22-018

sheet number:

**C003**



# Unit #5



**PROJECT SCOPE:**  
CONSTRUCT NEW SINGLE FAMILY DWELLING

**ADDRESS:** 53-424 KAMEHAMEHA HIGHWAY #5

**LUO DATA:**

TMK: 5-3-005:070 CPR LOT #5  
LOT AREA: 211,397 SF (LOT #5: 4,099 SF)  
ZONING: R-5 / AG-2

MAXIMUM BUILDING AREA ALLOWED (50%) LOT #5: 2,049 SF

**BUILDING AREA:**  
SINGLE FAMILY DWELLING 400.00 SF

**FLOOR AREA:**  
SINGLE FAMILY DWELLING 400.00 SF < 0.6 FAR 2,459.40 SF

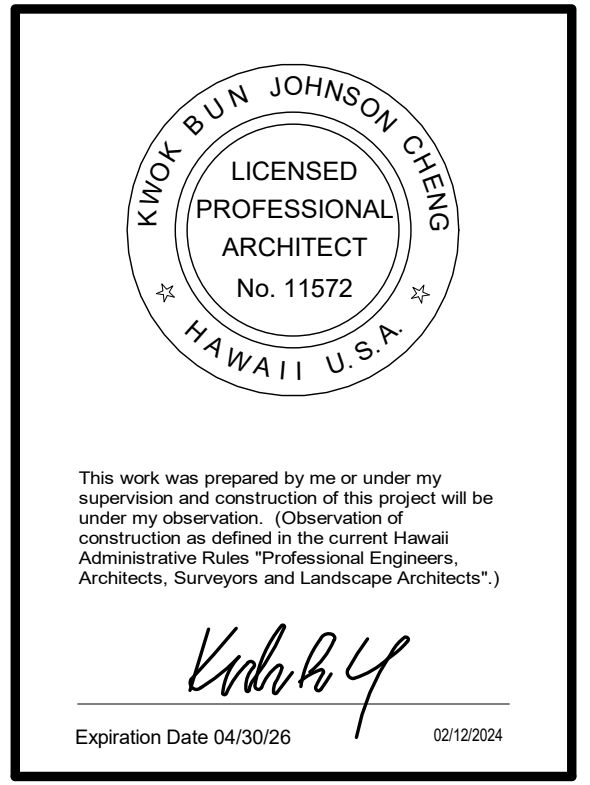
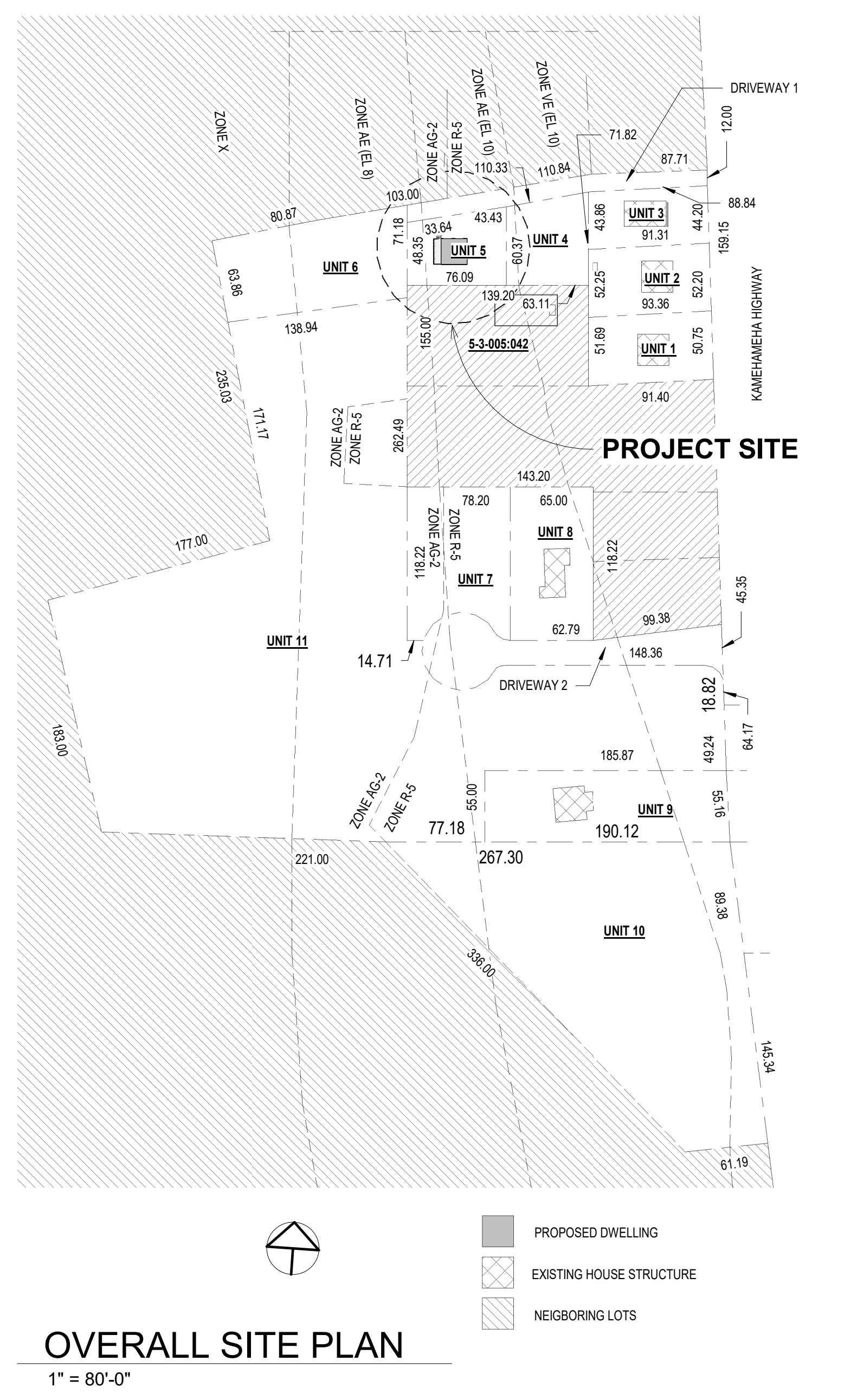
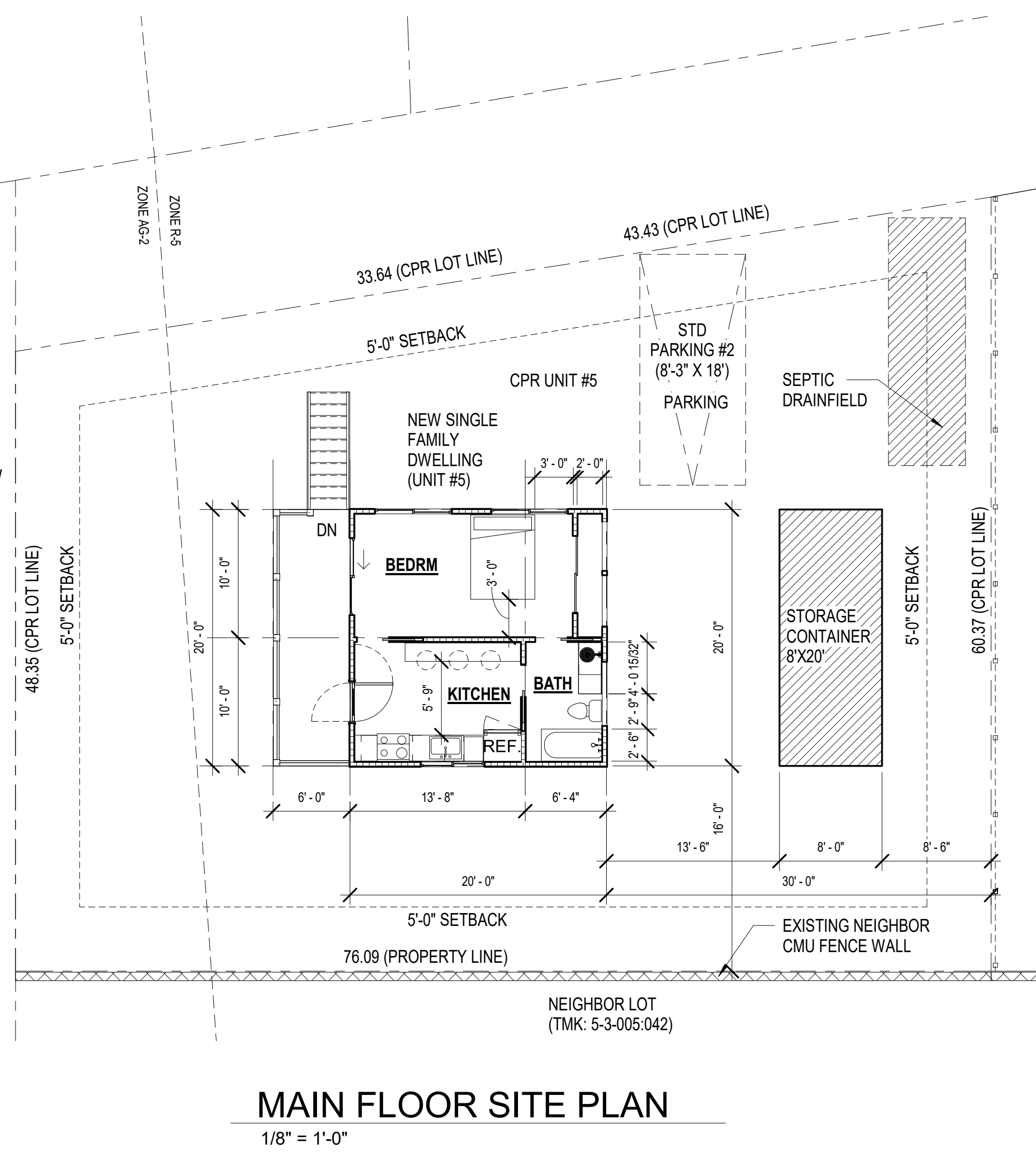
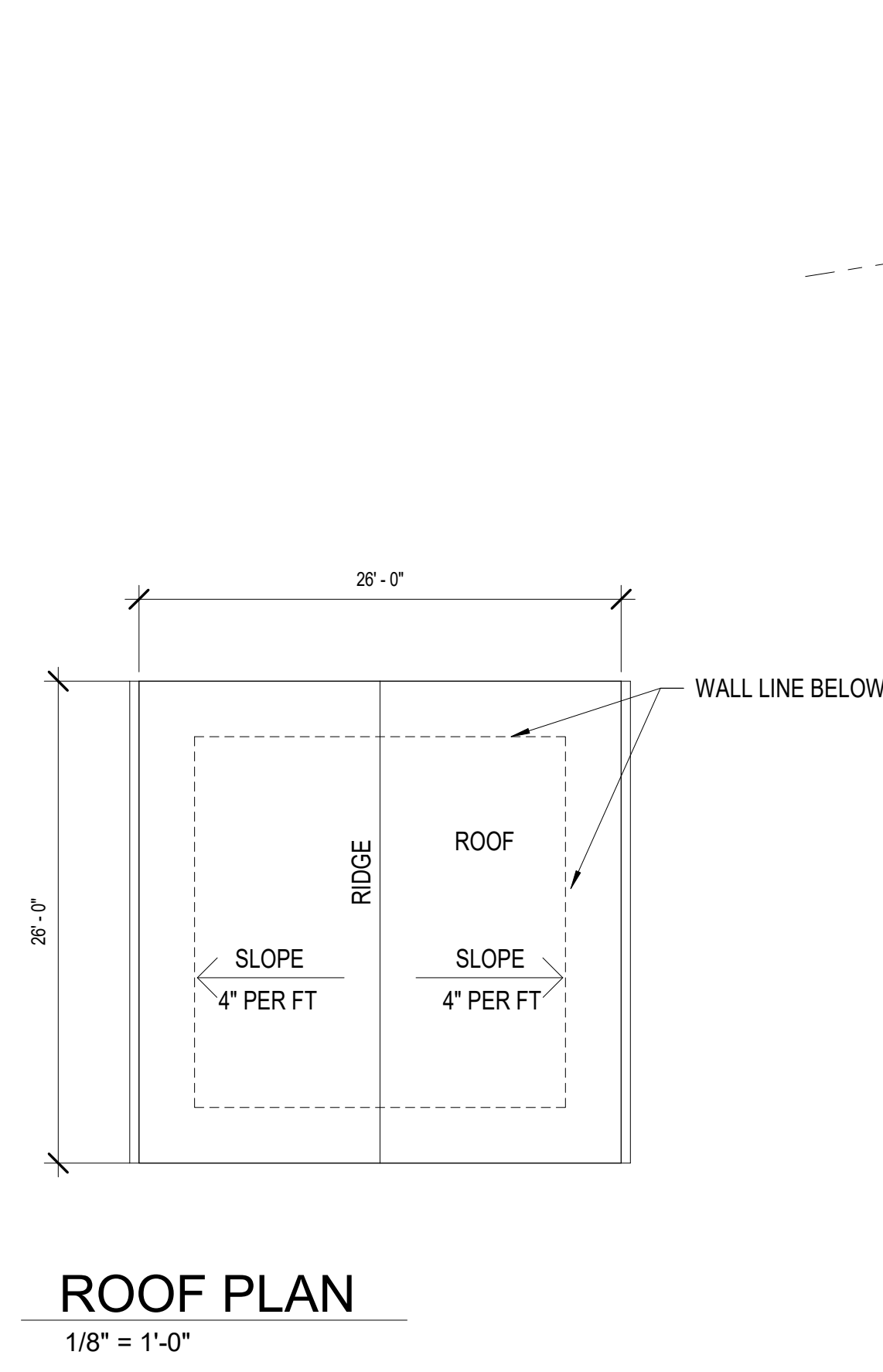
NO ADDITIONAL REQUIREMENT PER BILL 57 / ORD 20-43.

**BATHROOM COUNTS**  
SINGLE FAMILY DWELLING 1 BATH  
MAX ALLOW PER BILL 57 (2020) / ORD 20-43 4 BATH PER UNIT

	REQUIRED	PROVIDED
PARKING FOR 400.00 SF	1	1
PARKING PER BILL 2 (2020) / ORD 20-41	1	1

NOT LIVING FLOOR AREA PER LUO 21-10-4  
DECK (NOT COVERED) 120.00 SF

**IMPERVIOUS AREA** 960 SF (3,074 SF MAX = 75% OF LOT SIZE)  
**BUILDING + ROOF OVERHANG + OPEN DECK + STAIRS LANDING + PARKING PAVING**



REVISION		
REV	DATE	DESCRIPTION

**KBJCHENG**  
Architecture and Planning

Project: NEW SINGLE FAMILY DWELLING  
53-424 KAMEHAMEHA HIGHWAY #5  
HAULUA, HAWAII 96717  
5-3-005:070

PROJECT INFO

DATE	02/12/24
JOB NO.	53-424 KAM 5
DRAWN BY	JC
DESIGNED BY	JC

SHEET NUMBER

# A001

OF SHEETS

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# Unit #6

**CERTIFICATION OF MEETING ITEM NO. 12**  
(Agricultural Building/Structure Exemption List - Refer to HRS §46-88)

Project Name: \_\_\_\_\_

Address: \_\_\_\_\_

Tax Map Key: \_\_\_\_\_

Property Owner: \_\_\_\_\_

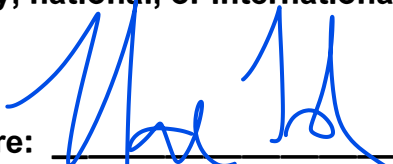
• I hereby certify that I am:

a professional architect licensed in the State of Hawaii.  
License Number: \_\_\_\_\_

a professional structural engineer licensed in the State of Hawaii.  
License Number: \_\_\_\_\_

a responsible managing employee of a licensed general building contractor in the State of Hawaii.  
License Number: \_\_\_\_\_

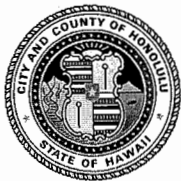
• I hereby certify that the above-subject building/structure meets the requirements of Item No. 12, and has been constructed in accordance with applicable county, national, or international prescriptive construction standards.

Signature:  \_\_\_\_\_

Print Name: \_\_\_\_\_

Company: \_\_\_\_\_

Telephone No.: \_\_\_\_\_



Department of Planning and Permitting (DPP)  
 Customer Service Office – Permit Issuance Branch  
 650 South King Street, 1st Floor  
 Honolulu, Hawaii 96813  
 (808) 768-8220

FOR DPP USE ONLY	
<input type="checkbox"/>	Declaration Unacceptable (Return to Applicant)
<input type="checkbox"/>	Declaration Accepted:
DECLARATION NO. _____	
DATE: _____	

**DECLARATION OF COMPLIANCE WITH HAWAII REVISED STATUTES (HRS) §46-88  
 RELATING TO EXEMPTED AGRICULTURAL STRUCTURES**

Project Name: \_\_\_\_\_  
 Address: \_\_\_\_\_ Tax Map Key: \_\_\_\_\_  
 Property Area (acres): \_\_\_\_\_  
 Description of Structure: \_\_\_\_\_  
 Location of Structure (Latitude/Longitude): Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_  
 Dimensions of Structure (Length x Width): \_\_\_\_\_  
 Floor Area of Structure (sq. ft.): \_\_\_\_\_  
 Aggregate Floor Area of Exempted Structures (sq. ft.): \_\_\_\_\_  
 Distance from Nearest Structure (ft.): \_\_\_\_\_  
 Structure Composition: \_\_\_\_\_  
 Exemption No. (See attached Exemption List): \_\_\_\_\_  
 If Exemption No. 7 or 12, provide structural span (ft.): \_\_\_\_\_  
 Structure is:  Proposed  Existing  
 Electrical improvements to be installed?  Yes  No (If yes, a building permit is required)  
 Plumbing improvements to be installed?  Yes  No (If yes, a building permit is required)

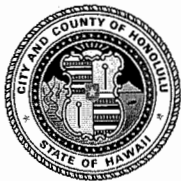
**NOTE: Provide a plot plan showing approximate location of structure, property lines, other structures, setbacks to other structures, dimensions of structure, and any other pertinent information. The plot plan should be on 8-1/2" x 11" paper or larger. Attach extra sheets as necessary. Submit HARD COPIES ONLY, no emails or fax submittals will be accepted.**

This form and plot plan should be submitted to: Department of Planning and Permitting (DPP)  
 Customer Service Office, Permit Issuance Branch  
 650 South King Street, 1<sup>st</sup> Floor  
 Honolulu, Hawaii 96813

**OWNERS CERTIFICATION/DECLARATION**

- I declare this project to be exempt from applicable building permit/code requirements under the provisions of HRS §46-88 (as amended). I have read and fully understand HRS §46-88, and certify that the project is in compliance.
- I understand that this exemption only applies to certain building permit/code requirements. I shall obtain all other required permits and approvals and shall comply with all applicable codes and laws associated with this development, which may include but not be limited to, Special Management Area, Flood Hazard, electrical, plumbing, grading, driveway, work in County/State right-of-ways, fire, wastewater, and State Department of Health requirements.
- I understand that the issuance of a declaration number by County should not be taken to mean that compliance with HRS §46-88 has been confirmed, and that is my sole responsibility to confirm compliance. The State or County shall not be liable for any claims arising from construction of buildings, structures, or appurtenances thereto exempt from the building code and permitting process as described in HRS §46-88.

Property Owner: \_\_\_\_\_  
 Signature: \_\_\_\_\_ Print Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone No.: \_\_\_\_\_ Email: \_\_\_\_\_



Department of Planning and Permitting (DPP)  
 Customer Service Office – Permit Issuance Branch  
 650 South King Street, 1st Floor  
 Honolulu, Hawaii 96813  
 (808) 768-8220

<b>FOR DPP USE ONLY</b>	
<input type="checkbox"/>	Declaration Unacceptable (Return to Applicant)
<input type="checkbox"/>	Declaration Accepted:
DECLARATION NO. _____	
DATE: _____	

**DECLARATION OF COMPLIANCE WITH HAWAII REVISED STATUTES (HRS) §46-88  
 RELATING TO EXEMPTED AGRICULTURAL STRUCTURES**

Project Name: \_\_\_\_\_  
 Address: \_\_\_\_\_ Tax Map Key: \_\_\_\_\_  
 Property Area (acres): \_\_\_\_\_  
 Description of Structure: \_\_\_\_\_  
 Location of Structure (Latitude/Longitude): Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_  
 Dimensions of Structure (Length x Width): \_\_\_\_\_  
 Floor Area of Structure (sq. ft.): \_\_\_\_\_  
 Aggregate Floor Area of Exempted Structures (sq. ft.): \_\_\_\_\_  
 Distance from Nearest Structure (ft.): \_\_\_\_\_  
 Structure Composition: \_\_\_\_\_  
 Exemption No. (See attached Exemption List): \_\_\_\_\_  
 If Exemption No. 7 or 12, provide structural span (ft.): \_\_\_\_\_  
 Structure is:  Proposed  Existing  
 Electrical improvements to be installed?  Yes  No (If yes, a building permit is required)  
 Plumbing improvements to be installed?  Yes  No (If yes, a building permit is required)

**NOTE: Provide a plot plan showing approximate location of structure, property lines, other structures, setbacks to other structures, dimensions of structure, and any other pertinent information. The plot plan should be on 8-1/2" x 11" paper or larger. Attach extra sheets as necessary. Submit HARD COPIES ONLY, no emails or fax submittals will be accepted.**

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- I understand that the issuance of a declaration number by County should not be taken to mean that compliance with HRS §46-88 has been confirmed, and that is my sole responsibility to confirm compliance. The State or County shall not be liable for any claims arising from construction of buildings, structures, or appurtenances thereto exempt from the building code and permitting process as described in HRS §46-88.

Property Owner: \_\_\_\_\_  
 Signature: \_\_\_\_\_ Print Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone No.: \_\_\_\_\_ Email: \_\_\_\_\_

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*James L. Kane*

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

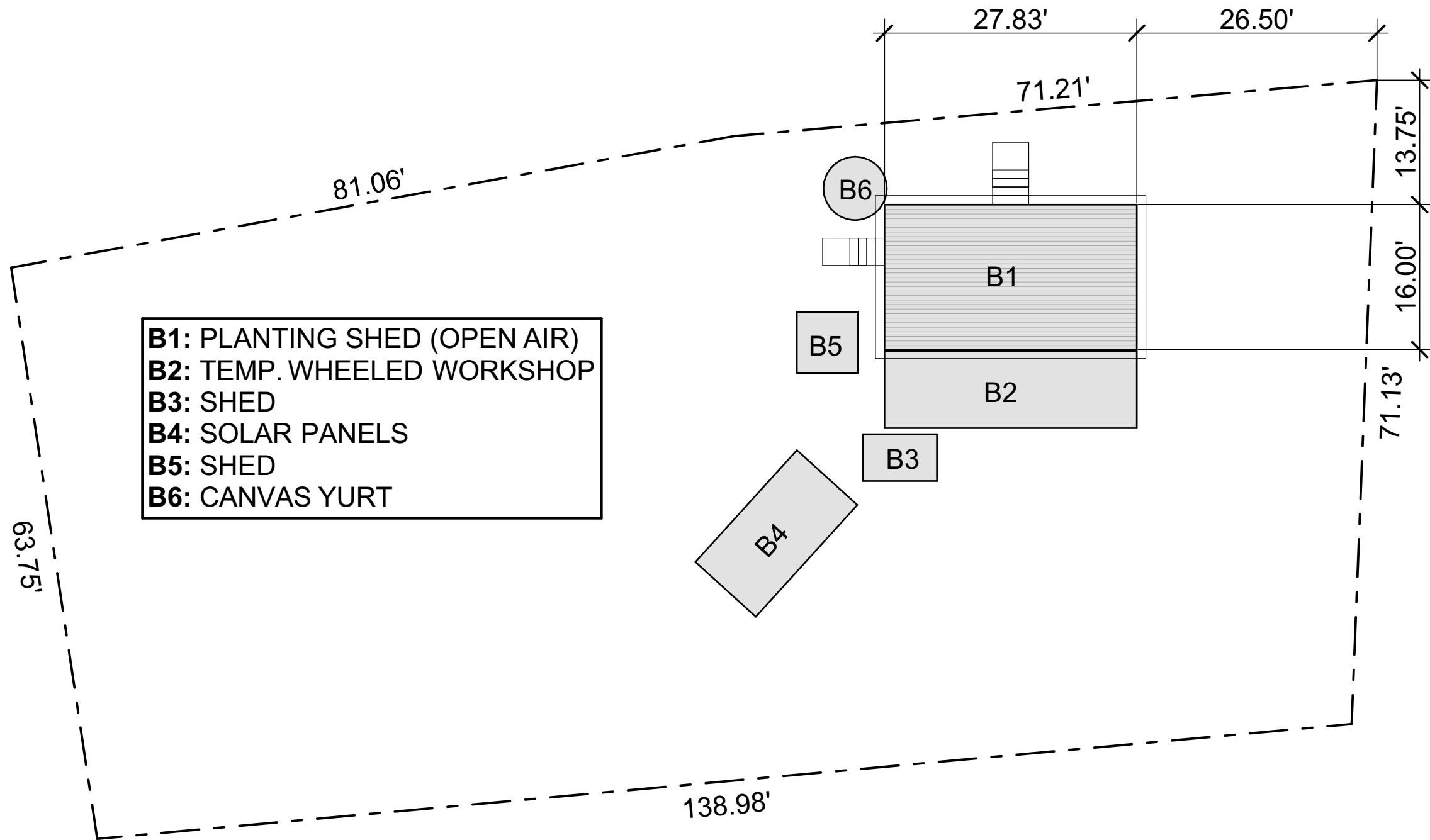
CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED UNDER SECTION 16-115-9 OF THE HAWAII ADMINISTRATIVE RULES.

REGISTRATION NUMBER  
**AR-20254**

EXPIRATION OF LICENSE  
**04/30/2024**

**SHEET INDEX**

	AG Exception Form
A1	SITE PLAN
A2	FND/FLOOR FRAMING PLAN
A3	PLANS & SECTIONS
A4	ELEVATIONS



- B1:** PLANTING SHED (OPEN AIR)
- B2:** TEMP. WHEELED WORKSHOP
- B3:** SHED
- B4:** SOLAR PANELS
- B5:** SHED
- B6:** CANVAS YURT

A1

**SITE PLAN**

SCALE: 1:160

JANET CLARK  
AG BUILDING (PLANTING SHED)  
53-424 KAMEHAMEHA HWY UNIT 6 HAUULA HI  
TMK: 5-3-005:070 0006

**SITE PLAN**  
2/13/2024

A1



HTTP://OwnerBuiltDesign.com  
(808) 383-4632  
Jim@OwnerBuiltDesign.com

ALL RIGHTS RESERVED | OwnerBuiltDesign.com

BIMcloud: ownerbuiltdesign - BIMcloud Software as a Service/Projects 2024/24-001 Clark Hauula

#1 - 6ft from property line  
 1ft from house  
 #2 - 16ft from property line

CORRECTED  
 SEP 1 1949  
 NOV 1 1945  
 MAY 2 1951  
 JAN 20 2022



DROPPED PARCELS: 15, 16, 28, 30, 32, 33, 41

FIRST DIVISION		
ZONF	SEC.	PLAT
5	3	05
CONTAINING PARCELS		
SCALE: 1 in. = 100 ft.		

Drawn by: [illegible]  
 By: [illegible]  
 Source: [illegible]  
 Map 505, C.A. Robinson Map 480

KAPANO & PUHEEMIKI, KOOLAULOA, OAHU, HAWAII.



# PROPOSED NEW 2-STORY HOUSE FOR: WANG FAMILY

**Unit #7**

53-424 KAMEHAMEHA HWY., UNIT 7  
HAUULA, HAWAII 96717  
T.M.K. 5-3-005:0700007

## PROJECT DATA:

### CODES & REGULATIONS:

2018 INTERNATIONAL BUILDING CODE  
W/ AMENDMENTS  
HAWAII REVISED STATUTES  
2021 LAND USE ORDINANCES  
LUO W/ REVISED ORDINANCES

LOT AREA: 10,690.00 S.F.  
T.M.K.: 5-3-005:0700007  
BUILDING AREA (10,690.00 X 50%): 5,345.00 S.F.  
FLOOR AREA (10,690.00 X 60%): 6,414.00 S.F.  
ZONING(LUO): R-5 AND AG-2  
FLOOD ZONES: X, AE, VE

BUILDING AREA  
2-STORY HOUSE 2,540.00 S.F.  
TOTAL BUILDING AREA 2,540.00 S.F.

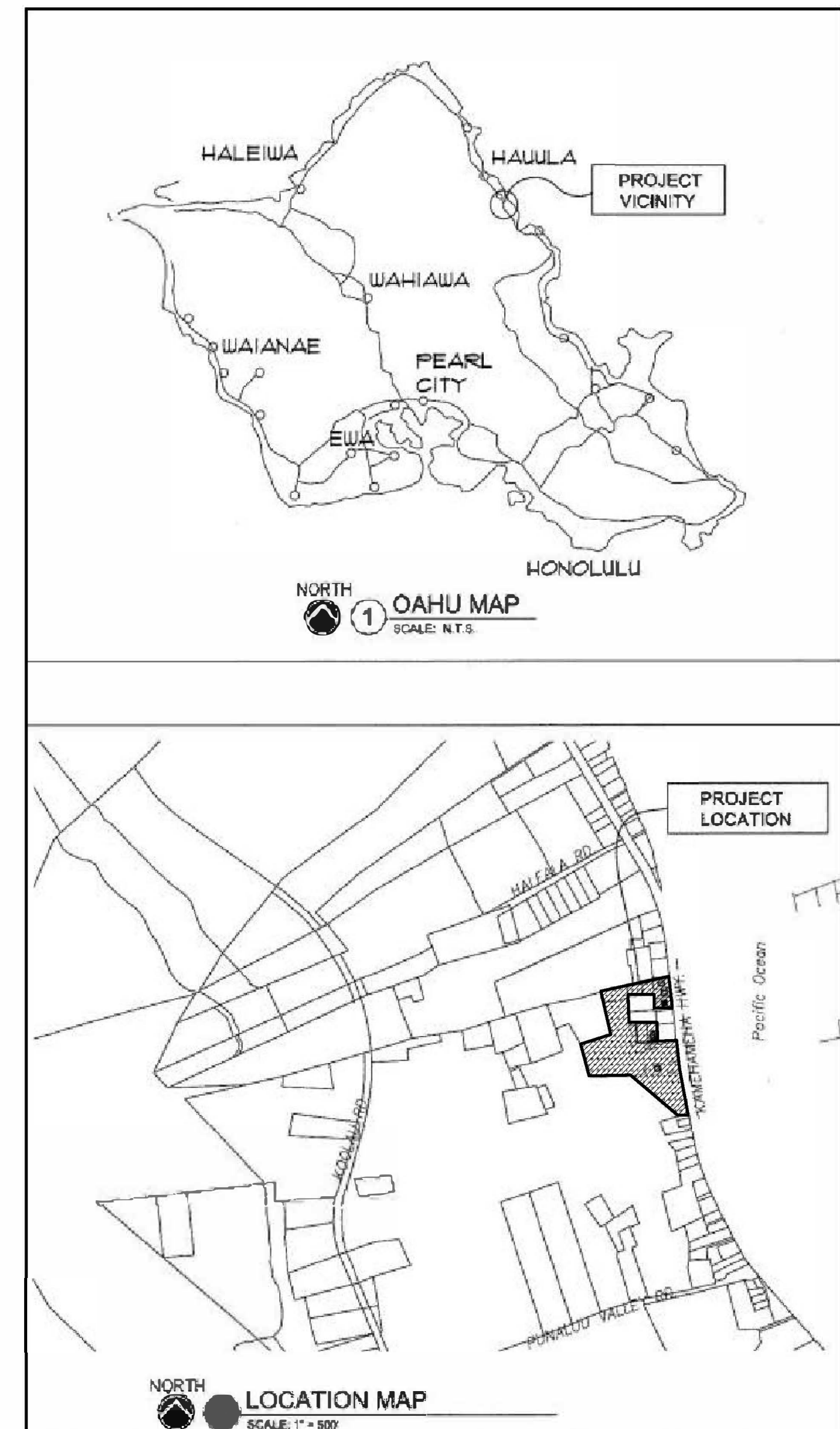
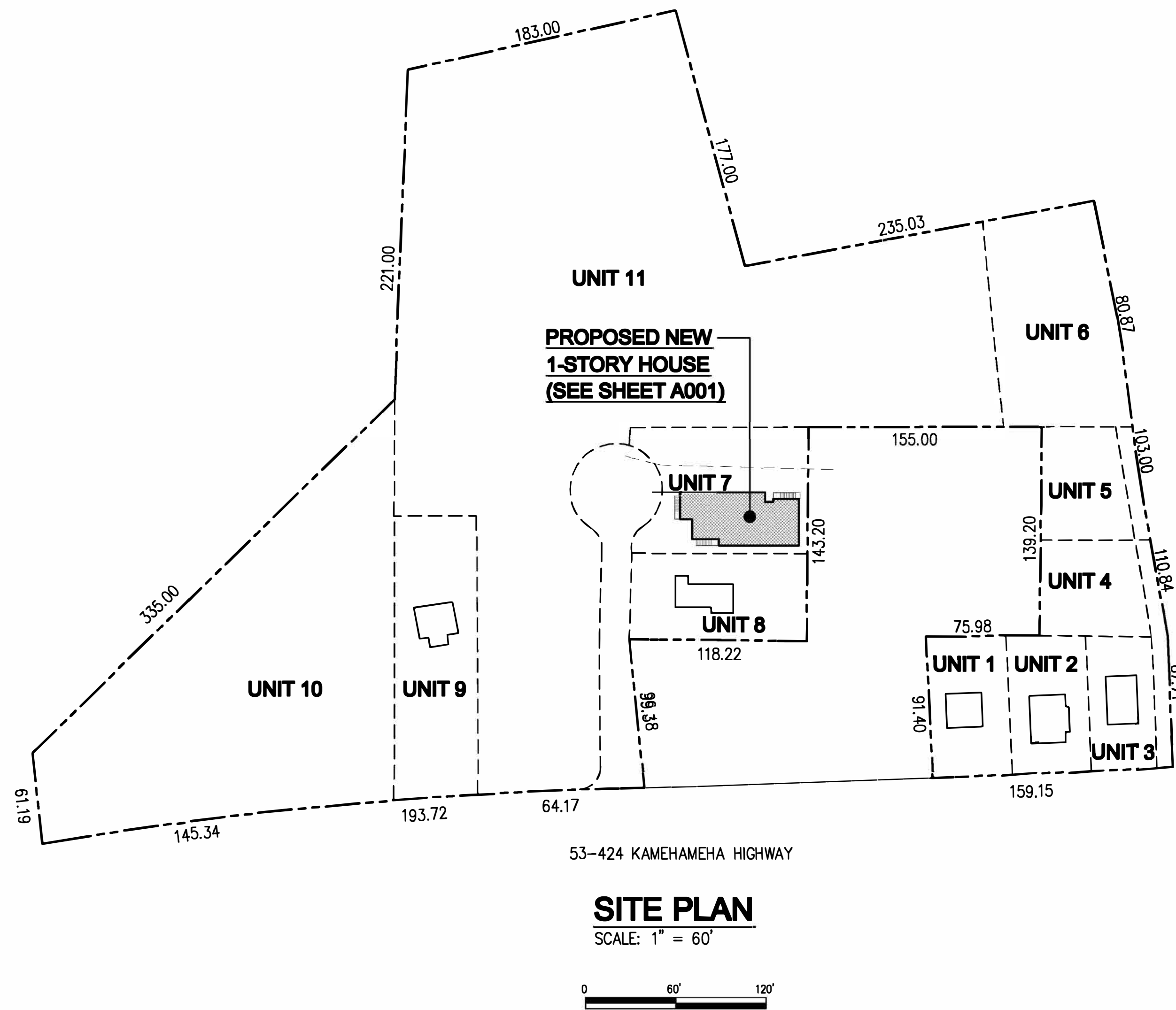
FLOOR AREA  
FIRST FLOOR 2,500.00 S.F.  
SECOND FLOOR 829.00 S.F.  
TOTAL LIVING AREA 3,329.00 S.F.

TOTAL PARKING 3-STALLS

### GENERAL NOTES:

- The contractor shall coordinate all the work and the necessary information and materials, accessories, anchors, connections, patterns, templates, etc.. That shall be delivered when required in order to prevent any delay in the progress and completion of work. Coordinates between all the trades is of essence.
- The Contractor shall visit the job site and examine the existing conditions.
- The contractor on signing the agreement, warrants that he has visited the site familiarize himself with all conditions there on. No extra payment will be given for conditions which can be determine by a thorough examination of the site and documents.
- The contractor shall not make any alterations to the drawings. In all cases, when there is a discrepancy in the quality of an item, installation, details, workmanship or other construction techniques, the contractor shall use the better quality item, installation or construction techniques provide to produce the best available cost or work required. In any event, a discrepancy within the drawing should immediately be brought to the attention of the engineer/architect for a decision before proceeding with the particular work involved. Work carried out disregarding these instruction is subject to removal and replacement at the expenses of the contractor. In all cases, figured dimension take precedence over scaled measurements. No dimension shall at any time be determined by scale.
- The contractor is to layout and be responsible for the correctness of laying out space improvement and for locating services and utilities.
- The contractor shall install / apply all materials in strict compliance with the manufacturer's instructions.
- The contractor shall clean up and removed any trash, dirt, debris and spillage arising from the work to the satisfaction of the owner and architect, including cleaning of dirt, putty, paint, etc... from work areas, and cleaning of windows faces & mullions.
- Contractor to verify all dimensions and conditions before proceeding with work.
- Contractor is to repair any damage to existing condition to remain and to match existing at no expense to the owner.
- All construction to conform to the 2018 edition of the INTERNATIONAL BUILDING CODE, (IBC), the latest City and County of Honolulu Amendments and Ordinances.
- Contractor is to install all owner furnished equipment, including electrical, and plumbing connections as required. All new lumber shall be TERMITE TREATED.
- The contractor shall implement ( BMP ) Best Management Practice at all times.

TABLE OF CONTENTS:	
001	SITE PLAN, CONSTRUCTION NOTES, PROJECT DATA, TABLE OF CONTENT
A001	PLOT PLAN, ESCP NOTES
A002	FIRST FLOOR PLAN
A003	EXTERIOR ELEVATIONS
A004	EXTERIOR ELEVATIONS
A005	FOUNDATION PLAN, DOOR AND WINDOW SCHEDULES
A006	FLOOR FRAMING PLAN, INTERIOR ELEVATIONS
A007	ROOF FRAMING PLAN, STAIR AND HANDRAIL DETAILS
A008	CROSS SECTION DETAILS, DETAILS
A009	MISCELLANEOUS DETAILS
A010	TOPOGRAPHIC SURVEY MAP
A011	ELECTRICAL PLAN



#### BUILDING DEPARTMENT CITY AND COUNTY OF HONOLULU BUILDING CODE REQUIREMENTS FOR SPECIAL INSPECTION

- 16 Sheathed Shear Walls and Diaphragms
- 17 Complete Load Path and Uplift Ties
- 18 Termite Protection

#### CITY AND COUNTY OF HONOLULU REVISED ORDINANCE CHAPTER 32 HONOLULU COUNTY CODE 1990, AS AMENDED

To the best of my knowledge, this project's design substantially conforms to the Building Energy Conservation Code for:

- Building Component Systems
- Electrical Component Systems
- Mechanical Component Systems

Signature \_\_\_\_\_ Date \_\_\_\_\_  
Name \_\_\_\_\_  
Title \_\_\_\_\_  
License No. \_\_\_\_\_

DATE: 4-30-2024

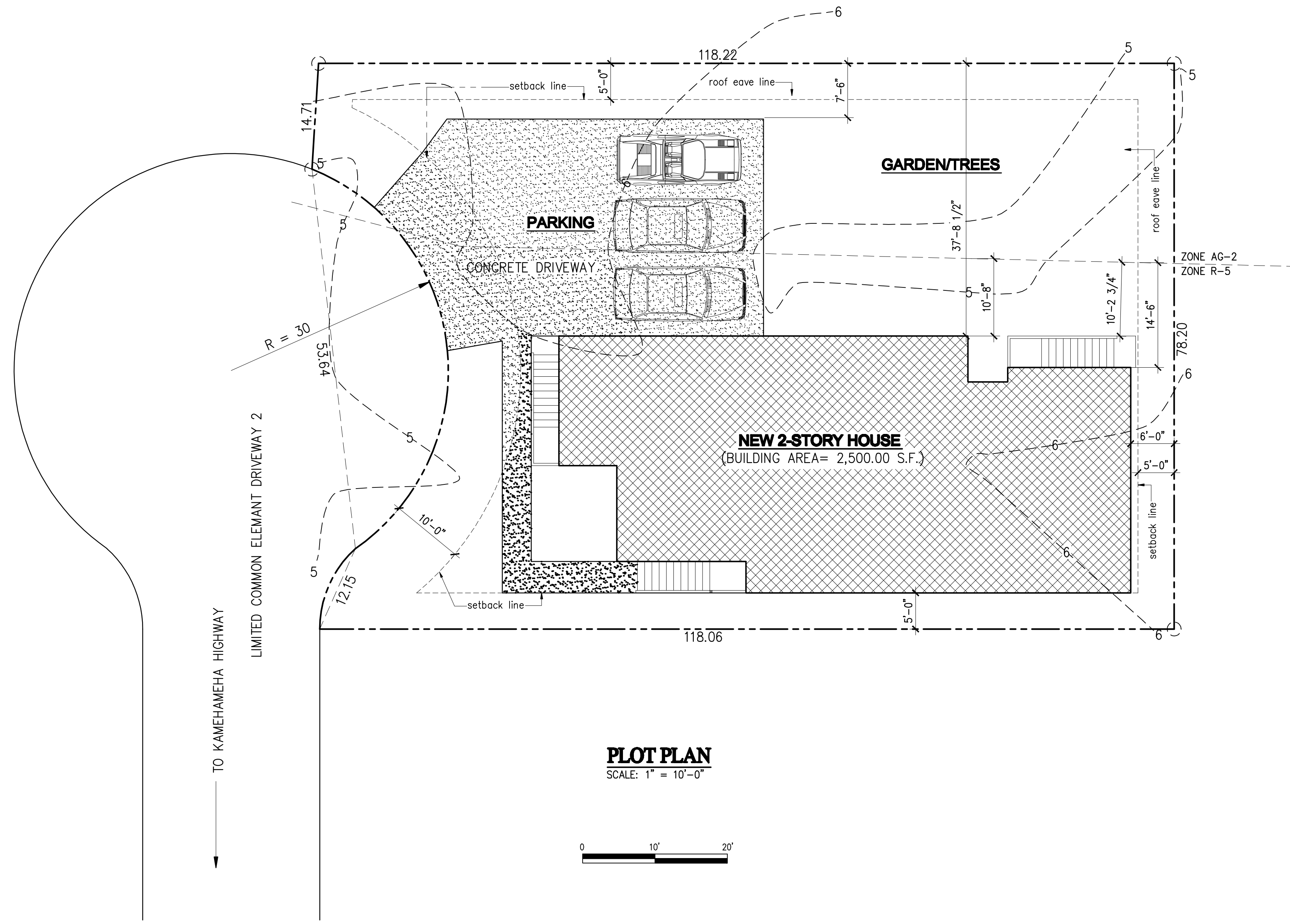
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION, SUPERVISION OF CONSTRUCTION AND I AM A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LANDSCAPE ARCHITECT OF THE STATE OF HAWAII.

PROPOSED NEW 2-STORY HOUSE FOR:  
**WANG FAMILY**  
53-424 KAMEHAMEHA HWY., UNIT 7  
HAUULA, HAWAII 96782  
T.M.K. 5-3-005:0700007

NOTES, SITE PLAN,  
PROJECT DATA

Date JULY 2023  
Scale AS NOTED  
Drawn DP  
Check by  
Job WANG  
Sheet No  
**001**  
of Sheets





**RESIDENTIAL STORM WATER MANAGEMENT NOTES FOR SINGLE-FAMILY AND TWO-FAMILY DWELLING PROJECTS:**

- (i) USE SITE DESIGN STRATEGIES TO REDUCE THE IMPERVIOUS SURFACE AREAS TO THE MAXIMUM EXTENT PRACTICAL. THE TOTAL IMPERVIOUS SURFACE AREA FOR LOT MAY NOT EXCEED 75%, PER LUO 21-3.70(G).
- (ii) TOTAL IMPERVIOUS AREA = %

**PUBLIC HEALTH, SAFETY, AND CONVENIENCE NOTES:**

1. THE CONTRACTOR SHALL OBSERVE COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF THE PUBLIC HEALTH AND SAFETY AND ENVIRONMENTAL QUALITY.
2. THE CONTRACTOR, AT HIS OWN EXPENSES SHALL KEEP THE PROJECT AND ITS SURROUNDING AREAS FREE FROM NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
3. NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION ACTIVITY SO AS TO CAUSE FALLING ROCK, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.
4. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES AND OTHER PROTECTIVE FACILITIES AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION CONVENIENCE AND SAFETY OF THE PUBLIC. THE CONTRACTOR SHALL APPLY FOR A CONSTRUCTION PERMIT WITH A NOISE POLLUTION CONTROL PLAN.

**ESCP INSPECTION NOTES:**

1. AT LEAST TWO WEEKS BEFORE THE BEGINNING CONSTRUCTION, THE CONTRACTOR OR THE PERSON IN CHARGE OF CONSTRUCTION SHALL NOTIFY THE STORM WATER INSPECTOR LISTED ON THE BUILDING PERMIT.
2. AFTER INSTALLING THE CONSTRUCTION BMPs AND MOBILIZING ANY CONSTRUCTION APPARATUS IN ACCORDANCE WITH THE APPROVED ESCP (OR APPENDIX B α ESCP FOR SMALL PROJECT TEMPLATE), THE CONTRACTOR OR THE PERSON IN CHARGE OF CONSTRUCTION SHALL CONTACT THE ESCP COORDINATOR LISTED ON THE BUILDING PERMIT, FOR A PRECONSTRUCTION INSPECTION.
3. THE ESCP COORDINATOR SHALL SUBMIT THE PRECONSTRUCTION INSPECTION PHOTOS CHECKLIST TO THE STORM WATER INSPECTOR (EMAIL TO DPP.NPDES@HONOLULU.GOV) CONFIRMING THE BMPs AND GOOD HOUSE KEEPING MEASURES ARE IN COMPLIANCE.

EXP. DATE: 4-30-2024

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. OBSERVATION OF CONSTRUCTION STRATEGIES, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS, PLANNERS AND LANDSCAPE ARCHITECTS OF THE STATE OF HAWAII.

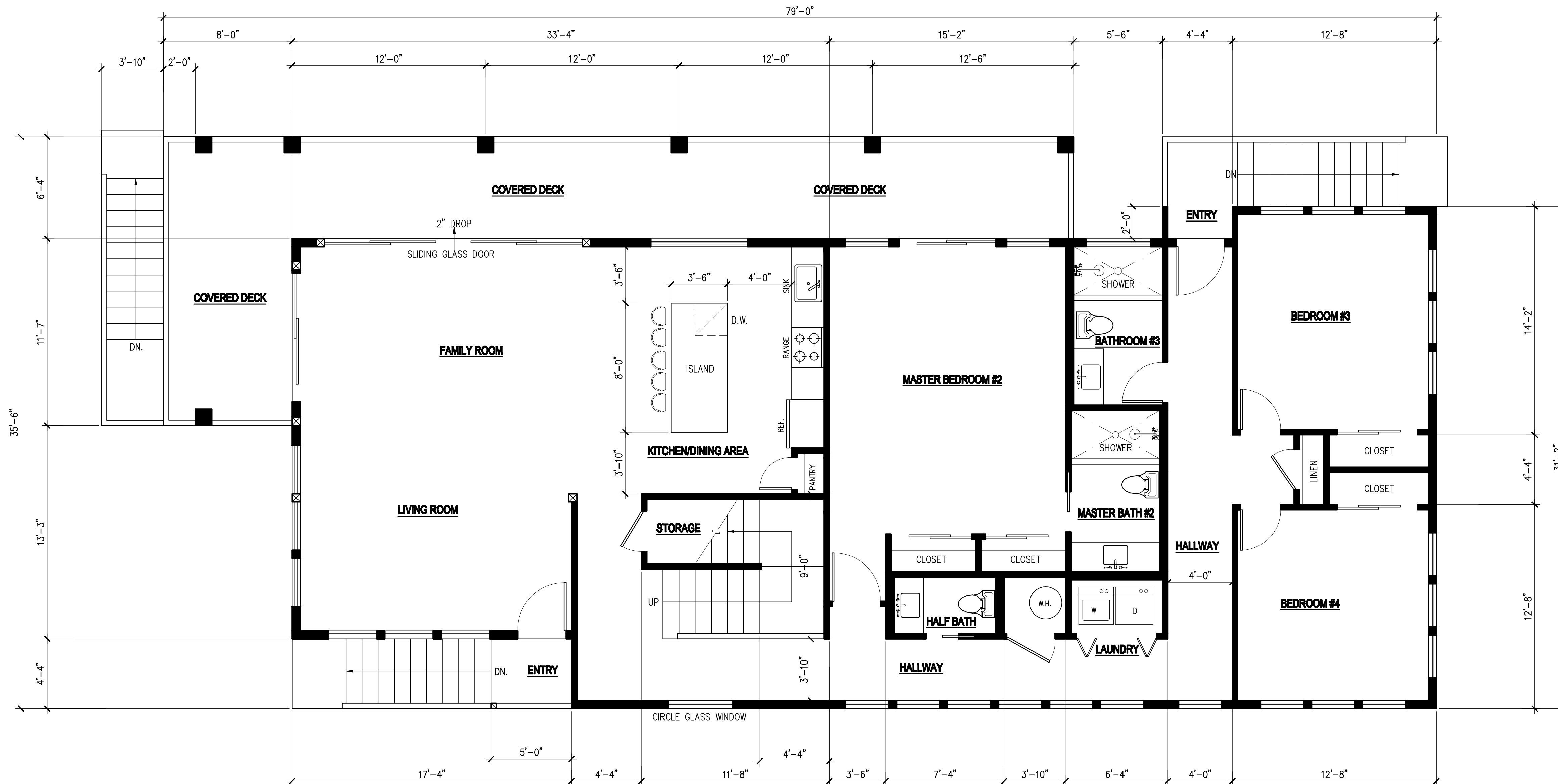
SIGNATURE

PROPOSED NEW 2-STORY HOUSE FOR:  
**WANG FAMILY**  
53-424 KAMEHAMEHA HWY., UNIT 7  
HAUJULA, HAWAII 96762  
T.M.K. 5-3-005-070007

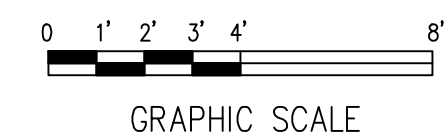
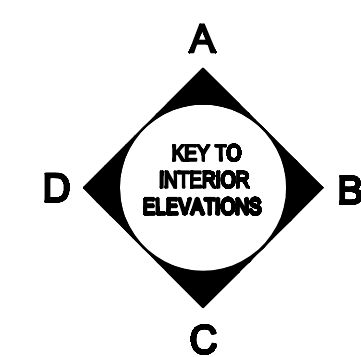
ESCP NOTES, PLOT PLAN,  
PLOT PLAN

Date	JULY 2023
Scale	AS NOTED
Drawn	DP
Check by	
Job	WANG
Sheet No	
<b>A001</b>	
of	Sheets





**FIRST FLOOR PLAN**  
SCALE: 1/4"=1'-0"



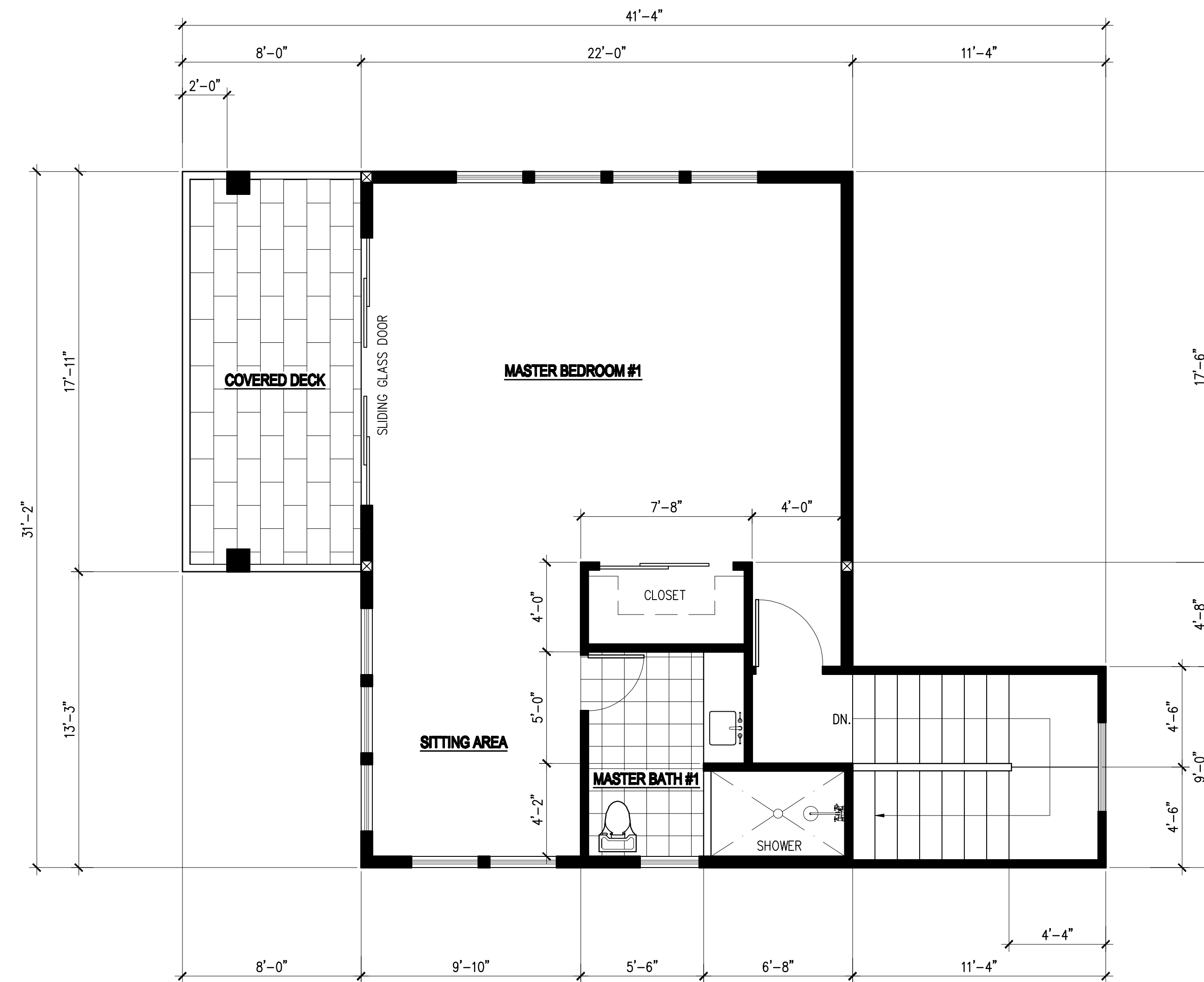
EXP. DATE: 4-30-2024  
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION, OBSERVATION OF CONSTRUCTION SHALL BE LIMITED TO VISUAL INSPECTION OF THE WORK. I AM NOT PROVIDING ARCHITECTURAL SERVICES AND LANDSCAPE ARCHITECTS OF THE STATE OF HAWAII.

PROPOSED NEW 2-STORY HOUSE FOR:  
**WANG FAMILY**  
 53-424 KAMEHAMEHA HWY., UNIT 7  
 HAUJULA, HAWAII 96762  
 T.M.K. 5-3-005-070007

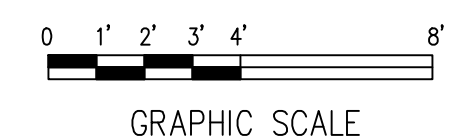
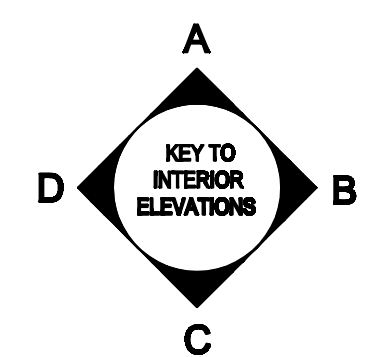
FLOOR PLAN

Date	JULY 2023
Scale	AS NOTED
Drawn	DP
Check by	
Job	WANG
Sheet No	

**A002**  
of Sheets



**SECOND FLOOR PLAN**  
SCALE: 1/4"=1'-0"



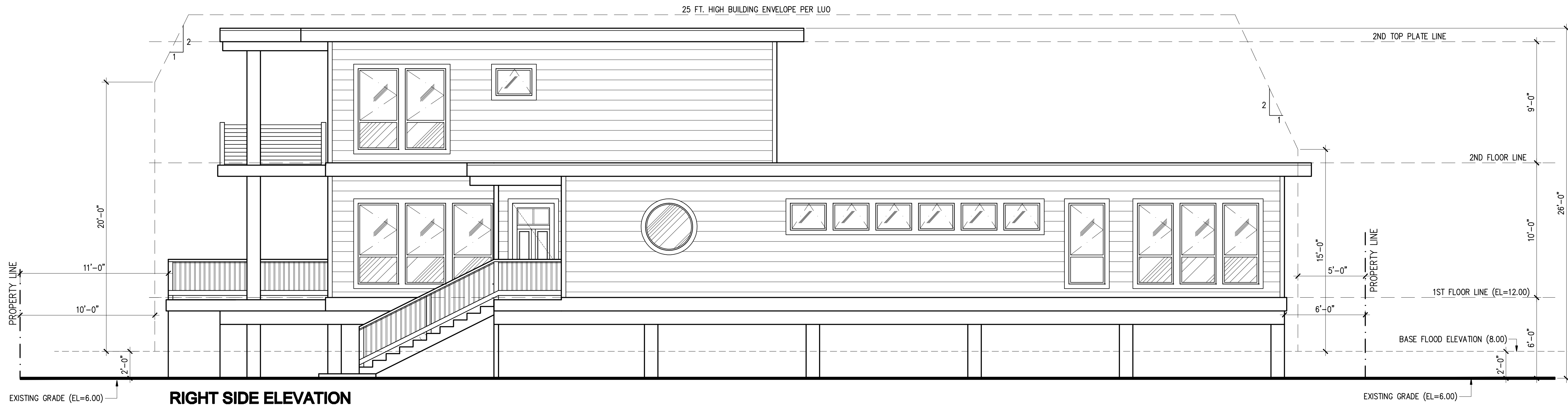
EXP. DATE: 4-30-2024

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. OBSERVATION OF CONSTRUCTION SHALL BE LIMITED TO VISUAL INSPECTION ONLY. I AM NOT PROVIDING CONTRACT ADMINISTRATION SERVICES. I AM NOT A REGISTERED PROFESSIONAL ENGINEER, ARCHITECT, PLANNER, AND LANDSCAPE ARCHITECT OF THE STATE OF HAWAII.

PROPOSED NEW 2-STORY HOUSE FOR:  
**WANG FAMILY**  
53-424 KAMEHAMEHA HWY., UNIT 7  
HAUJULA, HAWAII 96762  
T. M. K. 5-3-005-0700007

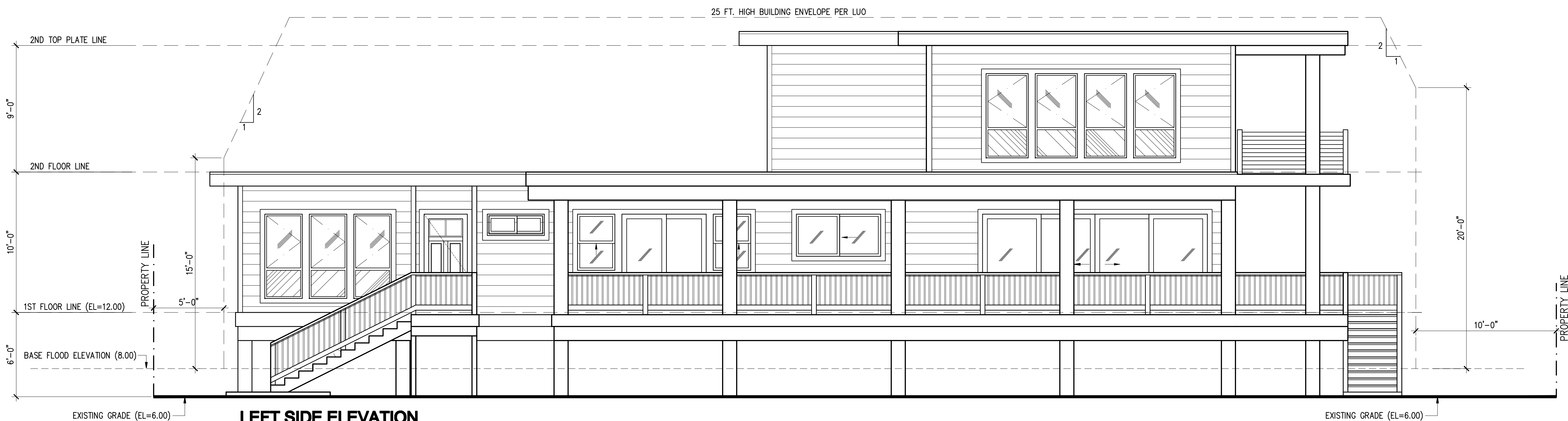
FLOOR PLAN

Date	JULY 2023
Scale	AS NOTED
Drawn	DP
Check by	
Job	WANG
Sheet No	<b>A003</b>
of	Sheets



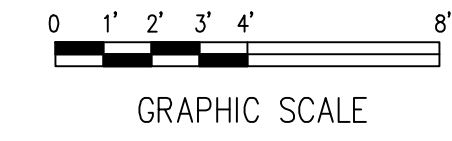
**RIGHT SIDE ELEVATION**

SCALE: 1/4"=1'-0"



**LEFT SIDE ELEVATION**

SCALE: 1/4"=1'-0"



EXP. DATE: 4-30-2024

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. OBSERVATION OF CONSTRUCTION STRATEGIC RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS, PLANNERS AND LANDSCAPE ARCHITECTS OF THE STATE OF HAWAII.

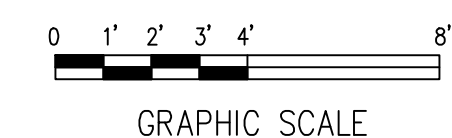
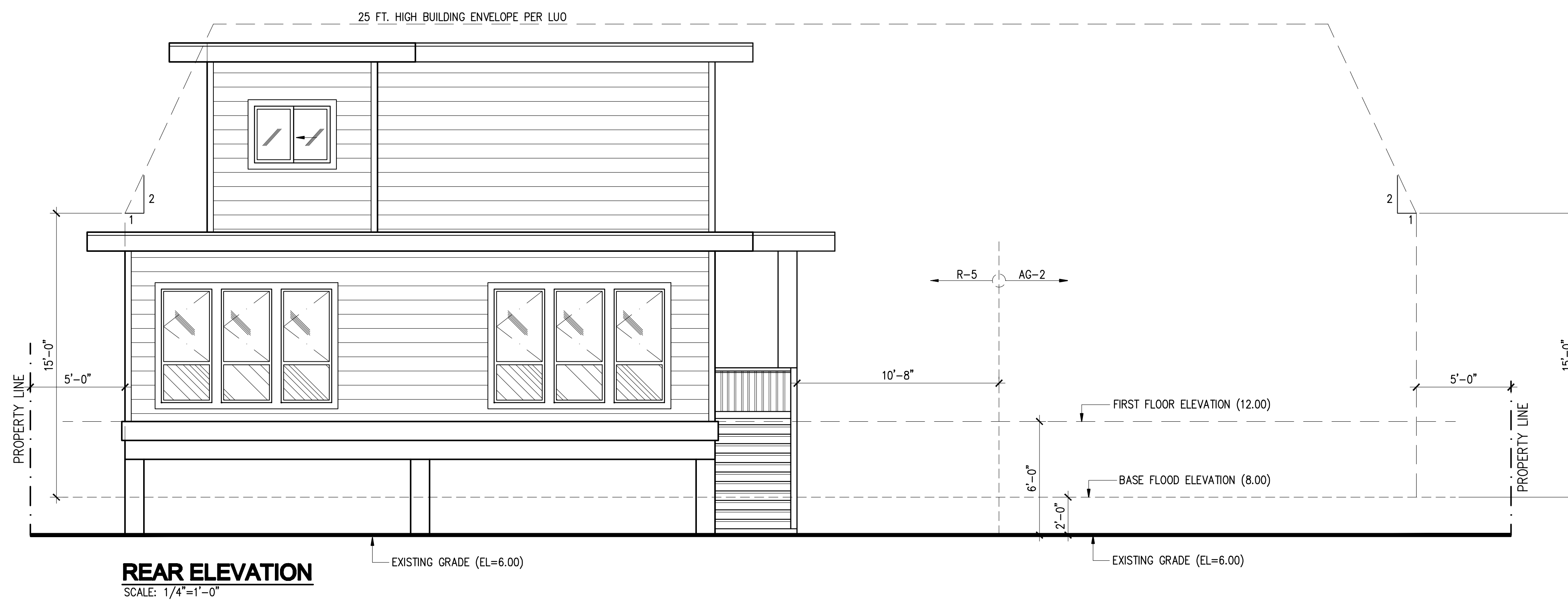
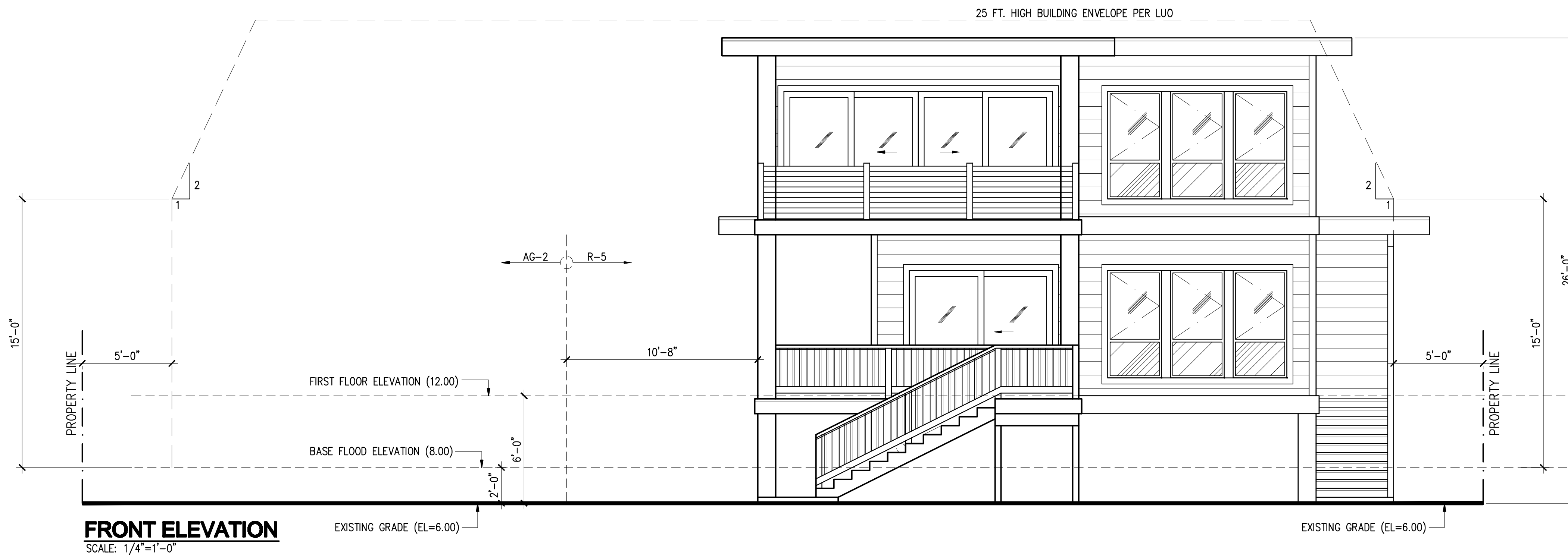
SIGNATURE

PROPOSED NEW 2-STORY HOUSE FOR:  
**WANG FAMILY**  
 53-424 KAMEHAMEHA HWY., UNIT 7  
 HAUJULA, HAWAII 96762  
 T. M. K. 5 - 3 - 005 : 070007

EXTERIOR ELEVATION

Date	JULY 2023
Scale	AS NOTED
Drawn	DP
Check by	
Job	WANG
Sheet No	

**A004**  
 of Sheets



EXP. DATE: 4-30-2024

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION, OBSERVATION OF CONSTRUCTION SHALL BE LIMITED TO VISUAL INSPECTION. I AM NOT PROVIDING ARCHITECTURAL SERVICES AS PER THE ARCHITECTS ACT AND LANDSCAPE ARCHITECTS ACT OF THE STATE OF HAWAII.

SIGNATURE

PROPOSED NEW 2-STORY HOUSE FOR:

**WANG FAMILY**

53-424 KAMEHAMEHA HWY., UNIT 7

HAUJULA, HAWAII 96762

T. M. K. 5 - 3 - 005 : 0700007

EXTERIOR ELEVATION

Date JULY 2023

Scale AS NOTED

Drawn DP

Check by

Job WANG

Sheet No

**A005**

of Sheets



**UNIT SUMMARY:**

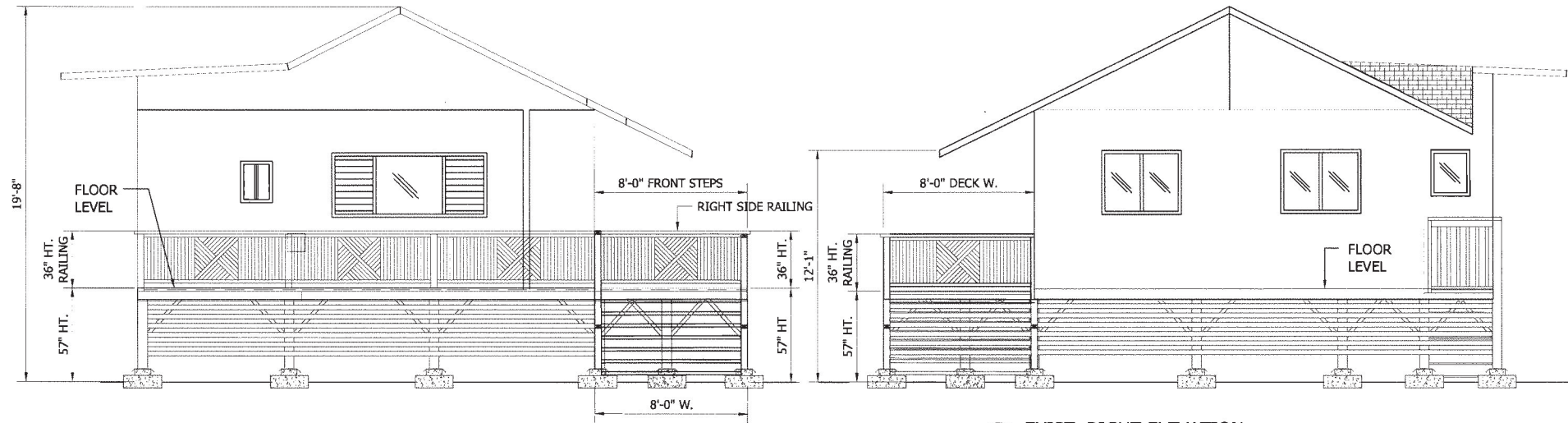
53-440 KAM HWY.  
HAUULA, HI 96717

**PROJECT SUMMARY:**

EXIST. LIVING AREA	738 SF.
EXIST. CARPORT/CONC.FL.	270 SF.
EXIST. TOTAL:	1,008 SF.
NEW DECK AREA:	528 SF.
NEW TOTAL	1,516 SF.
TOTAL LIVING AREA:	738 SF.
LOT SIZE IN ACRES:	4.7625 AC.
LOT SIZE IN SF.:	207,454 SF.
PERCENTAGE OF LOT:	.01 %

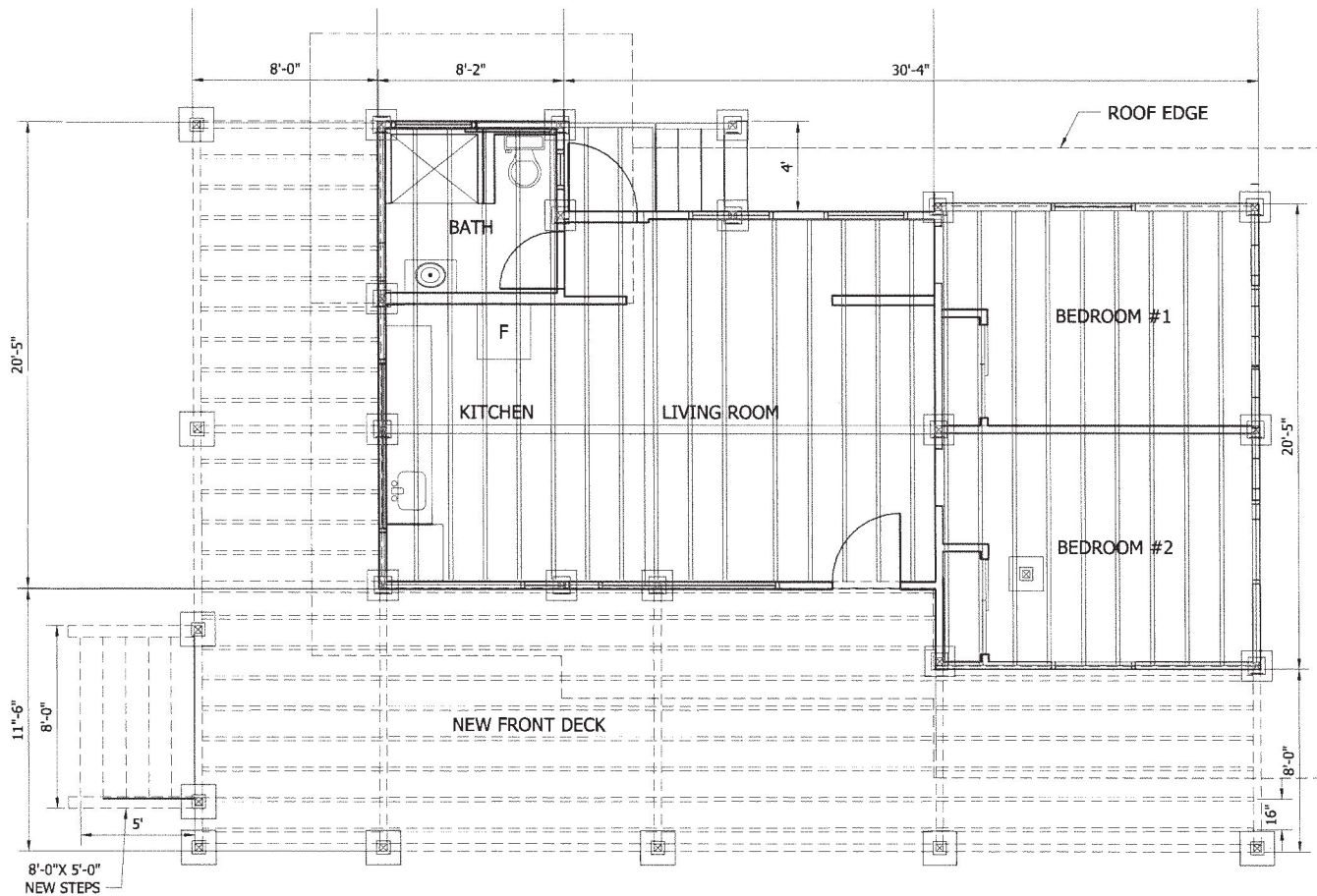
**CONSTRUCTION NOTES:**

1. SINGLE WALL CONSTRUCTION
2. POST & BLOCK FOUNDATION
3. COMPOSITE ASPHALT SHINGLE ROOF
4. COMPACTED GRAVEL DRIVEWAY



3 EXIST. LEFT ELEVATION  
1/4" = 1'-0"

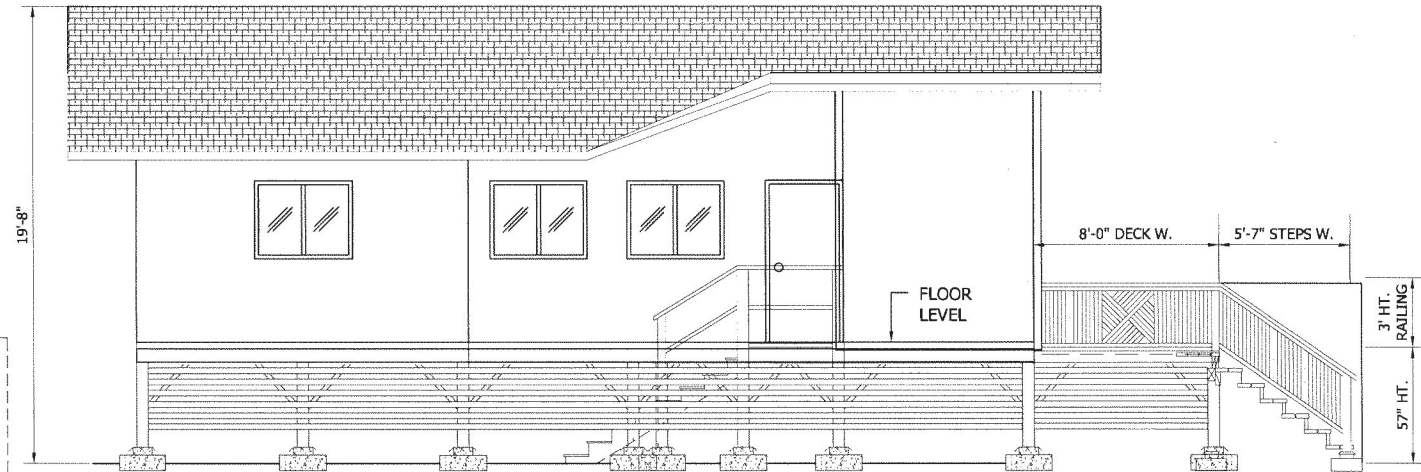
4 EXIST. RIGHT ELEVATION  
1/4" = 1'-0"



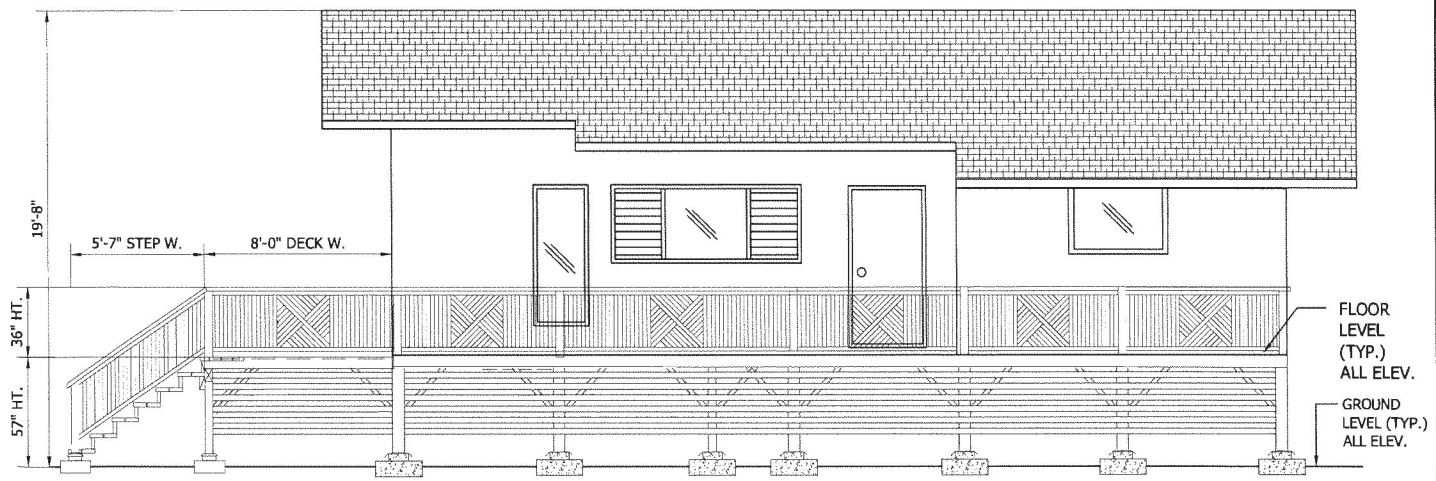
2 LIMITED COMMON ELEMENT UNIT #8 - 53-440 KAMEHAMEHA HWY.  
1/4" = 1'-0"



NOTE:  
SHEET ADDED PER DPP COMMENT  
FOR SIMPLY PLAN & ELEVATIONS  
FOR ALL UNITS ON PROPERTY.



2 EXIST. BACK ELEVATION  
1/4" = 1'-0"



1 FRONT ELEVATION  
1/4" = 1'-0"

NOTE:  
SHEET ADDED PER DPP COMMENT  
FOR SIMPLY PLAN & ELEVATIONS  
FOR ALL UNITS ON PROPERTY.

**KAHENA WAI ESTATES**  
53-428 TO 53-458 Kamehameha Hwy.  
Hauula, HI 96717  
TMK: 5-3-005:030, 4.7625 ACRES

REV. #	DATE	DESCRIPTION

SHEET DESCRIPTION:  
53-440 KAM HWY.  
UNIT #8  
NEW DECK PLAN  
& DETAILS

SHEET NO. 5  
**S-4**  
OF 6 SHEETS

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# PROPOSED NEW 2-STORY HOUSE FOR: JONATHAN NGUYEN

**Unit #9**

53-424 KAMEHAMEHA HWY., UNIT 9  
HAUULA, HAWAII 96717  
T . M . K . 5 - 3 - 005 : 0700009

## GENERAL NOTES:

- The contractor shall coordinate all the work and the necessary information and materials, accessories, anchors, connections, patterns, templates, etc.. That shall be delivered when required in order to prevent any delay in the progress and completion of work. Coordinates between all the trades is of essence.
- The Contractor shall visit the job site and examine the existing conditions.
- The contractor on signing the agreement, warrants that he has visited the site familiarize himself with all conditions there on. No extra payment will be given for conditions which can be determine by a thorough examination of the site and documents.
- The contractor shall not make any alterations to the drawings. In all cases, when there is a discrepancy in the quality of an item, installation, details, workmanship or other construction techniques, the contractor shall use the better quality item, installation or construction techniques provide to produce the best available cost or work required. In any event, a discrepancy within the drawing should immediately be brought to the attention of the engineer/architect for a decision before proceeding with the particular work involved. Work carried out disregarding these instruction is subject to removal and replacement at the expenses of the contractor. In all cases, figured dimension take precedence over scaled measurements. No dimension shall at any time be determined by scale.
- The contractor is to layout and be responsible for the correctness of laying out space improvement and for locating services and utilities.
- The contractor shall install / apply all materials in strict compliance with the manufacturer's instructions.
- The contractor shall clean up and removed any trash, dirt, debris and spillage arising from the work to the satisfaction of the owner and architect, including cleaning of dirt, putty, paint, etc... from work areas, and cleaning of windows faces & mullions.
- Contractor to verify all dimensions and conditions before proceeding with work.
- Contractor is to repair any damage to existing condition to remain and to match existing at no expense to the owner.
- All construction to conform to the 2018 edition of the INTERNATIONAL BUILDING CODE, (IBC), the latest City and County of Honolulu Amendments and Ordinances.
- Contractor is to install all owner furnished equipment, including electrical, and plumbing connections as required. All new lumber shall be TERMITE TREATED.
- The contractor shall implement ( BMP ) Best Management Practice at all times.

TABLE OF CONTENTS:	
001	SITE PLAN, CONSTRUCTION NOTES, PROJECT DATA, TABLE OF CONTENT
A001	PLOT PLAN, ESCP NOTES
A002	FIRST FLOOR PLAN
A003	SECOND FLOOR PLAN
A004	EXTERIOR ELEVATIONS
A005	FOUNDATION PLAN, DOOR AND WINDOW SCHEDULES
A006	FLOOR FRAMING PLAN, INTERIOR ELEVATIONS
A007	ROOF FRAMING PLAN, STAIR AND HANDRAIL DETAILS
A008	CROSS SECTION DETAILS, DETAILS
A009	MISCELLANEOUS DETAILS
A010	TOPOGRAPHIC SURVEY MAP
A011	ELECTRICAL PLAN

## PROJECT DATA:

### CODES & REGULATIONS:

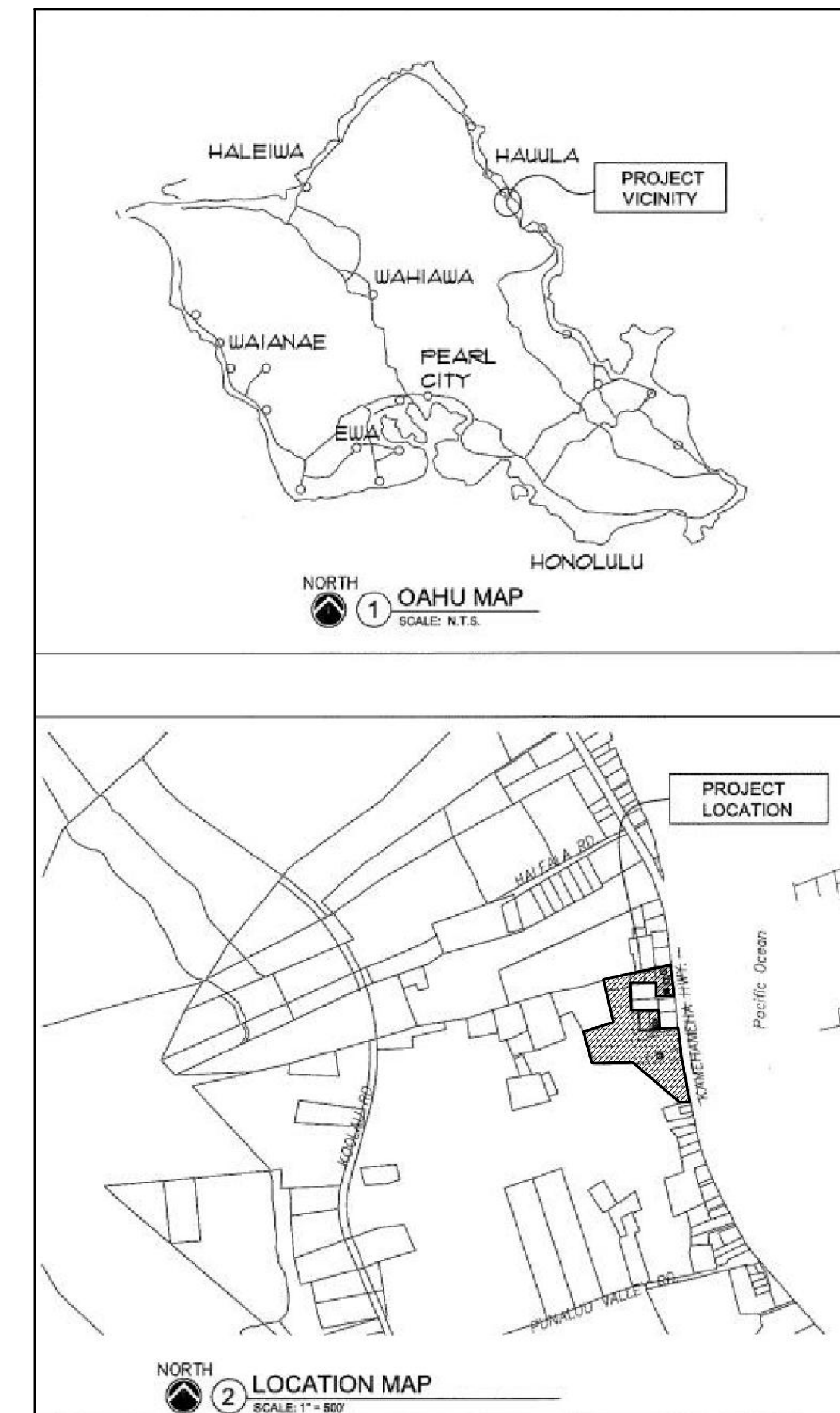
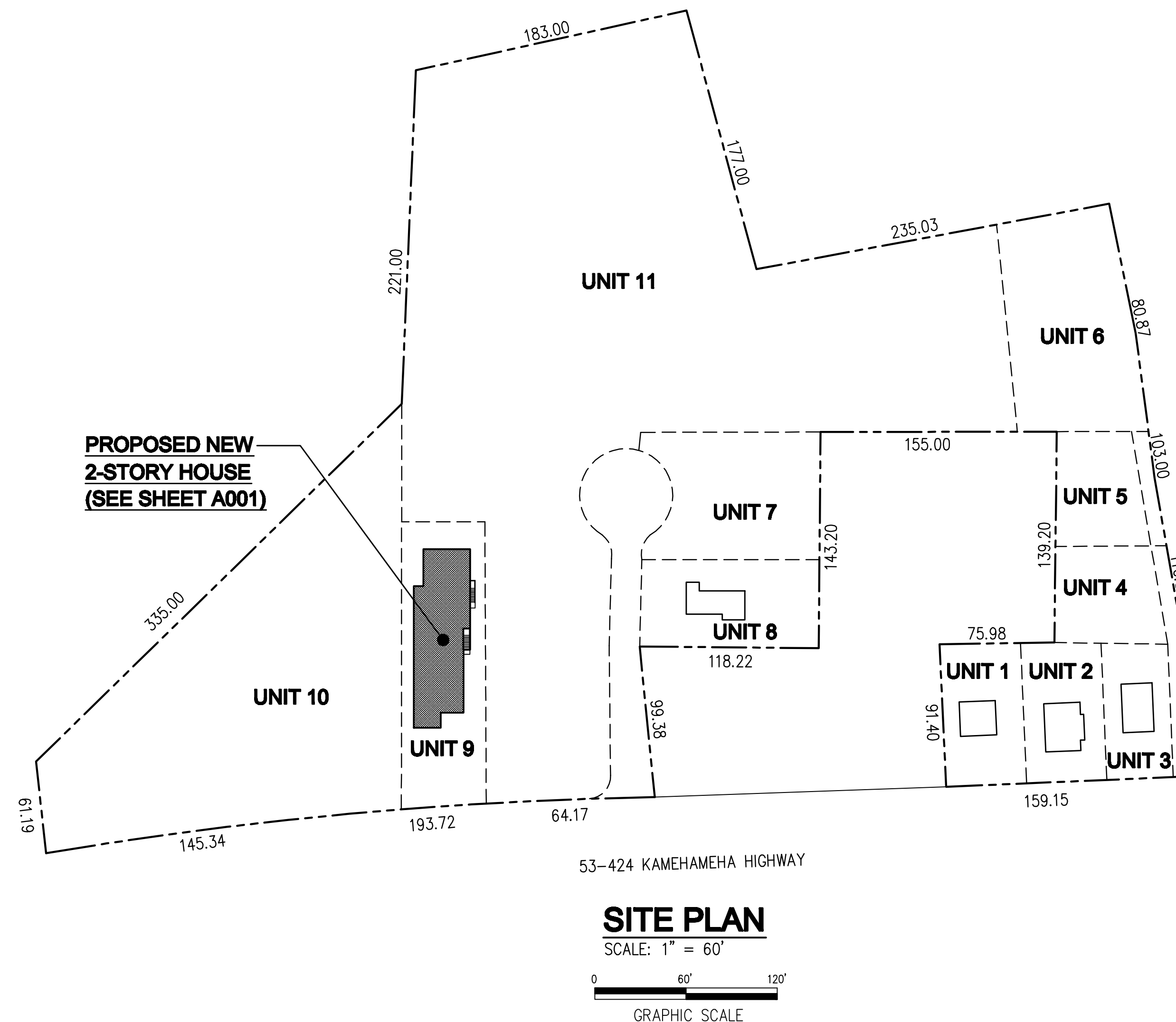
2018 INTERNATIONAL BUILDING CODE  
W/ AMENDMENTS  
HAWAII REVISED STATUTES  
2021 LAND USE ORDINANCES  
LUO W/ REVISED ORDINANCES

T . M . K . 5 - 3 - 005 : 0700009  
ZONING(LUO): R-5  
FLOOD ZONES: AE, VE  
LOT AREA: 10,690.00 S.F.  
BUILDING AREA (10,690.00 X 50%): 5,345.00 S.F.  
FLOOR AREA (10,690.00 X 60%): 6,414.00 S.F.  
ISA (10,690.00 X 75%): 8,017.50 S.F.

BUILDING AREA  
2-STORY HOUSE 3,821.00 S.F.  
TOTAL BUILDING AREA 3,821.00 S.F.

FLOOR AREA  
FIRST FLOOR 3,053.00 S.F.  
FIRST FLOOR COVERED DECK 768.00 S.F.  
SECOND FLOOR 1,020.00 S.F.  
SECOND FLOOR COVERED DECK 177.00 S.F.  
TOTAL LIVING AREA 5,018.00 S.F.

TOTAL PARKING 5-STALLS



### BUILDING DEPARTMENT CITY AND COUNTY OF HONOLULU BUILDING CODE REQUIREMENTS FOR SPECIAL INSPECTION

- 16 Sheathed Shear Walls and Diaphragms
- 17 Complete Load Path and Uplift Ties
- 18 Termite Protection

### CITY AND COUNTY OF HONOLULU REVISED ORDINANCE CHAPTER 32 HONOLULU COUNTY CODE 1990, AS AMENDED

To the best of my knowledge, this project's design substantially conforms to the Building Energy Conservation Code for:

- Building Component Systems
- Electrical Component Systems
- Mechanical Component Systems

Signature \_\_\_\_\_ Date \_\_\_\_\_

Name \_\_\_\_\_

Title \_\_\_\_\_

License No. \_\_\_\_\_

EXP. DATE: 4-30-2024

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OBSERVATION OF THIS PROJECT WILL BE IN ACCORDANCE WITH THE PROFESSIONAL ENGINEERING AND ARCHITECTURE ACTS OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS, PLANNERS AND LANDSCAPE ARCHITECTS OF THE STATE OF HAWAII.

SIGNATURE \_\_\_\_\_

PROPOSED NEW 2-STORY HOUSE FOR:  
**JONATHAN NGUYEN**  
53-424 KAMEHAMEHA HWY., UNIT 9  
HAUULA, HAWAII 96762  
T . M . K . 5 - 3 - 005 : 0700009

NOTES, SITE PLAN,  
PROJECT DATA

Date JULY 2023  
Scale AS NOTED  
Drawn DP  
Check by  
Job J. NGUYEN  
Sheet No  
**001**  
of Sheets



**RESIDENTIAL STORM WATER MANAGEMENT NOTES FOR SINGLE-FAMILY AND TWO-FAMILY DWELLING PROJECTS:**

(i) USE SITE DESIGN STRATEGIES TO REDUCE THE IMPERVIOUS SURFACE AREAS TO THE MAXIMUM EXTENT PRACTICAL. THE TOTAL IMPERVIOUS SURFACE AREA FOR LOT MAY NOT EXCEED 75%, PER LUO 21-3.70(G).

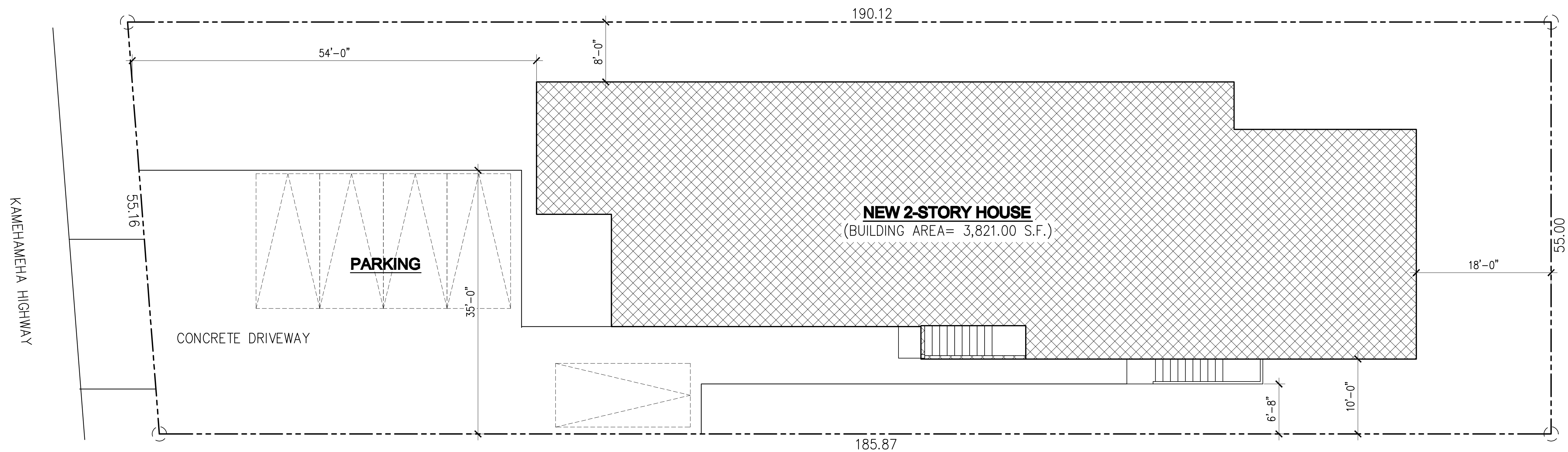
(ii) TOTAL IMPERVIOUS AREA = %

**PUBLIC HEALTH, SAFETY, AND CONVENIENCE NOTES:**

1. THE CONTRACTOR SHALL OBSERVE COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF THE PUBLIC HEALTH AND SAFETY AND ENVIRONMENTAL QUALITY.
2. THE CONTRACTOR, AT HIS OWN EXPENSES SHALL KEEP THE PROJECT AND ITS SURROUNDING AREAS FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
3. NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION ACTIVITY SO AS TO CAUSE FALLING ROCK, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.
4. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES AND OTHER PROTECTIVE FACILITIES AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION CONVENIENCE AND SAFETY OF THE PUBLIC. THE CONTRACTOR SHALL APPLY FOR A CONSTRUCTION PERMIT WITH A NOISE POLLUTION CONTROL PLAN.

**ESCP INSPECTION NOTES:**

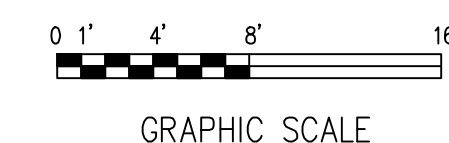
1. AT LEAST TWO WEEKS BEFORE THE BEGINNING CONSTRUCTION, THE CONTRACTOR OR THE PERSON IN CHARGE OF CONSTRUCTION SHALL NOTIFY THE STORM WATER INSPECTOR LISTED ON THE BUILDING PERMIT.
2. AFTER INSTALLING THE CONSTRUCTION BMPs AND MOBILIZING ANY CONSTRUCTION APPARATUS IN ACCORDANCE WITH THE APPROVED ESCP (OR APPENDIX B or ESCP FOR SMALL PROJECT TEMPLATE), THE CONTRACTOR OR THE PERSON IN CHARGE OF CONSTRUCTION SHALL CONTACT THE ESCP COORDINATOR LISTED ON THE BUILDING PERMIT, FOR A PRECONSTRUCTION INSPECTION.
3. THE ESCP COORDINATOR SHALL SUBMIT THE PRECONSTRUCTION INSPECTION PHOTOS CHECKLIST TO THE STORM WATER INSPECTOR (EMAIL TO DPP.NPDES@HONOLULU.GOV) CONFIRMING THE BMPs AND GOOD HOUSE KEEPING MEASURES ARE IN COMPLIANCE.



**BWS NOTE:**

1. NO IRRIGATION OR A.F.S. CONNECTED TO EXISTING WATER METER.

**PLOT PLAN**  
SCALE: 1/8" = 1'-0"



EXP. DATE: 4-30-2024  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. OBSERVATION OF CONSTRUCTION STRATEGIC RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS, PLANNERS AND LANDSCAPE ARCHITECTS OF THE STATE OF HAWAII.

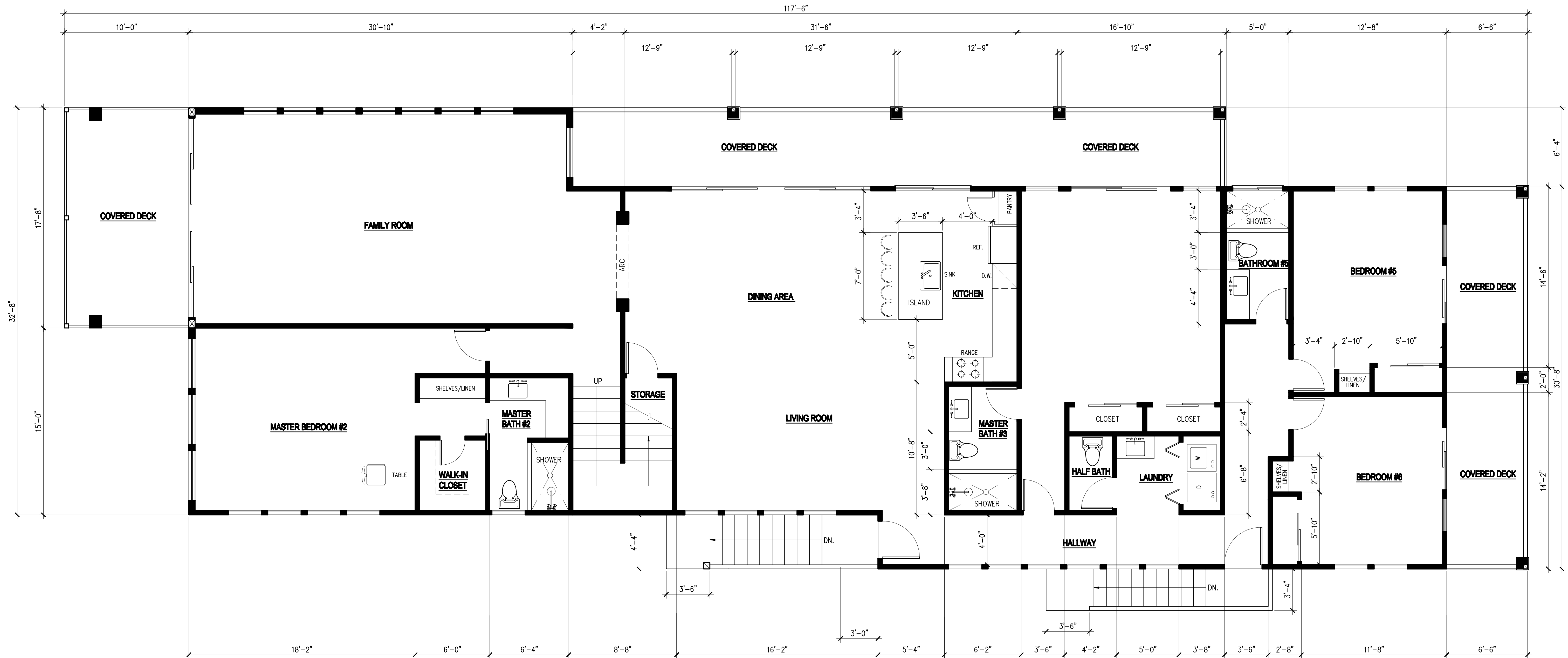
PROPOSED NEW 2-STORY HOUSE FOR:  
**JONATHAN NGUYEN**  
53-424 KAMEHAMEHA HWY., UNIT 9  
HAUJULA, HAWAII 96762  
T. M. K. 5 - 3 - 005 : 0700009

ESCP NOTES, PLOT PLAN,  
PLOT PLAN

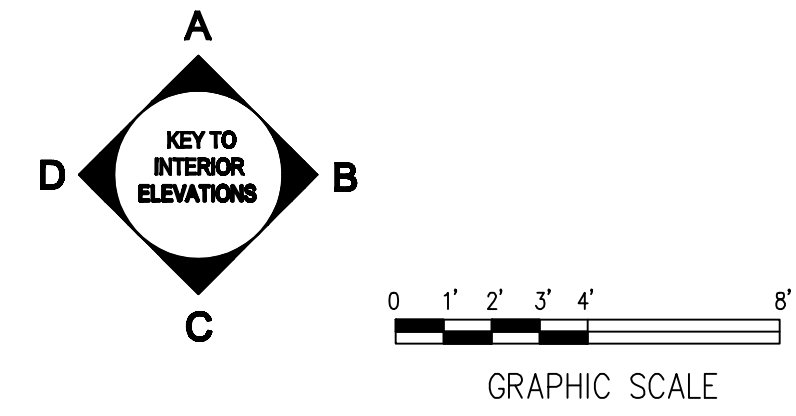
Date	JULY 2023
Scale	AS NOTED
Drawn	DP
Check by	
Job	J. NGUYEN
Sheet No	

**A001**  
of Sheets





**FIRST FLOOR PLAN**  
 SCALE: 1/4"=1'-0"  
 (HOUSE = 3,053.00 S.F.)



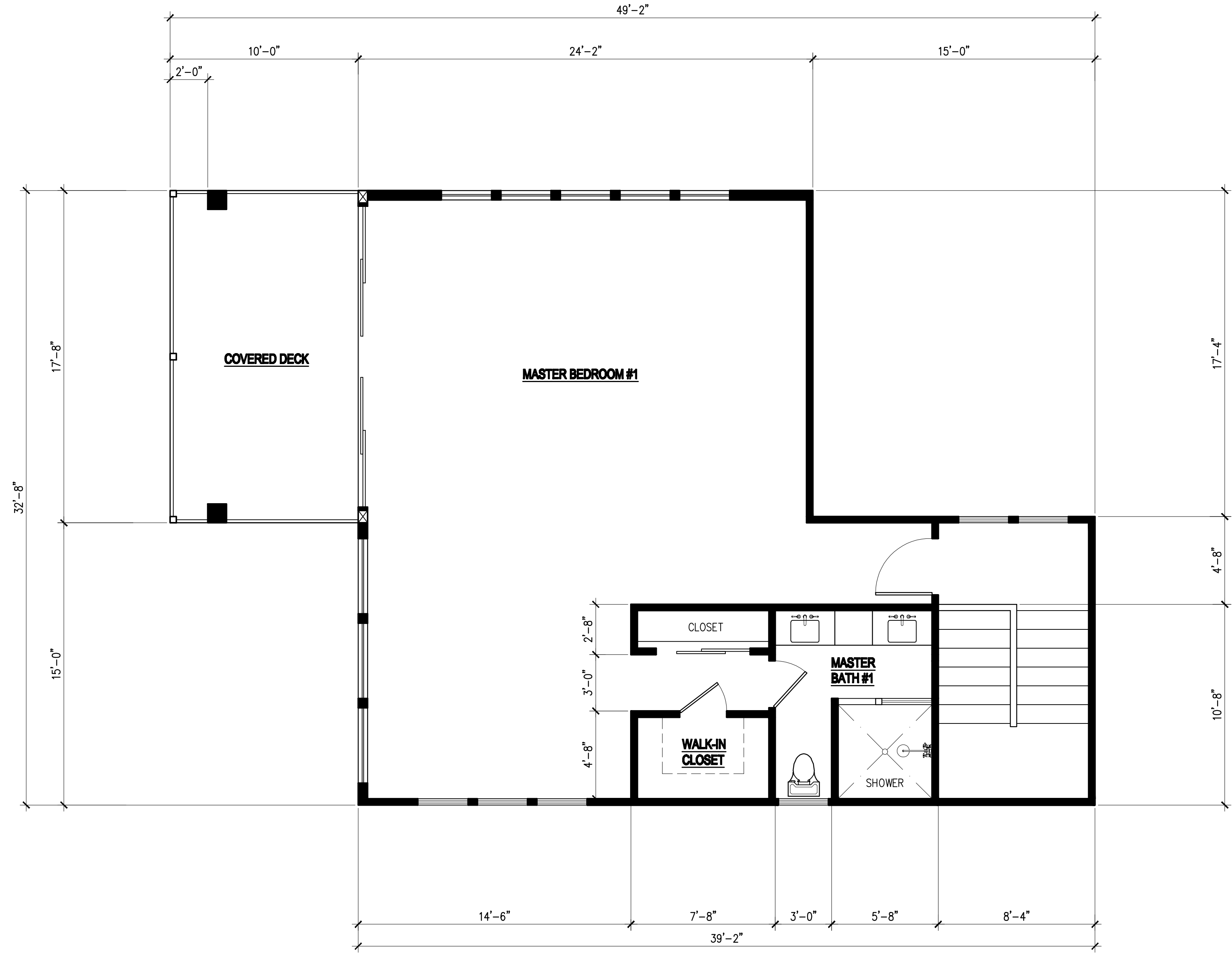
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PROPOSED NEW 2-STORY HOUSE FOR:  
**JONATHAN NGUYEN**  
 53-424 KAMEHAMEHA HWY., UNIT 9  
 HAUJULA, HAWAII 96762  
 T. M. K. 5-3-005 : 0700009

FIRST FLOOR PLAN

Date	AUGUST 2023
Scale	AS NOTED
Drawn	DP
Check by	
Job	J. NGUYEN
Sheet No	

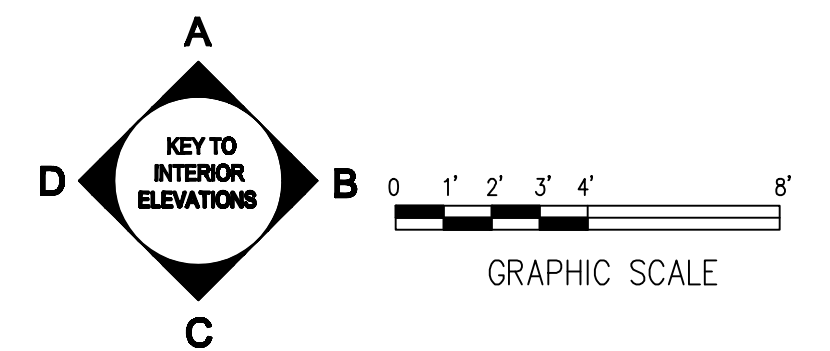
**A002**  
 of Sheets



**SECOND FLOOR PLAN**

SCALE: 1/4"=1'-0"

(BEDROOM = 1,020.00 S.F.)  
 (COVERED PATIO = 177.00 S.F.)



EXP. DATE: 4-30-2024

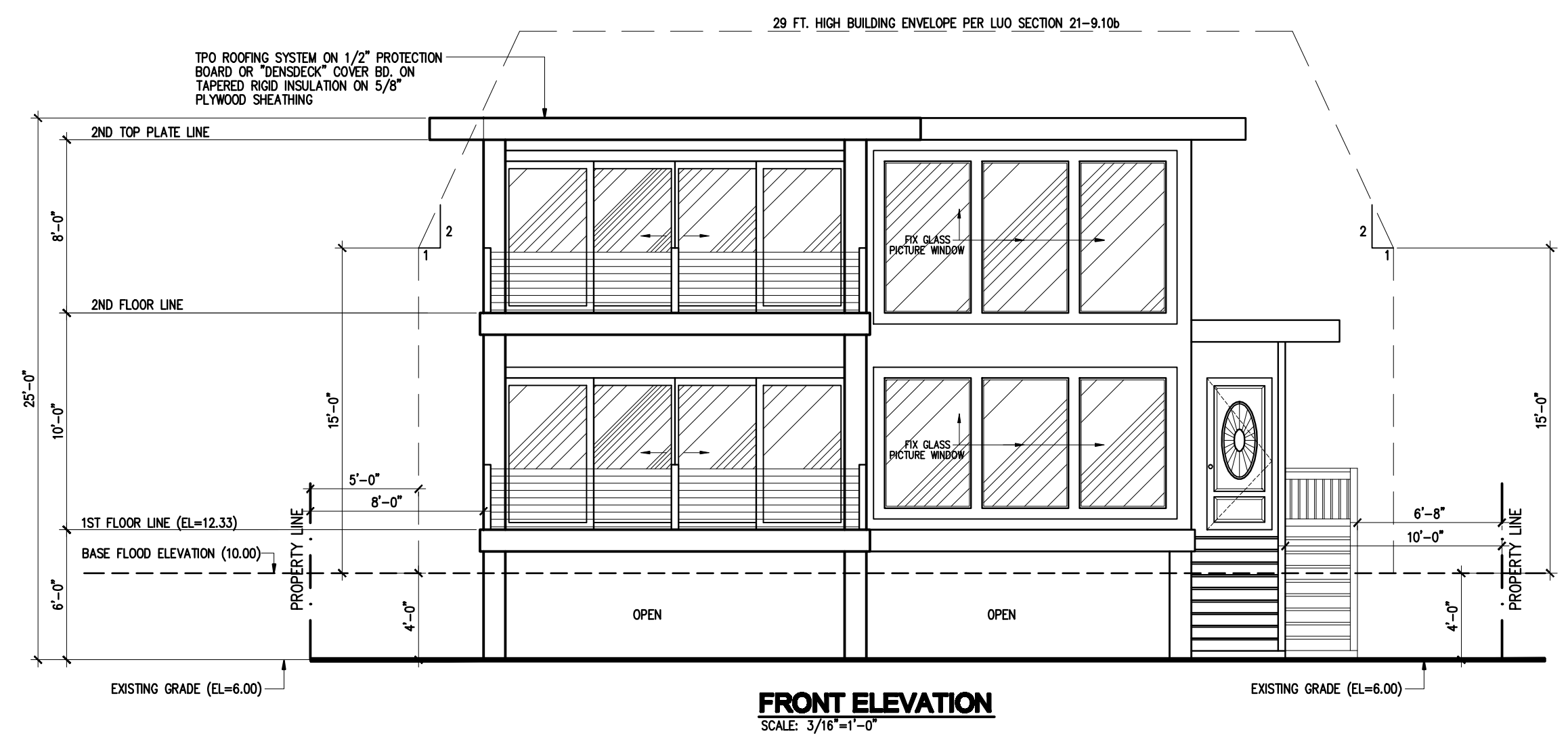
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION, OBSERVATION OF CONSTRUCTION SHALL BE LIMITED TO VISUAL INSPECTION OF WORK. I AM NOT PROVIDING CONTRACT ADMINISTRATION SERVICES. I AM NOT A MEMBER OF THE ARCHITECTS, ENGINEERS, PLANNERS AND LANDSCAPE ARCHITECTS OF THE STATE OF HAWAII.

PROPOSED NEW 2-STORY HOUSE FOR:  
**JONATHAN NGUYEN**  
 53-424 KAMEHAMEHA HWY., UNIT 9  
 HAUJULA, HAWAII 96762  
 T. M. K. 5-3-005 : 0700009

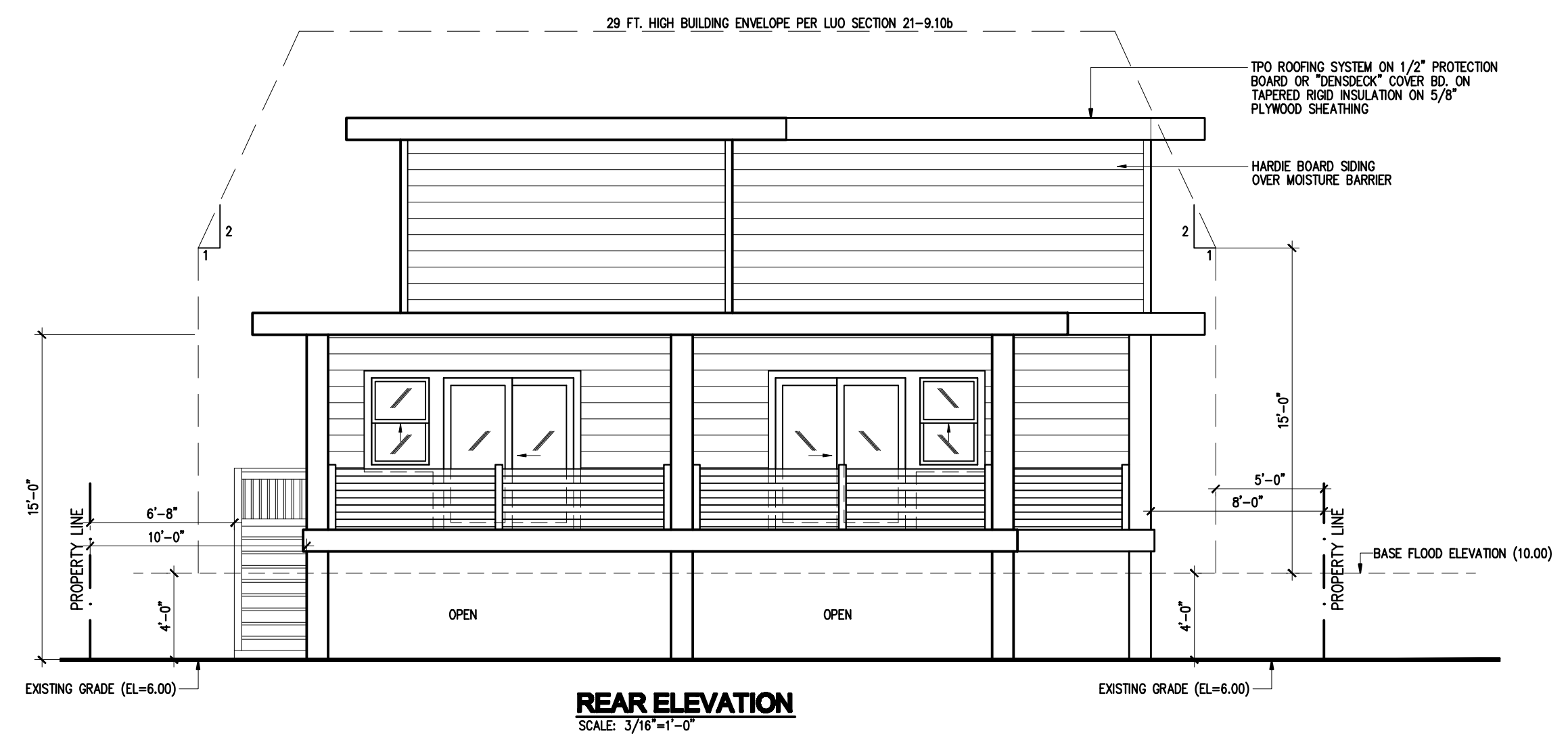
SECOND FLOOR PLAN

Date	AUGUST 2023
Scale	AS NOTED
Drawn	DP
Check by	
Job	J. NGUYEN
Sheet No	

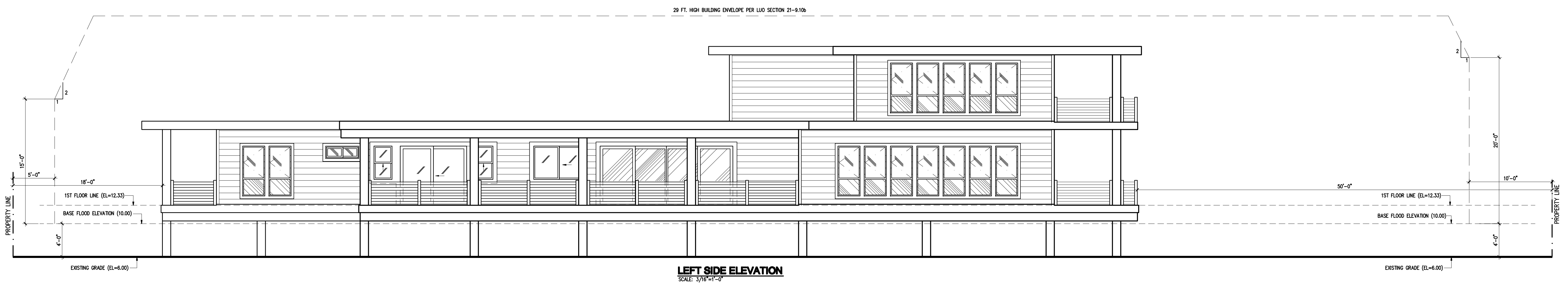
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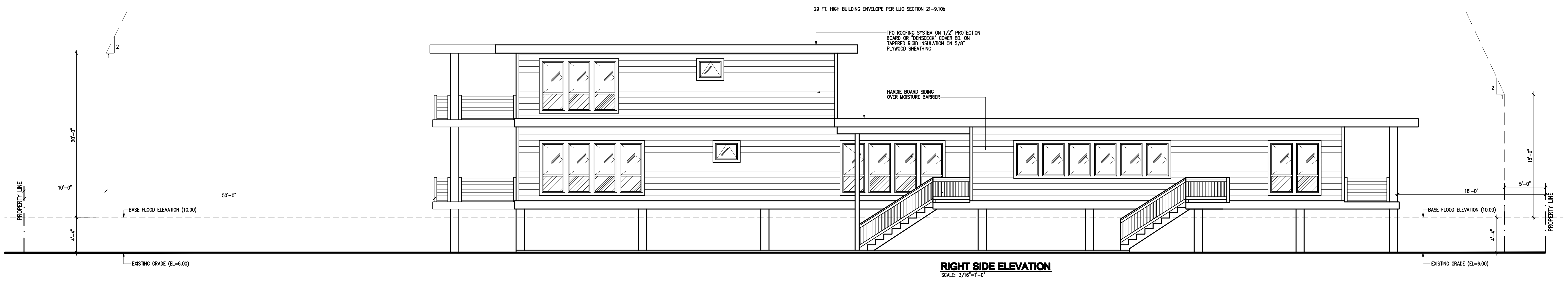
**FRONT ELEVATION**  
SCALE: 3/16"=1'-0"



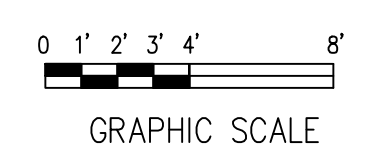
**REAR ELEVATION**  
SCALE: 3/16"=1'-0"



**LEFT SIDE ELEVATION**  
SCALE: 3/16"=1'-0"



**RIGHT SIDE ELEVATION**  
SCALE: 3/16"=1'-0"



EXP. DATE: 4-30-2024  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. OBSERVATION OF CONSTRUCTION SHALL BE LIMITED TO VISUAL INSPECTION OF CONSTRUCTION. ARCHITECTS, ENGINEERS, PLANNERS AND LANDSCAPE ARCHITECTS OF THE STATE OF HAWAII.

PROPOSED NEW 2-STORY HOUSE FOR:  
**JONATHAN NGUYEN**  
53-424 KAMEHAMEHA HWY., UNIT 9  
HAUJULA, HAWAII 96762  
T. M. K. 5 - 3 - 005 : 0700009

EXTERIOR ELEVATIONS

Date AUGUST 2023  
Scale AS NOTED  
Drawn DP  
Check by  
Job J. NGUYEN  
Sheet No

**A004**  
of Sheets

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# **APPENDIX C**

**Pre-Consulting Package,**

**Comments Received, and/or  
Agency Comments Reviewed for  
Similar Proposed Actions in  
Hauula addressed in the DEA**

**Community Presentations**

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March 29, 2023

**SUBJECT/APPLICANT** Pre-Consulting Request Pursuant to Section 11-200.1-18, HAR  
**RECORDED FEE OWNER:** Kahena Wai Estates, LLC  
**PROPOSED ACTION:** Current owners want to perform minor renovation (i.e. fence property, construct simple home) all requiring an EA and SMA Permit  
**PROPOSED PROJECT:** HRS 343, Environmental Assessment in Support of a SMA Major Permit  
**LOCATION:** Address 53-428 to 53-458 Kamehameha Hwy (TMK(1) 5-3005:070) and New Dwelling Construction at 53-452, Unit 2 Kahena Wai Estates, Kamehameha Hwy Oahu, Hawaii.

The applicant for this project seeks early consultation for this Chapter (Ch) 343 Hawaii Revised Statutes (HRS) environmental assessment (EA) for TMK: 5-3-005-070. The proposed project (Proposed Action) is located on the northeast side of the island of Oahu, in Kahena Wai Estates, Hauula, Hawaii (see Site Maps - Attachment 1).

The Proposed Action entails improvements to the 4.76-acre lot, owned by Joshua D. Miramontes, located at Kahena Wai Estates. The land is zoned residential (R5) and Agriculture (Ag) and a portion of the Ag land is designated as wetlands (see Appendix A).

The planned improvements, include the construction of a new single family residential home (Brahmbhatt Property) located within the Special Management Area (SMA) (Ch 205A HRS), a trigger for EA preparation. The dwelling conceptual drawings and plans are in Appendix A. Other improvements identified for Units 1-11 in the 10-year plan associated with the TMK include the following for each unit in Table 1:

Unit	Existing Structure	10-year plan
1	1-story dwelling	
2	1-story dwelling	New Fence
3	1-story dwelling	New Deck
4	vacant	New Dwelling Unit
5	vacant	New Dwelling Unit
6	Temp Trailer	New Dwelling Unit
7	vacant	New Dwelling Unit
8	1-story dwelling	
9	Structure Collapsed	New Dwelling Unit
10	vacant	New Dwelling Unit
11	vacant	New Park

Table 1: 10-year plan for property improvements

Per HAR 11-200.1-18, we are seeking early e-consultation ([info@honoluluodpp.org](mailto:info@honoluluodpp.org)) with City and County of Honolulu Department of Planning and Permitting (Approving Agency), as well as other agencies having jurisdiction or expertise, and those

citizen groups and individuals that the proposing or approving agency reasonably believes may be affected by the proposed action. Upcoming community outreach meetings include: The Hauula Community Association on April 4<sup>th</sup> at 6:30 pm for a presentation, then the Koolauloa Neighborhood Board (NHB) in May.

Our objective is to gather information and identify potential resource issues areas, so we can address each issue area with proper scope of analysis prior to submission of the Draft EA.

**PURPOSE AND NEED OF PROPOSED ACTION:** General owner improvements to the entire TMK and construction of a single-family home on a parcel at 53-452 Kamehameha Hwy, Hauula, Oahu, HI, 96717, Kahena Wai Estates Unit 2 – TMK No. (1) 5-3-005:007:002. Please find attached (Appendix A) general

information and figures of the location, land survey, location of wetlands with photos, dwelling design and plans, and other applicable information.

Sincerely Yours,

Karl Bromwell, Environmental Professional contracted by Roy Irei, Hawaii Engineering Group, Inc. and representing the Kahena Wai Estate owners Unit 2

**Summary:**

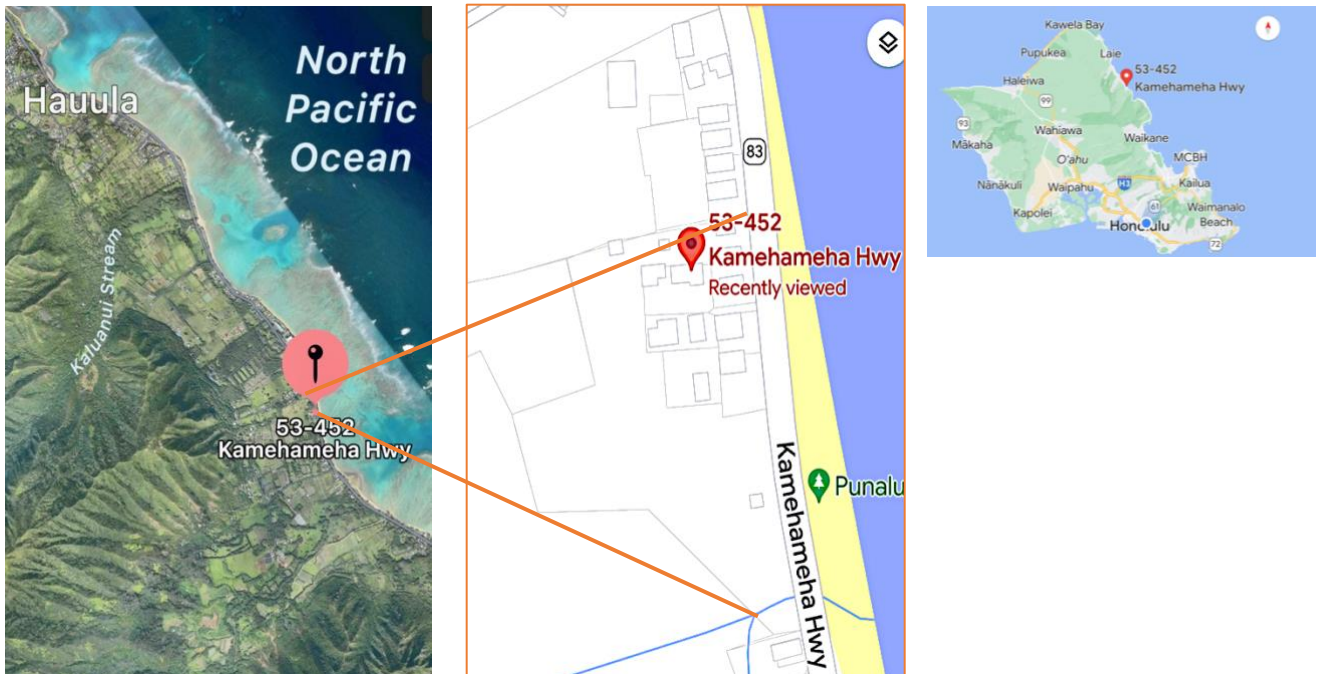
**PROJECT INFORMATION:**  
 ADDRESS:  
 53-428 TO 53-458 KAMEHAMEHA HWY.  
 HAUULA, HI 96717  
 TMK:  
 5-3-005:030, 4.7625 ACRES  
 ZONING:  
 AG-2 & R-5 (R-5 @ NEW LOCATION)  
 FLOOD INSURANCE RATE MAP ZONE:  
 AE/VE/X  
 SMA & UIC -YES

	Lot Size	Living Area		
Unit 1	4841 SF	360 SF	Harding	Owner Occupied
Unit 2	4820 SF	550 SF	Miramontes	Owner Occupied
Unit 3	3997 SF	678 SF	Haines	Owner Occupied
Unit 4	4171 SF	2071 SF	Brahmbhatt	future Owner Occupant
Unit 5	4099 SF	550 SF	Nicholson	future Owner Occupant
Unit 6	10000 SF	678 SF	Clark	Owner Occupied
Unit 7	8408 SF	678 SF	Wang	future Owner Occupant
Unit 8	7684 SF	738 SF	Oba	Owner Occupied
Unit 9	10333 SF	678 SF	Kahena Wai	vacant
Unit 10	38963 SF	678 SF	Kahena Wai	vacant
Unit 11	100531 SF		Kahena Wai	future park

**Purpose and Need and Proposed Action:** The current owners wish to perform minor improvements to their property, which include a fencing, plantings, and walk paths for a park, and future owner occupants desire to build houses on their lots. The future work requires an EA & SMA Major Permit.

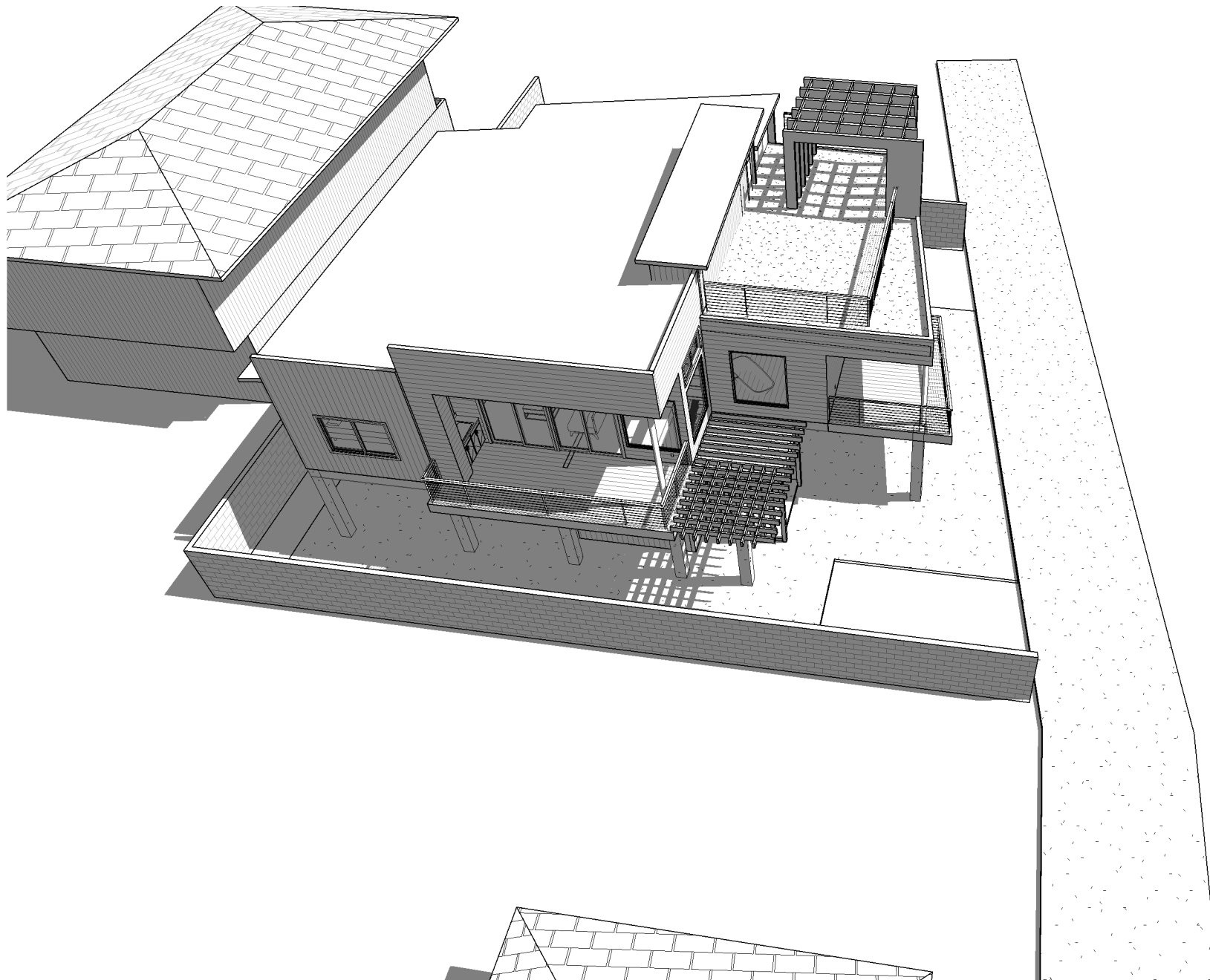
**Response Contact Information:** Karl Bromwell, 5Ks ENV 2019 Puowaina Drive Honolulu, HI 96813  
[karlbromwell.5KsENV@gmail.com](mailto:karlbromwell.5KsENV@gmail.com) - e-mail response is preferred – mahalo nui loa -

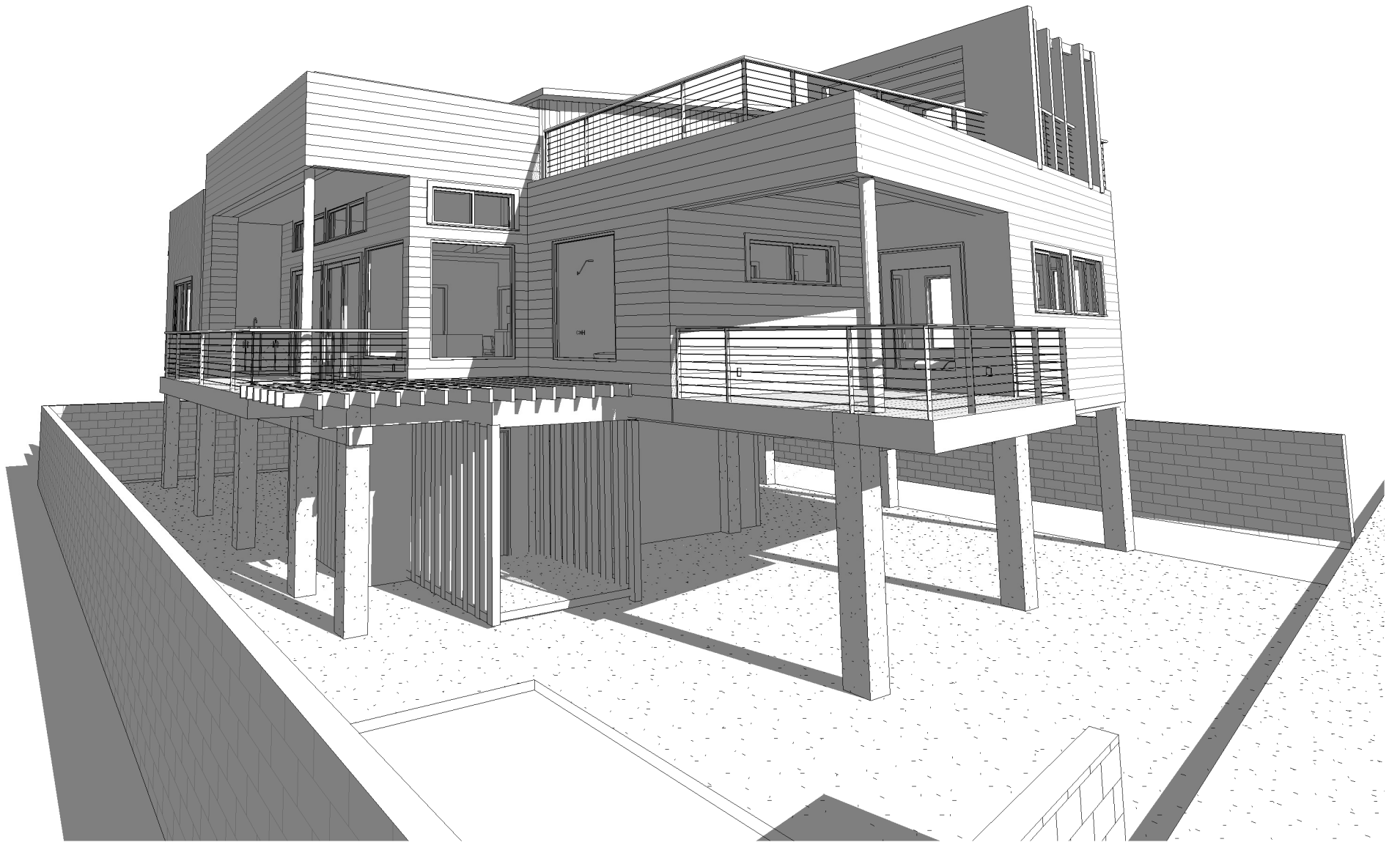
**Attachment 1: Proposed Project General Site Location**

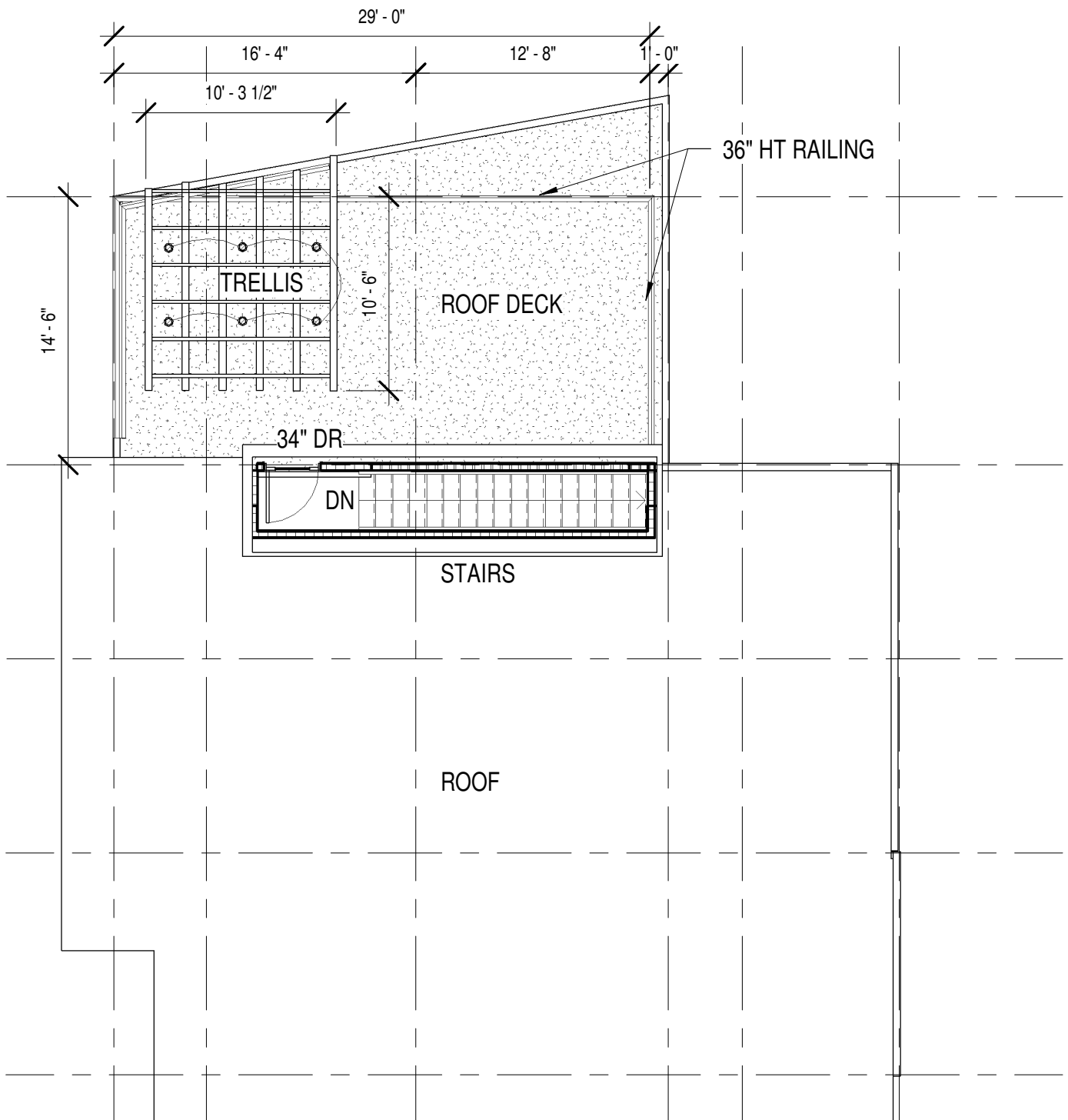














**RSWMP NOTES:**

RESIDENTIAL STORM WATER MANAGEMENT NOTES FOR SINGLE-FAMILY AND TWO-FAMILY DWELLING PROJECTS:

(i) USE SITE DESIGN STRATEGIES TO REDUCE THE IMPERVIOUS SURFACE AREAS TO THE MAXIMUM EXTENT PRACTICAL. THE TOTAL IMPERVIOUS SURFACE AREA FOR THE LOT MAY NOT EXCEED 75%, PER LUO SECTION 21-3.70.1(G).

(ii) TOTAL IMPERVIOUS AREA = 71.33%

**SPECIAL INSPECTION**

- #1 CONCRETE
- #13 SPECIAL GRADING, EXCAVATION AND FILLING
- #16 SHEATHED SHEAR WALLS AND DIAPHRAGMS
- #17 COMPLETE LOAD PATH AND UPLIFT TIES
- #18 TERMITE PROTECTION

**PLUMBING / WATER NOTES:**

- ALL NEW PLUMBING FIXTURES ARE LOW FLOW UNLESS OTHERWISE NOTED.
- WATER METER FOR THE PROPOSED PROJECT DOES NOT SERVE ANY IRRIGATION AND/OR AUTOMATIC FIRE SPRINKLER SYSTEM.

**BWS NOTE:**

WATER METER DO NOT SERVE ANY IRRIGATION AND AUTOMATIC FIRE SPRINKLER SYSTEM

**WALL LEGEND:**

- WALL CONSTRUCTION**
- EXTERIOR WALLS:**  
 2X4 STUD @16"OC W/ 1/2" PLYWOOD AND 5/8" EXTERIOR SIDING W/ R-13 INSULATION IN WALL CAVITY, AND 1/2" GYP BD ON INTERIOR  
 5/8" TYPE 'X' GYP BD ON INTERIOR AT ADU
- INTERIOR WALLS:**  
 2X4 STUD @16"OC W/ 1/2" GYP BD BOTH SIDES
- INTERIOR SUPPORTING WALLS:**  
 2X4 STUD @16"OC W/ 1/2" GYP BD BOTH SIDES  
 5/8" TYPE 'X' GYP BD BOTH SIDES AT ADU
- PLUMBING WALLS:**  
 2X6 STUD @16"O.C. W/ 1/2" CEMENT BD TO WET SIDE, 1/2" GYP BD TO DRY SIDE
- STRUCTURAL SHEAR WALLS:**  
 ADD 1/2" PLYWD ON ONE SIDE OF STUD WALL

**EXTERIOR LIGHT FIXTURE LEGEND:**

- 6" RECESS DOWNLIGHT FIXTURE
- ⊙ 6" SURFACE MOUNTED DOWNLIGHT FIXTURE
- NONE WALL SCONCES

**KNOK BUN JOHNSON CHENG**  
 LICENSED PROFESSIONAL ARCHITECT  
 No. 11572  
 HAWAII U.S.A.

The work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in the current Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors and Landscape Architects".)

*Knok Bun Johnson Cheng*  
 Expiration Date 04/30/24 05/15/2022

Contractor shall carefully verify all dimensions, materials, existing site conditions and field measurements, study and compare the construction documents and notify the Architect of any discrepancy, inconsistency or omission he may discover before proceeding with the work. Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for the coordinating and the supervision of all construction work under the contract. All work shall be performed in conformance with all applicable provisions of the Uniform Building Code and all governmental regulations.

REVISION		
REV	DATE	DESCRIPTION
1	06/20/2022	SMA

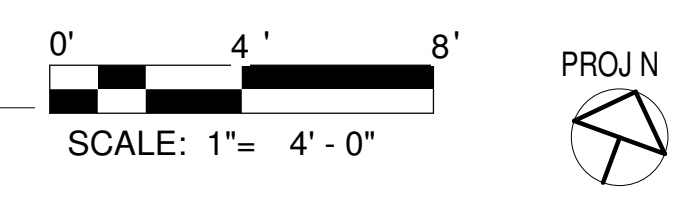
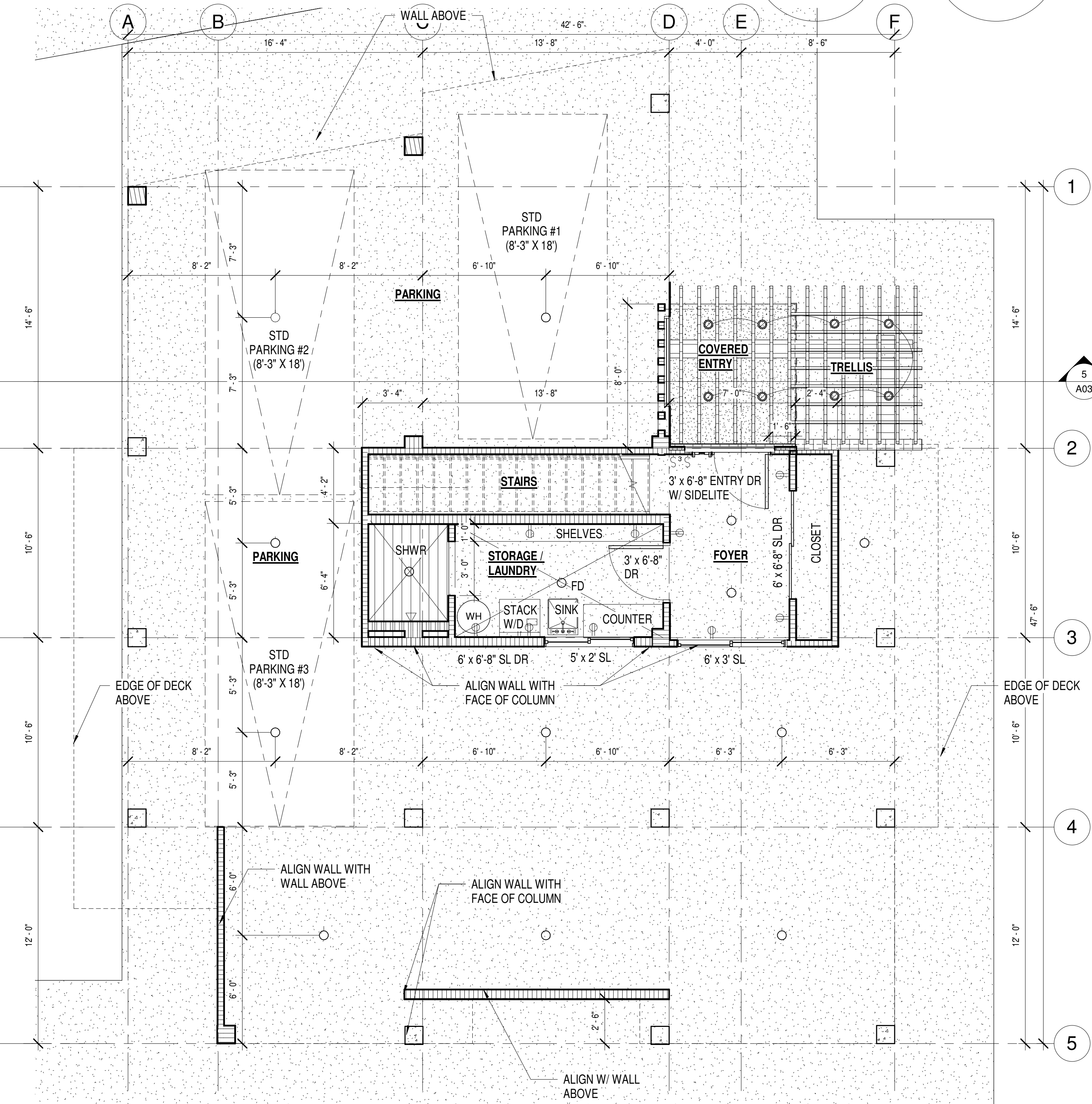
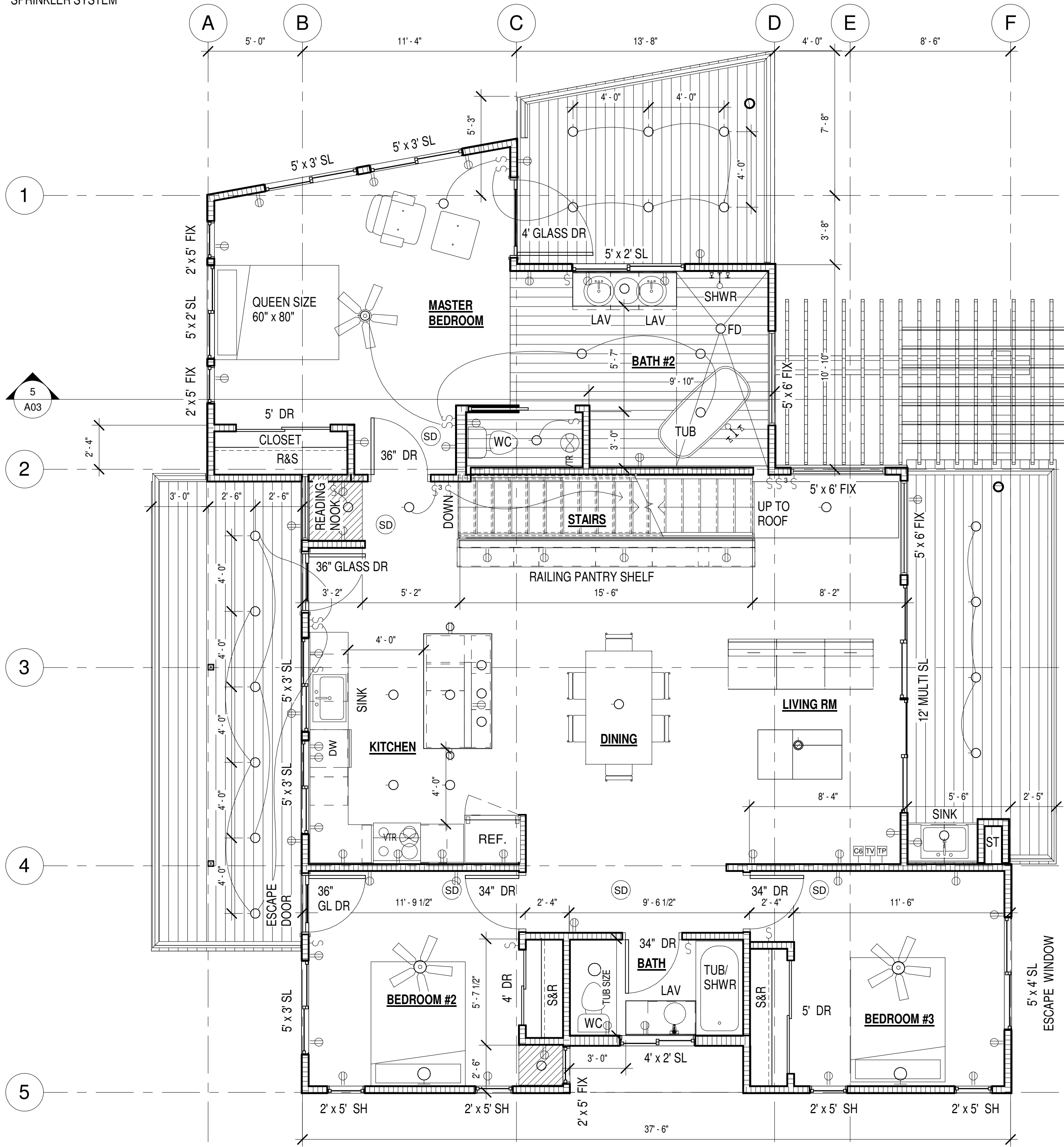
**KBJCHENG**  
 Architecture and Planning

Project: NEW SINGLE FAMILY DWELLING  
 53-424 KAMEHAMEHA HIGHWAY #4  
 HALULU, HAWAII 96717  
 5-3-005070

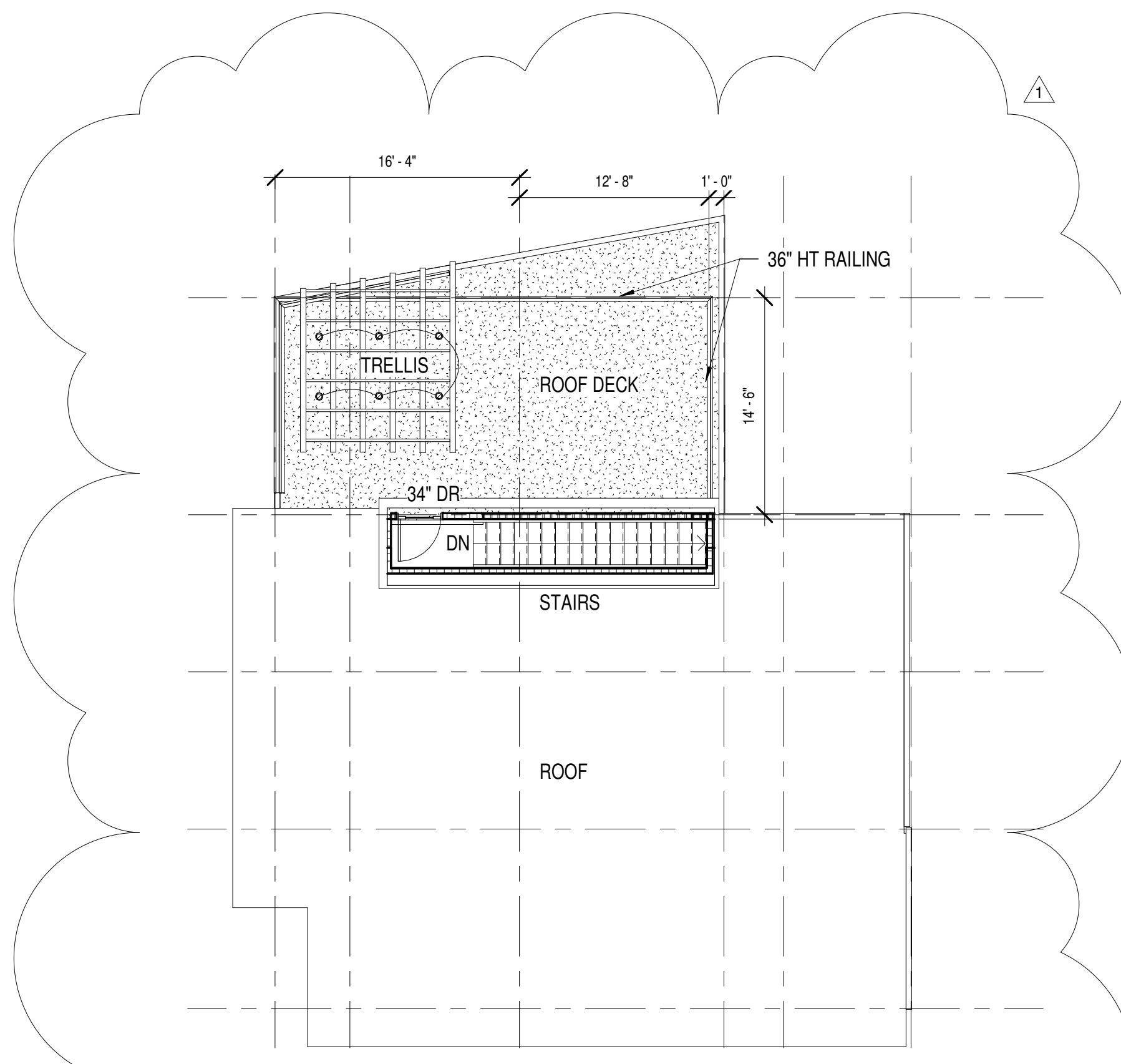
Description: FLOOR PLANS

DATE	10/24/2018
JOB NO.	53-424 KAM
DRAWN BY	JC
DESIGNED BY	JC

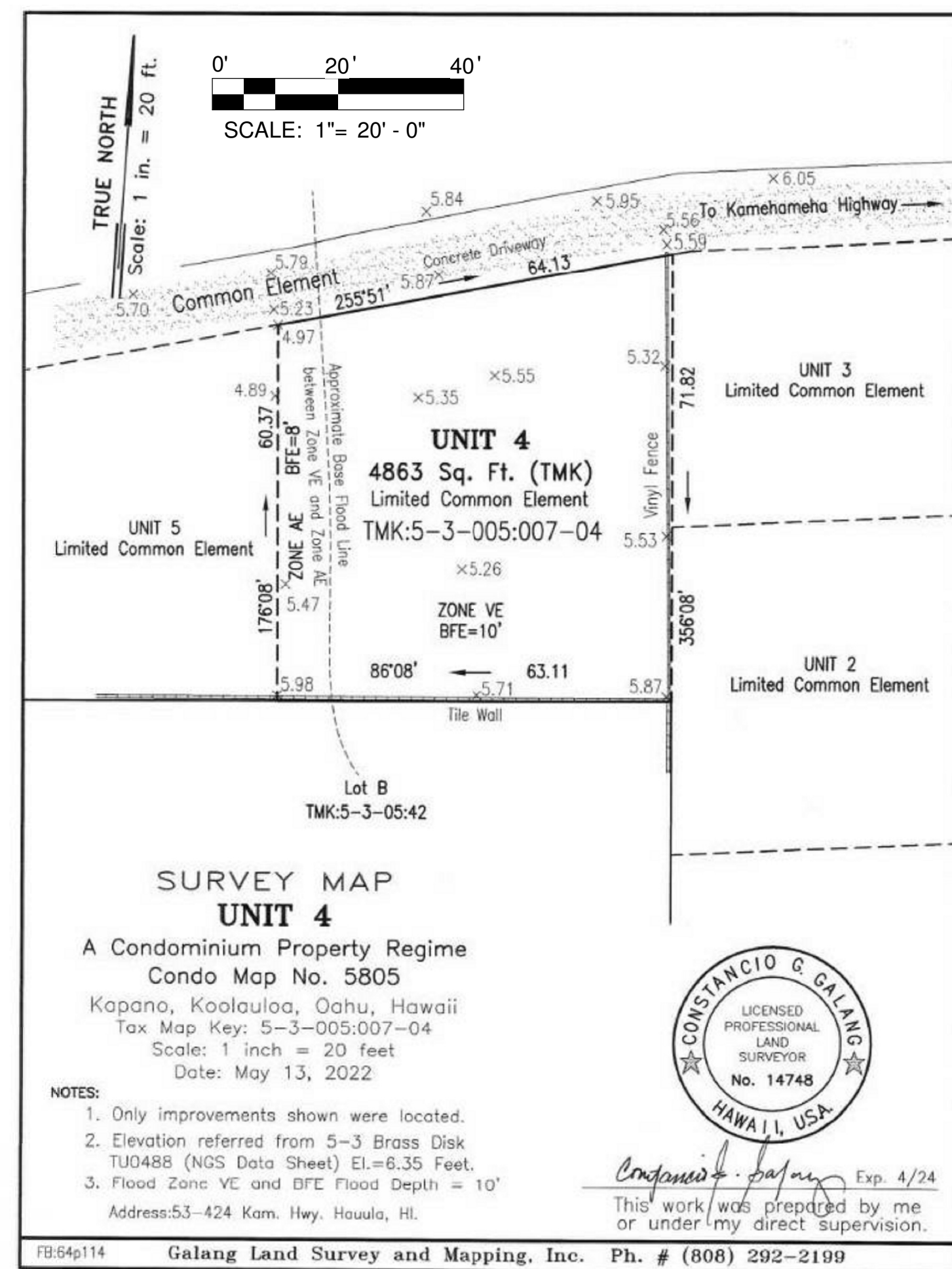
SHEET NUMBER  
**A03.1**  
 2 OF SHEETS



C:\Users\Kwok Cheng\Documents\My Projects\2022-Projects\New folder\53-424 Kam canopy.rvt 6/20/2022 6:20:42 PM



**ROOF AND ROOF DECK PLAN**  
1/8" = 1'-0"



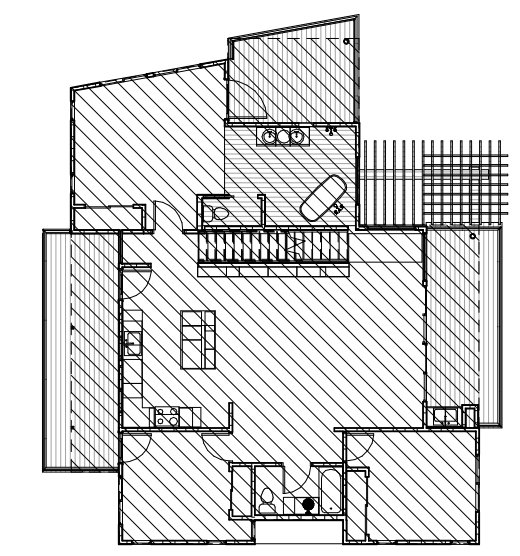
**SURVEY MAP**  
**UNIT 4**  
A Condominium Property Regime  
Condo Map No. 5805  
Kapana, Koolauloa, Oahu, Hawaii  
Tax Map Key: 5-3-005:007-04  
Scale: 1 inch = 20 feet  
Date: May 13, 2022

**NOTES:**  
1. Only improvements shown were located.  
2. Elevation referred from 5-3 Brass Disk TU0488 (NGS Data Sheet) EL=6.35 Feet.  
3. Flood Zone VC and BFE Flood Depth = 10'

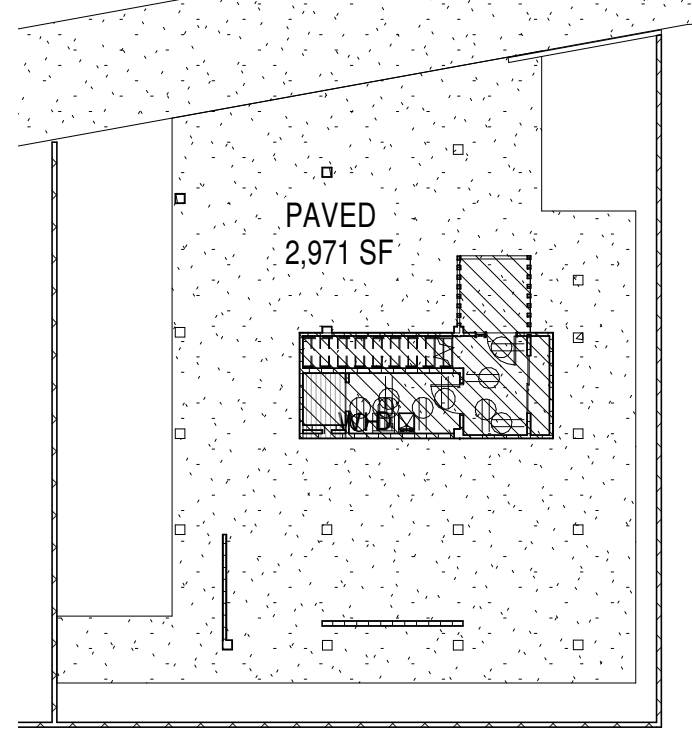
Address: 53-424 Kam. Hwy. Hauula, HI.

**CONSTANCIO G. GALANG**  
LICENSED PROFESSIONAL LAND SURVEYOR  
No. 14748  
HAWAII, U.S.A.  
Exp. 4/24  
This work was prepared by me or under my direct supervision.

Galang Land Survey and Mapping, Inc. Ph. # (808) 292-2199



**MAIN FLOOR AREA PLAN**  
1" = 20'-0"



**LOWER FLOOR AREA PLAN**  
1" = 20'-0"

INDEX TO DRAWINGS

A01	TITLE SHEET
A02	PROJECT INFO, PLANS
A03	ELEVATIONS, SECTION

**PROJECT DATA**  
**PROJECT SCOPE:**  
CONSTRUCT NEW SINGLE FAMILY DWELLING

**ADDRESS:** 53-424 KAMEHAMEHA HIGHWAY #4

**LUO DATA:**  
TMK: 5-3-005:070 CPR LOT #4  
LOT AREA: 211,397 SF (LOT #4: 4,171 SF)  
ZONING: R-5/AG-2

**MAXIMUM BUILDING AREA ALLOWED(50%):** LOT #4: 2,085.5 SF

**BUILDING AREA:**  
SINGLE FAMILY DWELLING 2071.18 SF

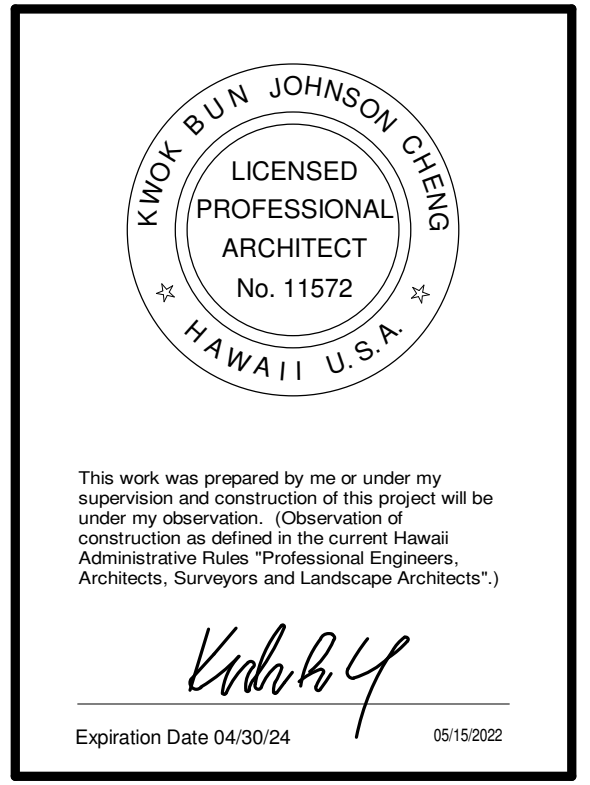
**FLOOR AREA:**  
SINGLE FAMILY DWELLING 350.00 SF (LOWER)  
1,874.73 SF (MAIN)  
TOTAL 2,124.73 SF 0.51 < 0.6 FAR

**NO ADDITIONAL REQUIREMENT PER BILL 57 / ORD 20-43.**

**BATHROOM COUNTS**  
SINGLE FAMILY DWELLING 2 BATH  
MAX ALLOW PER BILL 57 / ORD 20-43 4 BATH PER UNIT

**PARKING FOR 2,124.73 SF**  
PARKING PER BILL 2 / ORD 20-41

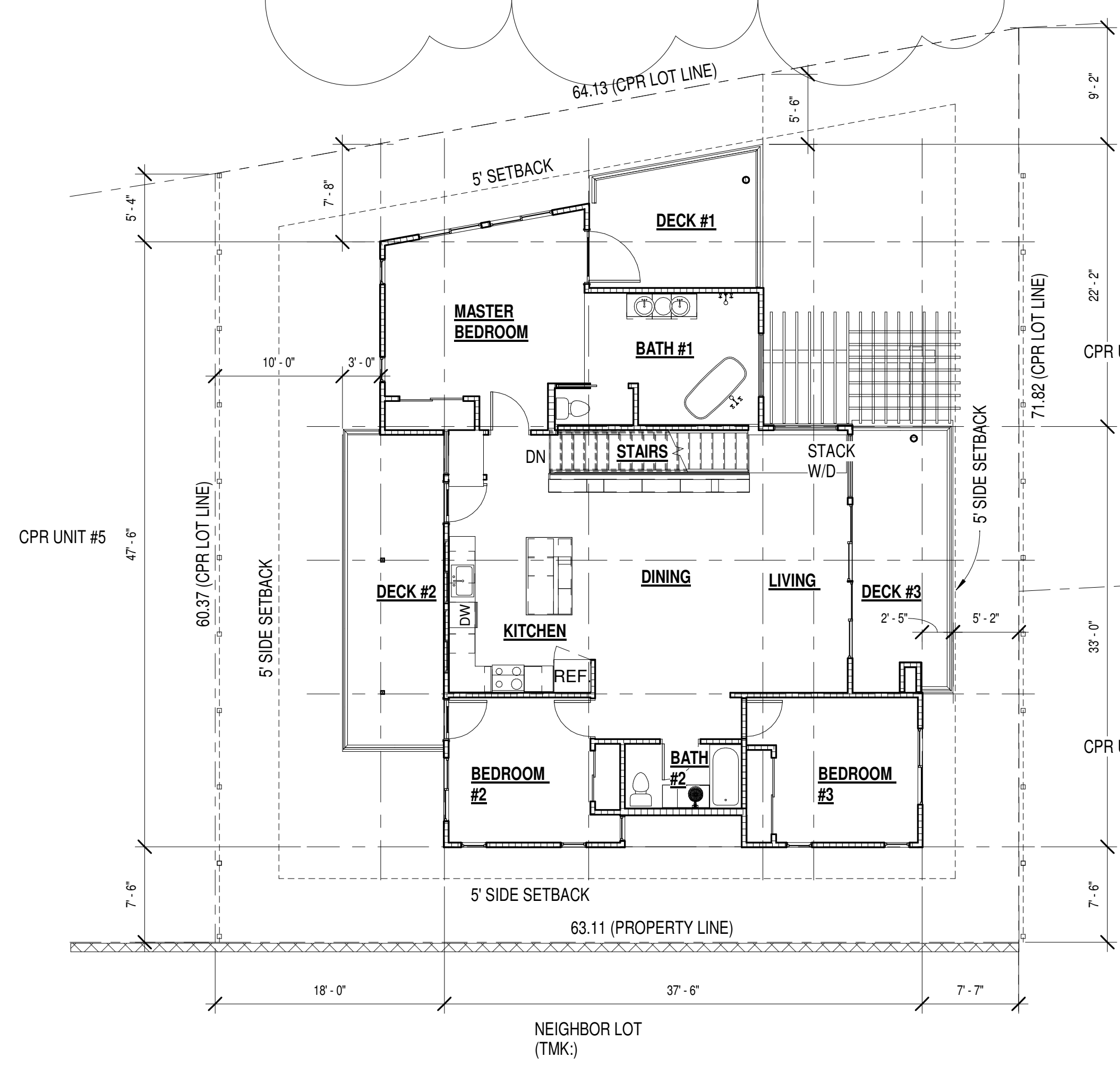
**PAVED AREA** 2,971 SF (3,128 SF MAX=75% OF LOT SIZE)



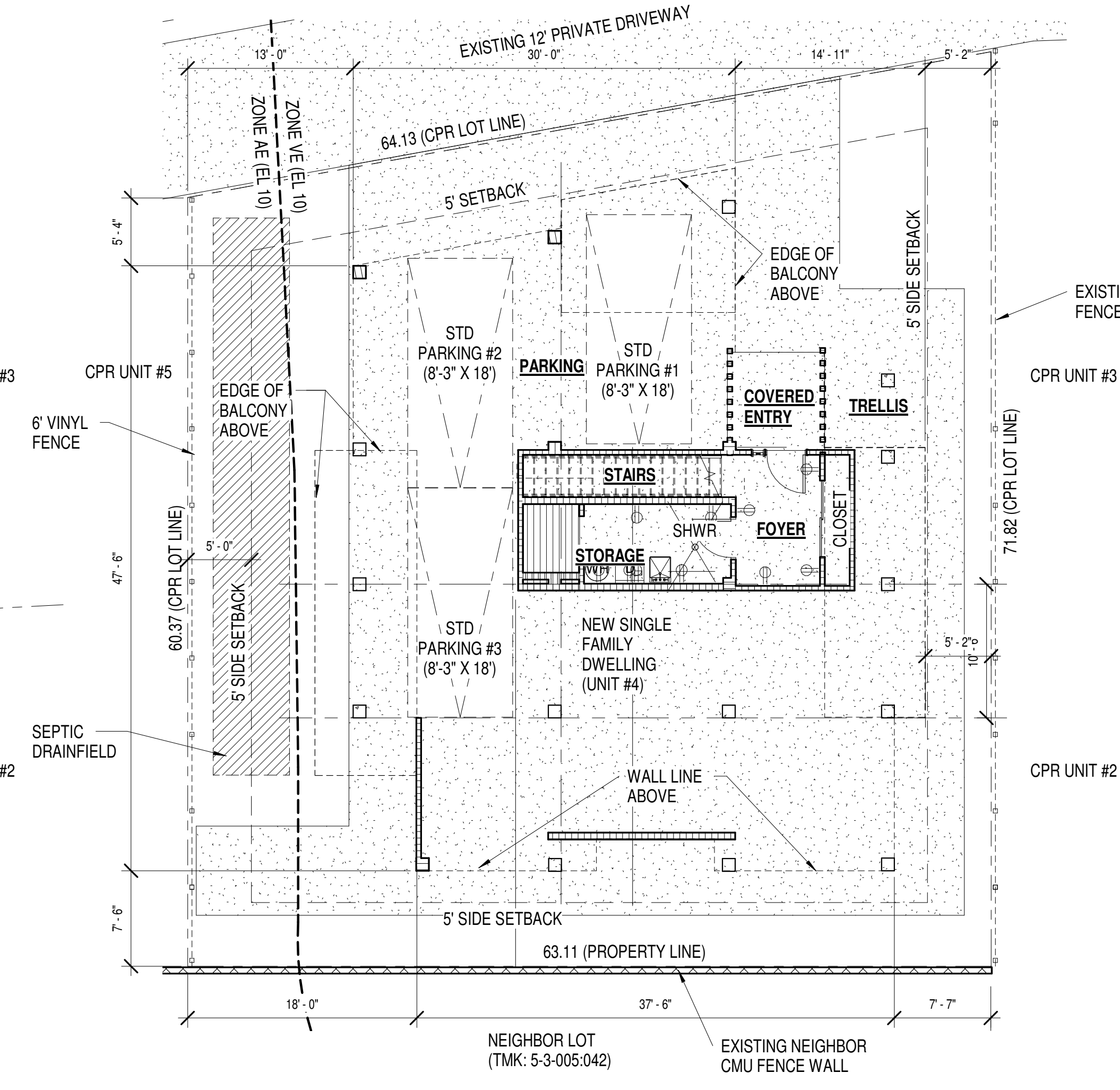
Contractor shall carefully verify all dimensions, materials, existing site conditions and field measurements, study and compare the construction documents and notify the Architect of any discrepancy, inconsistency or omission he may discover before proceeding with the work. Contractor shall be solely responsible for all construction means, methods, techniques, procedures and practices and for the coordinating and the supervision of all construction work under the contract. All work shall be performed in conformance with all applicable provisions of the Uniform Building Code and all governmental regulations.

REVISION

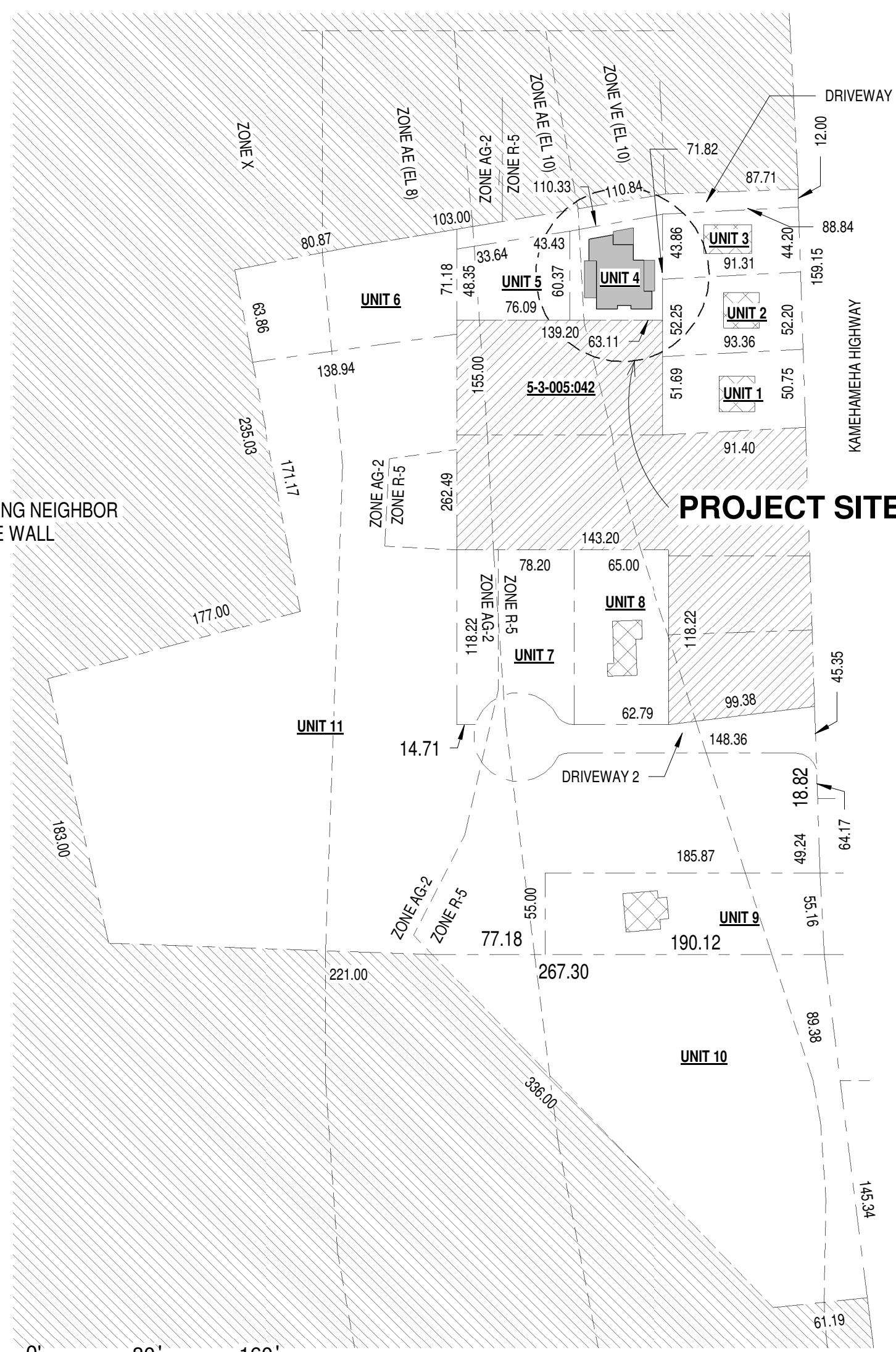
REV	DATE	DESCRIPTION
1	06/20/2022	SMA



**MAIN FLOOR SITE PLAN**  
1/8" = 1'-0"



**LOWER FLOOR SITE PLAN**  
1/8" = 1'-0"



**OVERALL SITE PLAN**  
1" = 80'-0"

**KBJCHENG**  
Architecture and Planning

Project: NEW SINGLE FAMILY DWELLING  
53-424 KAMEHAMEHA HIGHWAY #4  
HAULUA, HAWAII 96717  
5-3-005:070

PROJECT INFO, PLANS

DATE	05/15/22
JOB NO.	53-424 KAM
DRAWN BY	JC
DESIGNED BY	JC

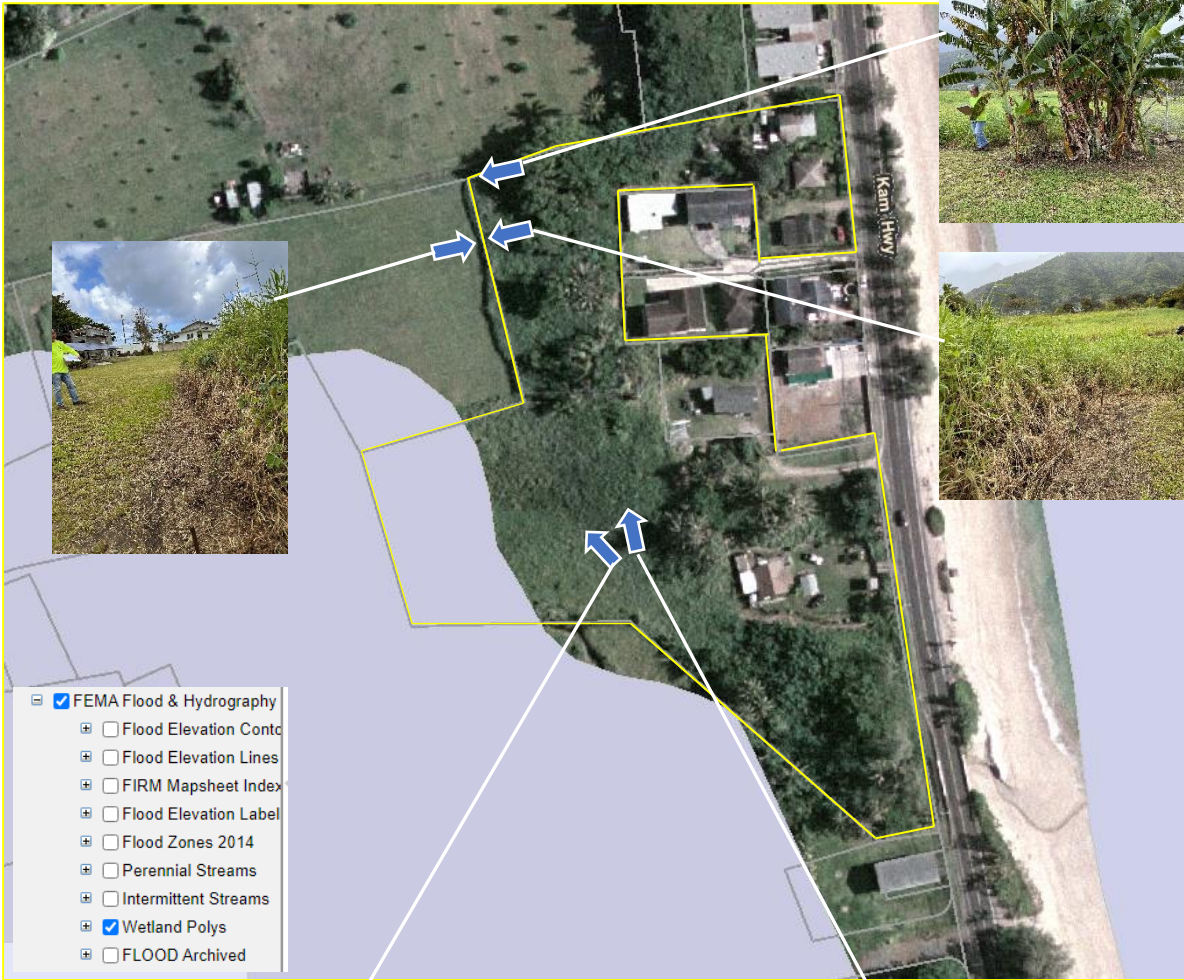
SHEET NUMBER

**A02**

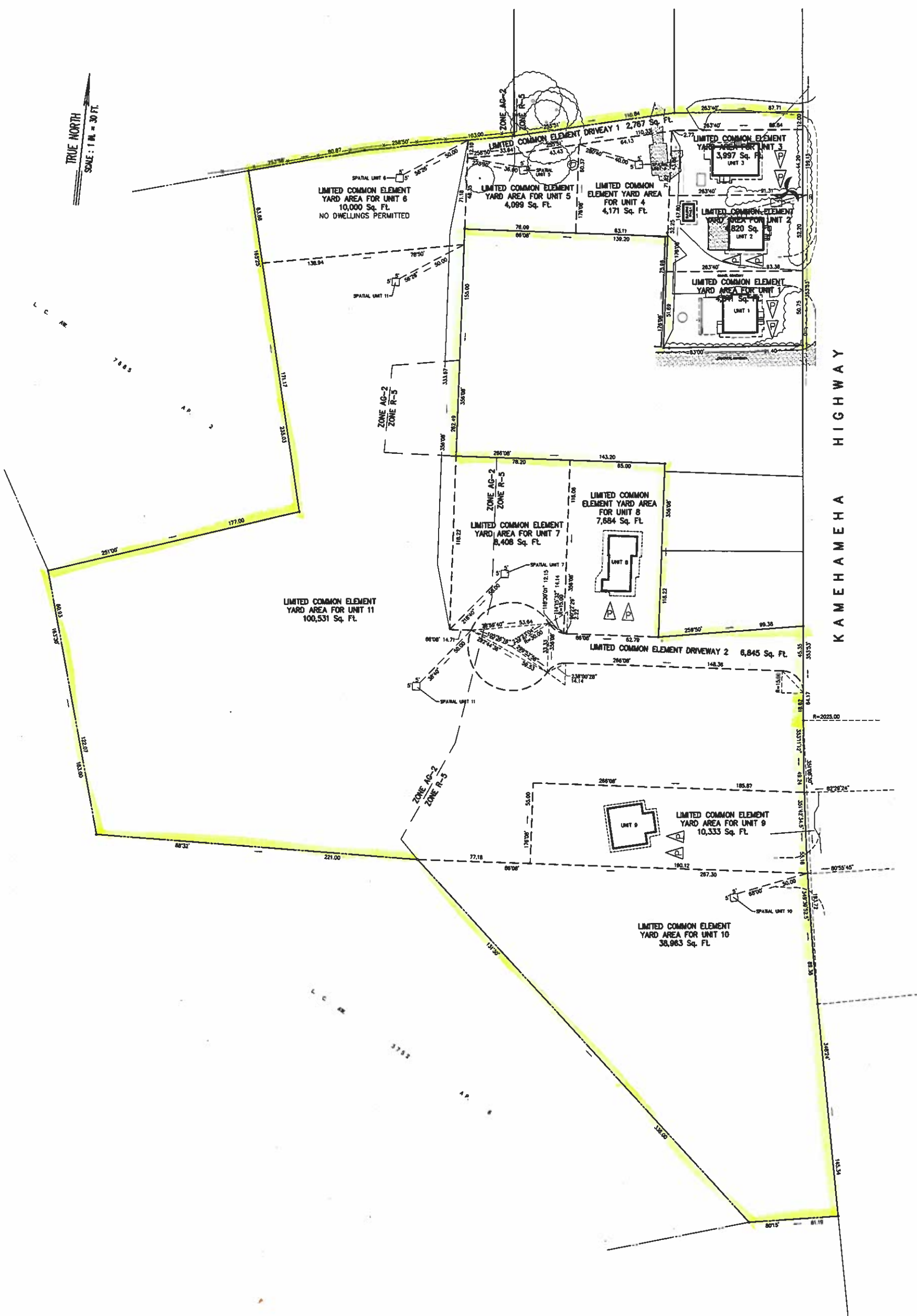
OF SHEETS




Kahena Wai Estates Condominium Project – Wetland Overlay with Site Walk Photos



TRUE NORTH  
SCALE: 1 IN. = 30 FT.



NOTES:

- 1) "UNITS 4 THROUGH 7, 10 AND 11" ARE NOT STRUCTURES BUT ARE A SPATIAL PORTION OF THE PROJECT CONSISTING OF A CUBE. SUCH MAY BE REPLACED BY A STRUCTURE IN ACCORDANCE WITH THE DECLARATION OF CONDOMINIUM.
- 2) DASHED LINES REPRESENT DIVISION OF LIMITED COMMON ELEMENT AREAS APPURTENANT TO THE UNITS AND DO NOT REPRESENT SUBDIVIDED LOTS.
- 3)  REPRESENTS AN 8' X 16' PARKING STALL.



P.O. BOX 3351 HONOLULU, HI 96801  
PH: (808) 536-2705 FT. (808) 599-4032



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

*James R. Thompson*  
Exp. 04/30/18

"KAHENA WAI ESTATES"  
CONDOMINIUM PROJECT  
PORTION GRANT 879 TO L.S. UA  
AND R. P. 4939, L.C. AW. 3752  
AP. 2 TO UKEKE AND  
PORTION L.C. AW. 10185 AP. 3 TO MAKAI  
AT KAPANO, KOOLAULOA, OAHU, HAWAII  
SCALE: 1 IN. = 30 FT.  
FEBRUARY 14, 2018 WALTER P. THOMPSON, INC.



# Pre-Consulting Comments and Resonances

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## Preconsulting Package and Request for Comments Sent to:

- Department of Planning and Permitting: [dpp@honolulu.gov](mailto:dpp@honolulu.gov)
- U.S. Army Corps of Engineers: [pod-pao@usace.army.mil](mailto:pod-pao@usace.army.mil)
- Department of Land and Natural Resources: [dlnr@hawaii.gov](mailto:dlnr@hawaii.gov)
  - DAR, BOC, ENG, DOGAW, Land OOCL, SHPD
- Department of Transportation: [dotpao@hawaii.gov](mailto:dotpao@hawaii.gov)
- Board of Water Supply: [contactus@hbws.org](mailto:contactus@hbws.org)
- General CCH for Distribution, Department of Customer Services: [csd@honolulu.gov](mailto:csd@honolulu.gov)
- Department of Health: [webmail@doh.hawaii.gov](mailto:webmail@doh.hawaii.gov)
- General State of Hawaii for distribution: [thestateofhi@gmail.com](mailto:thestateofhi@gmail.com)
- Punaluu Community Association and Koolauloa Neighborhood Board representatives: Lorraine Matagi ([matagisd4@gmail.com](mailto:matagisd4@gmail.com)) and Dotty Paddock ([dotty.kellypaddock@gmail.com](mailto:dotty.kellypaddock@gmail.com)) and Racine Hee ([punaluuassoc@gmail.com](mailto:punaluuassoc@gmail.com))

**KB Karl Bromwell** April 3, 2023 at 12:24 PM  
Preconsultation for SMA triggered EA in Hauula, HI  
To: [pod-pao@usace.army.mil](mailto:pod-pao@usace.army.mil), [dlnr@hawaii.gov](mailto:dlnr@hawaii.gov), [dotpao@hawaii.gov](mailto:dotpao@hawaii.gov), [contactus@hbws.org](mailto:contactus@hbws.org), [csd@honolulu.gov](mailto:csd@honolulu.gov), [webmail@doh.hawaii.gov](mailto:webmail@doh.hawaii.gov), [thestateofhi@gmail.com](mailto:thestateofhi@gmail.com), Cc: [dpp@honolulu.gov](mailto:dpp@honolulu.gov) [Details](#)

Aloha,  
The Kahena Was Estate Team would very much appreciate pre-consulting comments for the Proposed Action. I attached an informational package to assist with the process. Please route to appropriate DLNR Divisions for comment.

Proponent: Kahena Was Estates  
Approving Agency: DPP  
Stakeholder and/or Expert Agency or Public Groups: USACE-PAO, DLNR Divisions (DAR, BOC, ENG, DOFAW, LAND, OCCL, SHPD), USFWS, HDOH, Hawaii DOT-PAO, Honolulu BWS, General State of Hawaii and Honolulu City and County of Honolulu  
([i.e. thestateofhi@gmail.com](mailto:thestateofhi@gmail.com) and [cad@honolulu.gov](mailto:cad@honolulu.gov))



PreConLetter&Fi  
gures\_...70.pdf

Mahalo in advance for your timely response in this matter.

Sincerely,

Karl Bromwell  
Karl Bromwell, MPH, CISEC, REM, CEA, REPA  
SKS ENV - Island Resource Solutions  
Owner / Principal Environmental Health Professional,  
Scientist & Planner  
2019 Puuwaiana Drive | Honolulu Hawaii, 96813  
808.542.4261 | [karlbromwell@gmail.com](mailto:karlbromwell@gmail.com)



**KB Karl Bromwell** April 6, 2023 at 3:43 PM  
Fwd: Preconsultation for SMA triggered EA in Hauula, HI  
2 recipients [Details](#)

Sent from my iPhone

Begin forwarded message:

From: Karl Bromwell <[karlbromwell.sksenv@gmail.com](mailto:karlbromwell.sksenv@gmail.com)>  
Date: April 3, 2023 at 12:24 PM HST  
To: [pod-pao@usace.army.mil](mailto:pod-pao@usace.army.mil), [dlnr@hawaii.gov](mailto:dlnr@hawaii.gov), [dotpao@hawaii.gov](mailto:dotpao@hawaii.gov), [contactus@hbws.org](mailto:contactus@hbws.org), [csd@honolulu.gov](mailto:csd@honolulu.gov), [webmail@doh.hawaii.gov](mailto:webmail@doh.hawaii.gov), [thestateofhi@gmail.com](mailto:thestateofhi@gmail.com)  
Cc: [dpp@honolulu.gov](mailto:dpp@honolulu.gov)  
Subject: Preconsultation for SMA triggered EA in Hauula, HI

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Approving Agency: DPP  
Stakeholder and/or Expert Agency or Public Groups: USACE-PAO, DLNR Divisions (DAR, BOC, ENG, DOFAW, LAND, OCCL, SHPD), USFWS, HDOH, Hawaii DOT-PAO, Honolulu BWS, General State of Hawaii and Honolulu City and County of Honolulu  
([i.e. thestateofhi@gmail.com](mailto:thestateofhi@gmail.com) and [cad@honolulu.gov](mailto:cad@honolulu.gov))



PreConLetter&Fi  
gures\_...70.pdf

Mahalo in advance for your timely response in this matter.

Sincerely,

Karl Bromwell  
Karl Bromwell, MPH, CISEC, REM, CEA, REPA  
SKS ENV - Island Resource Solutions  
Owner / Principal Environmental Health Professional,  
Scientist & Planner  
2019 Puuwaiana Drive | Honolulu Hawaii, 96813  
808.542.4261 | [karlbromwell@gmail.com](mailto:karlbromwell@gmail.com)



**KB Karl Bromwell** April 6, 2023 at 3:50 PM  
Fwd: Preconsultation for SMA triggered EA in Hauula, HI  
2 recipients [Details](#)

Aloha Kelly,

Please see attached for pre-consulting comments. We would love to hear from the Hauula Community Association and any concerns you may have for the proposed project.

From: Karl Bromwell <[karlbromwell.sksenv@gmail.com](mailto:karlbromwell.sksenv@gmail.com)>  
Date: April 3, 2023 at 12:24 PM HST  
To: [pod-pao@usace.army.mil](mailto:pod-pao@usace.army.mil), [dlnr@hawaii.gov](mailto:dlnr@hawaii.gov), [dotpao@hawaii.gov](mailto:dotpao@hawaii.gov), [contactus@hbws.org](mailto:contactus@hbws.org), [csd@honolulu.gov](mailto:csd@honolulu.gov), [webmail@doh.hawaii.gov](mailto:webmail@doh.hawaii.gov), [thestateofhi@gmail.com](mailto:thestateofhi@gmail.com)  
Cc: [dpp@honolulu.gov](mailto:dpp@honolulu.gov)  
Subject: Preconsultation for SMA triggered EA in Hauula, HI

Aloha,  
The Kahena Was Estate Team would very much appreciate pre-consulting comments for the Proposed Action. I attached an informational package to assist with the process. Please route to appropriate DLNR Divisions for comment.

Proponent: Kahena Was Estates  
Approving Agency: DPP  
Stakeholder and/or Expert Agency or Public Groups: USACE-PAO, DLNR Divisions (DAR, BOC, ENG, DOFAW, LAND, OCCL, SHPD), USFWS, HDOH, Hawaii DOT-PAO, Honolulu BWS, General State of Hawaii and Honolulu City and County of Honolulu  
([i.e. thestateofhi@gmail.com](mailto:thestateofhi@gmail.com) and [cad@honolulu.gov](mailto:cad@honolulu.gov))



PreConLetter&Fi  
gures\_...70.pdf

Mahalo in advance for your timely response in this matter.

Sincerely,

Karl Bromwell  
Karl Bromwell, MPH, CISEC, REM, CEA, REPA  
SKS ENV - Island Resource Solutions  
Owner / Principal Environmental Health Professional,  
Scientist & Planner  
2019 Puuwaiana Drive | Honolulu Hawaii, 96813  
808.542.4261 | [karlbromwell@gmail.com](mailto:karlbromwell@gmail.com)



Aloha Karl:

It was a pleasure to talk to you this morning. Your patience and understanding as we discussed some of the concerns and questions Punalu'u Community members have regarding Kahena Wai Estates' proposed Punalu'u project was much appreciated. I again suggest you watch the YouTube video to more fully understand some of our concerns about the scope of the proposal and the real intent of at least one of the principals.

As I mentioned, if, indeed, Kahena Wai LLC is saying nothing will be done with the AG (wetlands) area, wouldn't the current proposal(s) need to be revised to include only the current residential owners? Even the proposed "new dwelling units" are of concern.

I've copied Mr. Irei to this e-mail in an effort to try to avoid any miscommunication and to, hopefully, give everyone an idea of some of our community's concerns. I will tell you that many in Hau'ula share our same concerns about this proposed project.

Mahalo nui again for your response. I look forward to further communication as we all work in the best interest of the aina and our communities.

Lorraine

---

  **Karl Bromwell** May 23, 2023 at 7:07 AM  
Re: Kahena Wai Estates LLC, proposed Punalu'u project [Details](#)  
To: Lorraine Matagi, Cc: Lorraine Matagi, Bcc: Karl Bromwell

---

Aloha Lorraine,

Although I would like to talk with you, and will give you a call to schedule, an important step in the HEPA EA process is receiving written comments, so I can be sure to include them in the EA and have the proponent for the Proposed Action address them accordingly.

What day and time work for a call?

Mahalo, Karl Bromwell

Sent from my iPhone

---

 **Lorraine Matagi** May 22, 2023 at 1:06 PM  
Kahena Wai Estates LLC, proposed Punalu'u project [Details](#)  
To: karlbromwell.5ksenv@gmail.com, Cc: Lorraine Matagi

---

 **Siri Found a Contact** [Add](#)   
Lorraine Matagi  
matagisd4@gmail.com

Aloha Mr. Bromwell,

I am Lorraine Azain Matagi, the current representative for the Punalu'u Community Association on the Ko'olaupua Neighborhood Board. I have been asked to take the lead in corresponding with you regarding the Pre-Consultation for SMA triggered EA for the Kahena Wai Estates proposed project located in the Ko'olaupua subdistrict of Punalu'u. While the addresses of 53-428 to 53-458 Kamehameha Highway share the Hau'ula zip code, they are actually located in Punalu'u. Thus Ms Doty Kelly-Paddock of Hau'ula Community Association forwarded your correspondence to us.

PCA has been dealing with Mr. Roy Irei of Hawaii Engineering Group, Inc. on this proposed project, however, because Mr. Irei's scope of knowledge of the entire proposed project was limited, and the proposed project involves not just R-5 lands but also precious AG-2 lands, the community has requested that a representative of Kahena Wai LLC be present at the next PCA meeting on July 11, 2023 to respond to our community's valid concerns.

I would like to talk to you personally as our community diligently tries to ensure we are not missing any step in the processes you are taking regarding this project.

Mahalo nui loa for your attention to this important matter. I look forward to hearing from you.

Lorraine Azain Matagi  
(808) 391-0063

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**DEPARTMENT OF PLANNING AND PERMITTING  
KA 'OIHANA HO'OLĀLĀ A ME NĀ PALAPALA 'AE  
CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 768-8000 • FAX: (808) 768-6041 • WEBSITE: honolulu.gov/dpp

RICK BLANGIARDI  
MAYOR  
ME'IA



DAWN TAKEUCHI APUNA  
DIRECTOR  
PO'O

JIRO A. SUMADA  
DEPUTY DIRECTOR  
HOPE PO'O

November 9, 2023

2023/ED-11 (MAK)

**VIA CERTIFIED MAIL**

Mr. Karl Bromwell  
5ks ENV - Island Resource Solutions LLC  
2019 Puowaina Drive  
Honolulu, Hawaii 96813

Dear Mr. Bromwell:

**SUBJECT: Draft Environmental Assessment (EA)  
Kahena Wai Estates  
53-424, -428, -432, -437, -438, -440, -450, -452, and -458  
Kamehameha Highway - Hauula  
Tax Map Key 5-3-005: 070**

This is in response to the submittal, received October 5 and 23, 2023, of the above-referenced Draft EA, which is required under Chapter 25 Revised Ordinances of Honolulu (ROH). We understand that the Project is proposing programmatic improvements, including the construction of new single-family dwellings, for a 4.76 acre lot that has been submitted to a Condominium Property Regime (CPR) and is located in the R-5 Residential District, AG-2 General Agricultural District, and Special Management Area in Hauula, Oahu. We have reviewed the above application and determined that it cannot be accepted for processing at this time because it contains errors and is missing required content. You may resubmit the Draft EA for review once the revisions below have been incorporated.

1. Please revise the Purpose and Need of Proposed Action Section of the Draft EA to provide information further detailing the extent of the programmatic improvements covered under the Draft EA, especially in Table ES-1, which outlines the proposed improvements. We understand that the proposed improvements includes the construction of new single-family dwellings and individual wastewater systems on the subject site. However, the written narrative also mentions that minor improvements, such as fencing, walking paths, etc., are proposed. New additions to existing dwellings are not mentioned and development of the agricultural portions are also not covered. As the Draft EA is

intended to be programmatic and provide a 10-year plan for the development of the site, then the future buildout of the site should go beyond what is currently just being proposed. Table ES-1 should also capture later additions that could be added to the existing dwellings and whether the agricultural portions will be developed with permitted agricultural uses. Further, the table should be of a size that is easy to read and formatted to provide a clear breakdown of the existing and proposed building area and floor area for each of the CPR units.

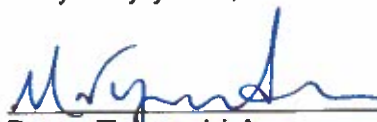
2. Please include a comprehensive master site plan that summarizes all the proposed improvements detailed in Table ES-1 of the Draft EA. Currently, the proposed improvements for each of the CPR units are split between multiple site plans in the appendices. A comprehensive site plan should be provided that conceptually captures the intended buildout of the site. If alternative actions are being proposed that differ from the intended buildout of the site, then a separate plan should be provided to help explain visually any difference between the proposed actions.
3. Please update Section 3.2 of the Draft EA to address development in the State Agricultural District. Currently, it states that the Project is in the A-2 Medium Density Apartment District, which is not correct. Please review the Draft EA to ensure that the correct zoning districts and State Land Use districts are correctly referenced throughout.
4. The Cultural Resources Section notes that no Archaeological Inventory Survey (AIS) was conducted in the preparation of the Draft EA, and based on a review of previous AISs done in the area, no impacts to historic properties are anticipated. However, the AISs referenced in the Draft EA indicate that human burials have been identified directly adjacent to the subject site. Given the proximity to known sites, we anticipate that an AIS will likely be required before any ground disturbing activities will occur. Therefore, this section should be revised to capture that further analysis will be conducted prior to any ground disturbing work occurring onsite, and that any recommendations provided by the State Historic Preservation Division as a result of that work will be incorporated into any future development plans.
5. The spatial information used to visualize the wetlands onsite is an approximation and does not accurately reflect the existing conditions. A wetlands delineation should be done and incorporated into the proposal by the time the Final EA is accepted. Please work with the United States Army Corps of Engineers for guidance in submitting a request for determination.
6. Our investigation has revealed that unauthorized dwellings currently occupy three of the CPR units, which has resulted in Notices of Violation (NOV) being

Mr. Karl Bromwell  
November 9, 2023  
Page 3

issued. These units are not reflected in the existing conditions or proposed buildout of the site. If these dwellings are to be retained or incorporated into the final plan, then the narrative needs to be revised accordingly. **Please be aware that if the NOV's are not corrected by the time the Draft EA is resubmitted then double fee penalties will be applied.**

Thank you for your attention to these items. You may resubmit a revised Draft EA upon incorporation of the additional information and required revisions discussed above. Please resubmit the application review fee and processing fees at that time. The receipt for the current application review fee, and your return check for the required permit processing fee are enclosed. Should you have any questions, please contact Michael Kat, of our Zoning Regulations and Permits Branch, at (808) 768-8013 or via email at michael.kat@honolulu.gov.

Very truly yours,

*for*   
Dawn Takeuchi Apuna  
Director

Enclosures: Receipt No. 23-00155  
Check No. 215 (\$200)  
Check No. 216 (\$1,200)

## Receipt 23-00155

Total Paid: \$200.00

Received On: 11/07/2023 11:48AM

---

<u>Job</u>	<u>Distribution</u>
<b>2023/ED-11 (Draft rejection letter prepared)</b>	
Application Review Fee	\$200.00
<b>Total:</b>	<b>\$200.00</b>

---

	<u>Payment</u>
Check 218	\$200.00
<b>Total Received:</b>	<b>\$200.00</b>





Environmental Planning and Permitting | Water Resource Compliance Management and Permitting |  
Natural Resource Surveys and Appraisals | Site Investigations, Multi-Media Monitoring Services and Health & Safety Compliance | Project Management

April 28, 2023

2023/ED-11 (MAK)

ATTN: Director

Department of Planning and Permitting

650 South King Street, 7<sup>th</sup> Floor

Honolulu, Hawaii 96813

Cc: Michael A. Kat,

**SUBJECT: Draft Environmental Assessment (EA) for SMA-Major,  
Kahena Wai Estates, Kamehameha Highway, 53-424, -428, -432, -437, -438, -  
440, -450, -452, and -458, Hauula Tax Map Key: (1) 5-3-005:070**

To: Dawn Takeuchi Apuna, Director

Thank you for your review of the Draft EA and recognizing the Project's programmatic improvement scope. My apologies for the delayed official response to your letter, I have been working with Mr. Michael A. Kat, DPP, Planner, Zoning Regulations & Permits Branch, and realized I did not send my December 2023 response.

Please find below responses to your six comments, which have been incorporated into the revised Draft Programmatic EA for resubmission.

1. The Purpose and Need for the Proposed Action has been revised to provide further detail of the programmatic improvements to the TMK. The Proposed Action and my understanding of Projects have changed significantly, and I've worked closely with the Prime (Hawaii Engineering Group), the 11 CPR Unit Owners, and DPP to develop the Programmatic Proposed Action, which will be described the Executive Summary (ES-1) Table and Figure that complement each other and can be portrayed as a Conceptual Master Site Plan, as requested in your comments. The Table and Figure will describe the Kahena Wai Estates 10-year plan, including proposed R-5 new single-family permitted developments, existing dwelling permitted additions, and other future potential permitted uses for the AG-2 and wetland-impacted CPR Units.
2. The Comprehensive Master Site Plan (Table ES-1 and Figure ES-1) will be used to clearly describe the existing conditions and proposed improvements. A pre-draft version of the Table and Figure was sent to Mr. Kats for review and suggestions in April 2024, and minor revisions were made as provided in his e-mail provided in Appendix, along with this response.
3. Revised accordingly throughout EA document.

4. The AIS's references in the Draft EA were all further north, but more importantly all on the *makai*-side of Kamehameha Highway in sandy soils, where burials may be expected. The TMK, on the *mauka*-side of Kamehameha Highway has been previously disturbed, and filled, and has only minimal, narrow areas of Jaucus Sand on-site. Therefore, it was determined that with the mitigation measures suggested in the Draft EA, (i.e. on-site archaeological monitoring during sub surface excavation activities), that this would lessen any potential adverse effect on historic properties to no adverse effects.

That being said, the text in Section 5.3 has been revised to read:

*Although no adverse effects are anticipated from the Proposed Action, since human burials and a subsurface cultural layer have been identified about ¼ mile north (albeit makai of Kamehameha Hwy and in sandy soils), there is the potential that similar cultural features or human burials might be encountered during the limited subsurface activities, therefore, the following mitigation measures will be implemented:*

- 1) *SHPD will be requested to provide concurrence and guidance to meet the No Adverse Effects anticipated by recommending applicable mitigation measures during subsurface activities, bit it AIS prior to individual projects proceeding or having an archeological monitor on-site during these ground-disturbing activities. .*
- 2) *If any archaeological or cultural resources, or burials, are inadvertently discovered during excavation, all construction work will cease immediately, and subsequent work shall proceed only upon an archaeological clearance from the SHPD. As discussed in No. 1, on SHPD's discretion, an archaeologist maybe required to be present during excavation activities.*
- 3) *If any archaeological or cultural resources are discovered during subsurface activities, an AIS or Archaeological Monitoring may be requested, as directed by the SHPD, as a mitigation measure to identify and protect archaeological or cultural resources.*
- 4) *All work will be coordinated with and approved by the SHPD prior to re-starting excavation activities, to ensure that proper procedures are followed to protect archaeological or cultural resources. Implementation of any further mitigation measures required by SHPD will have to be resolved before any building or development permits will be issued.*

*With these mitigation measures implemented, any adverse effect to archaeological or cultural resources will be minimized from the Proposed Action. Therefore, no significant long-term or cumulative adverse effects to cultural resources are expected from the Proposed Action above the No Action Alternative baseline conditions described in **Section 5.3.2.***



*Environmental Planning and Permitting | Water Resource Compliance Management and Permitting |  
Natural Resource Surveys and Appraisals | Site Investigations, Multi-Media Monitoring Services and Health & Safety Compliance | Project Management*

5. A wetland delineation has been performed and is included in Appendix F of the Draft EA. Information presented in the report has been incorporated into the EA, including preparing a wetland overlay of the surveyed TMK, and adding the 50-foot setback areas from the special wetland.
  
6. Acknowledge. The CPR units are now reflected in the Draft EA.

Thank you for bringing these items to my attention. The NOV's have been identified and narrative included accordingly. The Draft EA includes discussion of the above items, incorporating additional information, as requested. The Draft EA has been delayed due to these NOV's and will be submitted in early May, whether the NOV's have been corrected or not, due to owners majority.

Sincerely,

Karl B. Bromwell, MPH, CISEC, CEA, REM, REPA  
5Ks ENV, Project Planning Manager/Owner

# BOARD OF WATER SUPPLY

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



April 18, 2023

RICK BLANGIARDI, MAYOR

BRYAN P. ANDAYA, Chair  
KAPUA SPROAT, Vice Chair  
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ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

ERWIN M. KAWATA  
Deputy Manager

Mr. Karl Bromwell  
5Ks ENV – Island Resource Solutions LLC  
2019 Puowaina Drive  
Honolulu, Hawaii 96813

Dear Mr. Bromwell:

Subject: Your Letter Dated March 29, 2023 Requesting Comments on the Early Consultation for the Proposed New Single-Family Dwelling at 53-452 Kamehameha Highway – Tax Map Key: 5-3-005: 070

Thank you for your letter regarding the proposed single-family dwelling.

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

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

Water conservation measures are required for all proposed developments. These measures include utilization of nonpotable water for irrigation using gray water, rain catchment, drought tolerant plants, xeriscape landscaping, efficient irrigation systems, such as a drip system and moisture sensors, and the use of Water Sense labeled ultra-low flow water fixtures and toilets.

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

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

Very truly yours,



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







5Ks ENV – Island Resource Solutions LLC  
2019 Puowaina Drive  
Honolulu Hawaii, 96813  
[KarlBromwell.5KsENV@gmail.com](mailto:KarlBromwell.5KsENV@gmail.com)

June23, 2023

Mr. Ernest Y. W. Lau, P.E.  
Manager and Chief Engineer  
City and County of Honolulu  
Board of Water Supply

Dr. Mr. Lau:

Subject: Response to 5Ks ENV letter dated March 29, 2023, Requesting Comments on the Early Consultation Package for the Proposed New Single-Family Dwelling at 53-452 Kamehameha Highway – TMK: 5-3-005: 070.

Thank you, your early coordination for the Proposed Project is appreciated.

We acknowledge that the City and County (CCH) Board of Water Supply (BWS) identifies that the existing water system is adequate to accommodate the proposed development and that the information provided is based on current data, which may change until final approval of the building applications and that the final decision on the availability of water will be confirmed for each building permit application submitted. We also acknowledge that BWS Water System Facilities Charges are required will be required by the applicant, for resource development, transmission and daily water storage. The current and future-owner occupants will prepare permit applications in accordance with all applicable requirements for proposed developments.

The required water conservation measures identified in the BWS letter and one-site fire protection requirements, to be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department, will be included in the Draft EA.

Sincerely,

A handwritten signature in blue ink that reads "Karl B. Bromwell". The signature is fluid and cursive, with a long horizontal stroke at the end.

Karl B. Bromwell, MPH  
Manager and Principal Planner, Scientist

DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET, 7<sup>TH</sup> FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 768-8000 • FAX: (808) 768-8041  
DEPT. WEB SITE: [www.honolulu.gov/dpp](http://www.honolulu.gov/dpp)



RICK BLANGIARDI  
MAYOR

DAWN TAKEUCHI APUNA  
DIRECTOR

JIRO A. SUMADA  
DEPUTY DIRECTOR

May 5, 2023

2023/ELOG-732 (MAK)

Mr. Karl Bromwell  
5Ks ENV  
2019 Puowaina Drive  
Honolulu, Hawaii 96813

Dear Mr. Bromwell:

SUBJECT: Pre-Consultation - Environmental Assessment (EA)  
53-428 to 53-458 Kamehameha Highway - Hauula  
Tax Map Key 5-3-005: 070

This is in response to your letter, received February 6, 2023, requesting comments on the scope and content to be addressed in a Draft Environmental Assessment (DEA), as required under Chapter 343, Hawaii Revised Statutes (HRS). According to your letter, the proposal involves the initial construction of a new single-family dwelling and the 10-year development plan for the entire site that is within the Special Management Area (SMA). We understand the 10-year development plan includes a total of six new dwellings and a new "park." The Department of Planning and Permitting (DPP) has the following comments that should be addressed in the DEA.

1. Long-Term Planning Policies and Objectives: The DEA should address the proposed Project's consistency with the relevant policies of the General Plan and the Koolauloa Sustainable Communities Plan.
2. Land Use Ordinance (LUO), Chapter 21, Revised Ordinances of Honolulu (ROH): Based on a review of our records, the Project site is a split-zoned between the R-5 Residential District (approximately 120,357 sq. ft.) and AG-2 General Agricultural District (approximately 91,040 sq. ft.). Therefore, proposed development activities must comply with the development standards applicable to the R-10 Residential District and the AG-2 General Agricultural District. Project compliance with these standards should be presented and evaluated in the DEA. The LUO is available on our website at:

[www.honolulu.gov/dpp/resources](http://www.honolulu.gov/dpp/resources)

We have received public concerns that the “park” will involve providing overnight camping accommodations to those visiting. Please ensure that any proposed uses are discussed in detailed in the DEA, so that they can be fully evaluated.

3. Onsite Structures: The DEA should describe all existing structures on the site, including residences, garages, swimming pools, lanais, pavements, fences, stairways, shoreline hardening structures, etc. If any existing structures are proposed to remain in place, the DEA should describe the structures, show where they are located, whether they were lawfully established (permitted), and whether they are located within any required setback areas. Such structures should be included in the DEA’s analysis of compliance with the applicable development standards in the LUO.

The prepared Project includes the construction of more than three single-family residences on the same zoning lot within the SMA, and therefore is considered a larger development under Chapter 25, ROH. Therefore, the DEA should include in it’s analysis all of the required components for an SMA Use Permit under both Chapter 205A, HRS and Chapter 25, ROH.

4. Other Permits and Approvals: The DEA should include a discussion of any other discretionary permits and approvals that the proposed project will require prior to the Project’s implementation.
5. Flood Zone: The DEA should identify the subject property’s Flood Zone as mapped by the Federal Emergency Management Agency, and evaluate the proposed Project’s compliance with the City’s Flood Hazard Areas Ordinance (Chapter 21A, ROH), which is available on our website.
6. Coastal Hazards: The Project site is susceptible to Sea Level Rise (SLR), tsunamis, and storm surges. Mayor’s Directive 18-2, issued on July 16, 2018, requires all City departments and agencies to use the SLR Guidance and the Hawaii SLR Vulnerability and Adaptation Report in planning decisions. The recent amendments to Chapter 205A, HRS, under Act 16 (2020), reiterate the need to evaluate potential impacts related to coastal hazards and SLR. As such, the following items need to be evaluated in a site-specific Coastal Hazards Study and analyzed in both the DEA and SMA Use Permit application prepared for the Project. This study should include analysis of potential impacts and mitigation measures associated with implementation of the Project related to, but not limited to, the following:
  - SLR - Potential impacts relating to SLR at the subject property, based on review of the State’s SLR Exposure Area (SLR-XA) Mapping Tool, of 0.5 feet in the near term, and 3.2 feet of SLR by as soon as the year 2100.

- Storm Surge - Potential impacts and hurricane storm surge inundation levels at the subject property during Category 1 through 4 hurricane events, based on review of the National Oceanic and Atmospheric Administration's (NOAA) National Hurricane Storm Surge Hazard Maps.
- Potential cumulative impacts of coastal hazards and property inundation should SLR exacerbate existing flooding, coastal erosion, wave-action, or other coastal hazards that may occur at the subject property.

The DEA should also explore Project alternatives, site design (siting the proposed dwelling as far from the shoreline as possible), Project design features, Best Management Practices, and appropriate mitigation measures to reduce potential impacts related to coastal hazards to the extent possible. Relevant sources of information are available online at the following links:

- Mayor's Directive No. 18-2 (2018) regarding climate change and SLR:  
[www.honolulu.gov/rep/site/dppto/climate\\_docs/MAYORS\\_DIRECTIVE\\_18-2.pdf](http://www.honolulu.gov/rep/site/dppto/climate_docs/MAYORS_DIRECTIVE_18-2.pdf)
  - Vulnerability Report:  
[http://climate.hawaii.gov/wp-content/uploads/2019/02/SLR-Report\\_Dec2017-with-updated-disclaimer.pdf](http://climate.hawaii.gov/wp-content/uploads/2019/02/SLR-Report_Dec2017-with-updated-disclaimer.pdf)
  - Hawaii SLR-XA Mapping Tool:  
[www.pacioos.hawaii.edu/shoreline/slr-hawaii/](http://www.pacioos.hawaii.edu/shoreline/slr-hawaii/)
  - NOAA SLR Mapping Tool:  
<https://coast.noaa.gov/slr/>
  - Honolulu Office of Climate Change, Sustainability and Resiliency Climate Ready Oahu Web Explorer:  
[www.resilientoahu.org/water](http://www.resilientoahu.org/water)
  - Storm Surge:  
<https://www.nhc.noaa.gov/nationalsurge/>
7. Pre-DEA Consultations: Pursuant to Section 11-200.1-18, Hawaii Administrative Rules, Applicants are required to seek early consultation from the DPP, as well as



Mr. Karl Bromwell  
May 5, 2023  
Page 4

“other agencies having jurisdiction or expertise as well as those citizen groups and individuals that the proposing or approving agency reasonably believes may be affected.” Pre-EA requests for consultation should be conducted prior to compilation of a DEA, and changes to the Project resulting from such consultation should be incorporated into the DEA prior to submittal to the DPP.

Should you have any questions, please contact Michael Kat, of our Zoning Regulations and Permits Branch, at (808) 768-8013 or via email at michael.kat@honolulu.gov.

Very truly yours,



FOR Dawn Takeuchi Apuna  
Director



June23, 2023

Ms. Dawn Takeuchi Apuna , Director  
 City and County of Honolulu  
 Department of Planning and Permitting

Cc: Mr. Jiro A. Sumada, Deputy Director  
 Mr. Michael Kat, Zoning and Regulations and Permits Branch

Dear Ms. Takeuchi Apuna:

Subject: Response to 5Ks ENV letter dated March 29, 2023, Requesting Comments on the Early Consultation Package for the Proposed New Single-Family Dwelling at 53-452 Kamehameha Highway – Hauula  
 TMK: 5-3-005: 070.

Thank you, your early coordination for the Proposed Project is appreciated.

The proponent has revised the Proposed Project and 10-year plan (see Table) to include three (3) new dwellings (Unit 4, 5, and 7), units 6 and 9 have no plans. In addition, units 10 and 11, which includes the AG-2 General Agricultural District zoning, will remain vacant with no development (i.e., no dwellings or park).

We acknowledge the City and County of Honolulu (CCH) Planning and Permitting (DPP), seven (7) comment items.

Please find our initial responses below, with those requiring more detail included in the Draft EA.

1. The DEA will address the Proposed Action’s consistency with the relevant policies of the General Plan (GP) and the Koolauloa Sustainable Communities Plan (KSCP)

Unit	Lot Size		Living Area		Status	Owner Name	Lot Status
1	4841	SF	360	SF	existing	Harding	Owner Occupied
2	4820	SF	550	SF	existing	Miramontes	Owner Occupied
3	3997	SF	678	SF	existing	Haines	Owner Occupied
4	4171	SF	2071	SF	proposed	Brahmbhatt	Future Owner Occupant
5	4099	SF	550	SF	proposed	Nicholson	Future Owner Occupant
6	10000	SF				Clark	No plans
7	8408	SF	678	SF	proposed	Wang	Future Owner Occupant
8	7684	SF	738	SF	existing	Oba	Owner Occupied
9	10333	SF			proposed	Kahena Wai	Future Owner Occupant
10	38963	SF				Kahena Wai	No plans
11	100531	SF				Kahena Wai	No plans

2. The DEA will identify Proposed Action compliance with standards presented in the Land Use Ordinance (LUO) Chapter 21, Revised Ordinances of Honolulu (ROH) for the R-5 Residential District properties (~120,357 SF). There is no planned development of the AG-2 General Agricultural District portion of the lots, which as identified is split-zoned between R-5 and AG-2 and total ~91,040 SF.

We acknowledge and thank you for passing on public concerns received. These comments and concerns have also been brought forward in recent public outreach meetings performed as part of the project, which was the catalyst for the proponent changing the Proposed Action to eliminate the “park” and omit development within the AG-2 zoned areas.

3. Acknowledged, the DEA will describe the existing “Onsite Structures” as provided in DPP’s comment No. 3 and will be assessed against the applicable development standards in the LUO.
4. Acknowledged, the DEA will identify permits and approvals that are required by implementation of the Proposed Actions.
5. Acknowledged, the DEA will identify Flood Zone mapping as identified by the Federal Management Agency, and CCH’s Flood Hazard Areas Ordinance (Chapter 21A, ROH).
6. Acknowledged, coastal hazards will be identified and assessed, performing a site-specific sea level rise (SLR), tsunamis, and storm surge study per the 16JULY2018 Mayor’s directive and recent Chapter 205A, HRS amendments under Act 16 (2020). The study will include analysis of potential impacts and mitigation measures for the Proposed Action, including but not limited to the following: SLR based on the State’s SLR Exposure Areas (SLR-XA) Mapping Tool, of 0.5 feet in the near term, and 3.2 feet of SLR by as soon as the year 2100; storm surge and hurricane (level 1 – 4) surge inundation levels per National Oceanic and Atmospheric Administration’s (NOAA) National Hurricane Storm Surge Hazard Maps; and assessment of potential cumulative impacts of coastal hazards and inundation affecting the property, should SLR exacerbate existing conditions.

Sincerely,

Karl B. Bromwell, MPH  
Manager and Principal Planner, Scientist

# USFWS

Thank you for contacting the U.S. Fish & Wildlife Service. The "contact us" link at the bottom of our website is visible on all pages and is connected to a [general mailbox](#) for the entire Service. Your closest Ecological Services Field Office or Fish and Wildlife Conservation Office will be able to provide insight into such things as endangered species on or near your property and the protections in place for wildlife, property development and the requirements for individuals and development companies, and permitting for special projects. You may find all the offices within any given state by navigating to our website and scrolling to "Visit Us." You can pull up a list by choosing a facility (Conservation Office) and your state from the drop-down. Choose the facility closest to your location or the location in question.

Regards,  
Headquarters, U.S. Fish and Wildlife Service

---

**From:** Karl Bromwell <[usfws@fws.gov](mailto:usfws@fws.gov)>  
**Sent:** Sunday, April 2, 2023 6:04 PM  
**To:** Contact3, FWHQ <[Contact3@fws.gov](mailto:Contact3@fws.gov)>  
**Subject:** Pre-consulting for an SMA Triggered EA in Haul

## U.S. FISH & WILDLIFE SERVICE

**This email has been generated by the "send a message" contact form on your [FWS.gov](#) profile.**

Submitted on Sun, 04/02/2023 - 22:04

**Name Provided:**

Karl Bromwell

**Email Provided:**

[karlbromwell@gmail.com](mailto:karlbromwell@gmail.com)

**Subject**

Pre-consulting for an SMA Triggered EA in Haul

**Message**

Can you provide an e-mail address to received pre-consulting comments for our Proposed Action

**Http Referer**



<https://www.fws.gov/refuge/oahu-forest/visit-us/locations/oahu-forest-national-wildlife-refuge>

Submitted from <https://www.fws.gov/contact-us>

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## United States Department of the Interior



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

In Reply Refer To:  
01EPIF00-2019-TA-0100

December 14, 2018

Ms. Kathy K. Sokugawa, Acting Director  
Department of Planning and Permitting  
City and County of Honolulu  
650 South King Street, 7th Floor  
Honolulu, Hawai'i 96813

Subject: Response to your Request for Technical Assistance

Dear Ms. Sokugawa,

Thank you for your recent correspondence requesting technical assistance on species biology, habitat, or life requisite requirements. The Pacific Islands Fish and Wildlife Office (PIFWO) of the U.S. Fish and Wildlife Service (Service) appreciates your efforts to avoid or minimize effects to protected species associated with your proposed actions. We provide the following information for your consideration under the authorities of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 *et seq.*), as amended.

Due to significant workload constraints, PIFWO is currently unable to specifically address your information request. The table below lists the protected species most likely to be encountered by projects implemented within the Hawaiian Islands. Based on your project location and description, we have noted the species most likely to occur within the vicinity of the project area, in the '**Occurs In or Near Project Area**' column. Please note this list is not comprehensive and should only be used for general guidance. We have added to the PIFWO website, located at <https://www.fws.gov/pacificislands/promo.cfm?id=177175840> recommended conservation measures intended to avoid or minimize adverse effects to these federally protected species and best management practices to minimize and avoid sedimentation and erosion impacts to water quality.

If you are representing a federal action agency, please use the official species list on our web-site for your section 7 consultation. You can find out if your project occurs in or near designated critical habitat here: <https://ecos.fws.gov/ipac/>.

Under section 7 of the ESA, it is the Federal agency's (or their non-Federal designee) responsibility to make the determination of whether or not the proposed project "may affect" federally listed species or designated critical habitat. A "may affect, not likely to adversely affect" determination is appropriate when effects to federally listed species are expected to be discountable (*i.e.*, unlikely to occur), insignificant (minimal in size), or completely beneficial.

This conclusion requires written concurrence from the Service. If a “may affect, likely to adversely affect” determination is made, then the Federal agency must initiate formal consultation with the Service. Projects that are determined to have “no effect” on federally listed species and/or critical habitat do not require additional coordination or consultation.

Implementing the avoidance, minimization, or conservation measures for the species that may occur in your project area will normally enable you to make a “may affect, not likely to adversely affect” determination for your project. If it is determined that the proposed project may affect federally listed species, we recommend you contact our office early in the planning process so that we may assist you with the ESA compliance. If the proposed project is funded, authorized, or permitted by a Federal agency, then that agency should consult with us pursuant to section 7(a)(2) of the ESA. If no Federal agency is involved with the proposed project, the applicant should apply for an incidental take permit under section 10(a)(1)(B) of the ESA. A section 10 permit application must include a habitat conservation plan that identifies the effects of the action on listed species and their habitats, and defines measures to minimize and mitigate those adverse effects.

We appreciate your efforts to conserve endangered species. We regret that we cannot provide you with more specific protected species information for your project site. If you have questions that are not answered by the information on our website, you can contact PIFWO at (808) 792-9400 and ask to speak to the lead biologist for the island where your project is located.

Sincerely,

Island Team Manager  
Pacific islands Fish and Wildlife Office

The table below lists the protected species most likely to be encountered by projects implemented within the Hawaiian Islands. For your guidance, we've marked species that may occur in the vicinity of your project, this list is not comprehensive and should only be used for general guidance.

<u>Scientific Name</u>	<u>Common Name / Hawaiian Name</u>	<u>Federal Status</u>	<u>May Occur In Project Area</u>
<b>Mammals</b>			
<i>Lasiurus cinereus semotus</i>	Hawaiian hoary bat/ ‘ōpe‘ape‘a	E	<input checked="" type="checkbox"/>
<b>Reptiles</b>			
<i>Chelonia mydas</i>	Green sea turtle/honu - Central North Pacific DPS	T	<input checked="" type="checkbox"/>
<i>Erectmochelys imbricata</i>	Hawksbill sea turtle/ Honu ‘ea	E	<input type="checkbox"/>
<b>Birds</b>			
<i>Anas wyvilliana</i>	Hawaiian duck/ koloa	E	<input type="checkbox"/>
<i>Branta sandvicensis</i>	Hawaiian goose/ nēnē	E	<input type="checkbox"/>
<i>Fulica alai</i>	Hawaiian coot/ ‘alae kea	E	<input type="checkbox"/>
<i>Gallinula galeata sandvicensis</i>	Hawaiian gallinule/ ‘alae ‘ula	E	<input type="checkbox"/>
<i>Himantopus mexicanus knudseni</i>	Hawaiian stilt/ Ae‘o	E	<input type="checkbox"/>
<i>Oceanodroma castro</i>	Band-rumped storm-petrel/ ‘akē‘akē	E	<input checked="" type="checkbox"/>
<i>Pterodroma sandwichensis</i>	Hawaiian petrel/ ‘ua‘u	E	<input checked="" type="checkbox"/>
<i>Puffinus auricularis newelli</i>	Newell’s shearwater/ ‘a‘o	T	<input checked="" type="checkbox"/>
<i>Ardenna pacificus</i>	Wedge-tailed Shearwater/ ‘ua‘u kani	MBTA	<input type="checkbox"/>
<i>Gygis alba</i>	White Tern/ manu-o-kū	MBTA	<input type="checkbox"/>
<i>Buteo solitarius</i>	Hawaiian hawk/ ‘io	E	<input type="checkbox"/>
<b>Insects</b>			
<i>Manduca blackburni</i>	Blackburn’s sphinx moth	E	<input type="checkbox"/>
<i>Megalagrion pacificum</i>	Pacific Hawaiian Damselfly	E	<input type="checkbox"/>
<i>M. xanthomelas</i>	Orangeblack Hawaiian Damselfly	E	<input type="checkbox"/>
<i>M. nigrohamatum nigrolineatum</i>	Blackline Hawaiian Damselfly	E	<input type="checkbox"/>



<b>Plants</b>				
<b><u>Scientific Name</u></b>	<b><u>Common Name or Hawaiian Name</u></b>	<b><u>Federal Status</u></b>	<b><u>Locations</u></b>	<b><u>May Occur In Project Area</u></b>
<i>Abutilon menziesii</i>	Ko'oloa'ula	E	O, L, M, H	<input type="checkbox"/>
<i>Achyranthes splendens</i> var. <i>rotundata</i>	'Ewa hinahina	E	O	<input type="checkbox"/>
<i>Bonamia menziesii</i>	No common name	E	K, O, L, M, H	<input type="checkbox"/>
<i>Canavalia pubescens</i>	'Āwikiwiki	E	Ni, K, L, M	<input type="checkbox"/>
<i>Colubrina oppositifolia</i>	Kauila	E	O, M, H	<input type="checkbox"/>
<i>Cyperus trachysanthos</i>	Pu'uka'a	E	K, O	<input type="checkbox"/>
<i>Gouania hillebrandii</i>	No common name	E	Mo, M	<input type="checkbox"/>
<i>Hibiscus brackenridgei</i>	Ma'o hau hele	E	O, Mo, L, M, H	<input type="checkbox"/>
<i>Ischaemum byrone</i>	Hilo ischaemum	E	K, O, Mo, M, H	<input type="checkbox"/>
<i>Isodendron pyriformium</i>	Wahine noho kula	E	O, H	<input type="checkbox"/>
<i>Marsilea villosa</i>	'Ihi'ihii	E	Ni, O, Mo	<input type="checkbox"/>
<i>Mezoneuron kawaiense</i>	Uhiuhi	E	O, H	<input type="checkbox"/>
<i>Nothoestrum breviflorum</i>	'Aiea	E	H	<input type="checkbox"/>
<i>Panicum fauriei</i> var. <i>carteri</i>	Carter's panicgrass	E	Molokini Islet (O), Mo	<input type="checkbox"/>
<i>Panicum nīihauense</i>	Lau'ehu	E	K	<input type="checkbox"/>
<i>Peucedanum sandwicense</i>	Makou	E	K, O, Mo, M	<input type="checkbox"/>
<i>Pleomele (Chrysodracon)</i> <i>hawaiiensis</i>	Halapepe	E	H	<input type="checkbox"/>
<i>Portulaca sclerocarpa</i>	'Ihi	E	L, H	<input type="checkbox"/>
<i>Portulaca villosa</i>	'Ihi	E	Le, Ka, Ni, O, Mo, M, L, H, Nihoa	<input type="checkbox"/>
<i>Pritchardia affinis</i> ( <i>maideniana</i> )	Loulu	E	H	<input type="checkbox"/>
<i>Pseudognaphalium</i> <i>sandwicense</i> var. <i>molokaiense</i>	'Ena'ena	E	Mo, M	<input type="checkbox"/>
<i>Scaevola coriacea</i>	Dwarf naupaka	E	Mo, M	<input type="checkbox"/>
<i>Schenkia (Centaurium)</i> <i>sebaeoides</i>	'Āwiwi	E	K, O, Mo, L, M	<input type="checkbox"/>
<i>Sesbania tomentosa</i>	'Ōhai	E	Ni, Ka, K, O, Mo, M, L, H, Necker, Nihoa	<input type="checkbox"/>
<i>Tetramolopium rockii</i>	No common name	T	Mo	<input type="checkbox"/>
<i>Vigna o-wahuensis</i>	No common name	E	Mo, M, L, H, Ka	<input type="checkbox"/>

Location key: O=O'ahu, K=Kaua'i, M=Maui, H=Hawai'i Island, L=Lāna'i, Mo=Moloka'i, Ka=Kaho'olawe, Ni=Ni'ihau, Le=Lehua



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## United States Department of the Interior



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

In Reply Refer To:  
2015-SL-0416

SEP 2 2 2015

Howard K. Endo, Ph.D., P.E.  
President  
Shimabukuro, Endo & Yoshizaki, Inc.  
Civil, Environmental & Structural Engineers  
1126 12<sup>th</sup> Avenue, Room 309  
Honolulu, Hawai'i 96816-3715

Subject: Species List for the Hauula Well Replacement Project, Hauula, O'ahu

Dear Mr. Endo:

The U.S. Fish and Wildlife Service (Service) received your letter on August 24, 2015, requesting information regarding the presence of federally listed and proposed endangered or threatened species and critical habitat within the vicinity of the proposed Hauula Well Replacement Project, Hauula, O'ahu [TMK 5-4-015: 30]. We understand the Board of Water Supply has contracted Shimabukuro, Endo & Yoshizaki, Inc. to conduct the proposed project. The proposed project is located on the corner of Hanaimoa Street and Puuowaa Street at 54-177 Hanaimoa Street. The existing well, which was built in 1906, consists of a 12-inch (30 centimeter) solid casing from ground surface to a depth of 75 feet (ft.) [23 meters (m)] followed by an open hole to its terminal depth of 253 ft. (77 m). The well is at the end of its service life therefore, the Board of Water Supply is proposing to replace it with a new well. The new well will be constructed next to the existing well with similar characteristics.

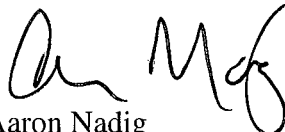
We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawai'i Biodiversity and Mapping Program as it pertains to listed species and designated critical habitat. There is no federally designated critical habitat within the immediate vicinity of the proposed project. Our data indicate the federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) may forage and roost within the vicinity of the project area.

The Hawaiian hoary bat roosts in both exotic and native woody vegetation and, while foraging, will leave young unattended in "nursery" trees and shrubs when they forage. If trees or shrubs suitable for bat roosting are cleared during the breeding season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away. To minimize impacts to the endangered Hawaiian hoary bat, woody plants greater than 15 ft (4.6 m) tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15). Site clearing should be timed to avoid disturbance to Hawaiian hoary bats in the project area.

If it is determined that the proposed project may affect federally listed species, we recommend you contact our office early in the planning process so that we may assist you with Endangered Species Act compliance. Because the proposed project will involve earthwork, we are attaching the Service's recommended Best Management Practices regarding sedimentation and erosion control. We encourage you to incorporate the relevant practices into your project design.

We appreciate your efforts to conserve Hawaii's natural resources. If you have questions regarding these comments, please contact Leila Gibson, Fish and Wildlife Biologist (phone: 808-792-9400, email: leila\_gibson@fws.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'Aaron Nadig', written in a cursive style.

Aaron Nadig  
Island Team Manager  
O'ahu, Kaua'i, North Western Hawaiian Islands,  
and American Samoa

Enclosure: Service BMPs for erosion and sediment control

cc: Board of Water Supply

**U.S. Fish and Wildlife Service**  
**Recommended Standard Best Management Practices**

The U.S. Fish and Wildlife Service (USFWS) recommends the following measures to be incorporated into project planning to avoid or minimize impacts to fish and wildlife resources. Best Management Practices (BMPs) include the incorporation of procedures or materials that may be used to reduce either direct or indirect negative impacts to aquatic habitats that result from project construction-related activities. These BMPs are recommended in addition to, and do not over-ride any terms, conditions, or other recommendations prepared by the USFWS, other federal, state or local agencies. If you have questions concerning these BMPs, please contact the USFWS Aquatic Ecosystems Conservation Program at 808-792-9400.

1. Authorized dredging and filling-related activities that may result in the temporary or permanent loss of aquatic habitats should be designed to avoid indirect, negative impacts to aquatic habitats beyond the planned project area.
2. Dredging/filling in the marine environment should be scheduled to avoid coral spawning and recruitment periods, and sea turtle nesting and hatching periods. Because these periods are variable throughout the Pacific islands, we recommend contacting the relevant local, state, or federal fish and wildlife resource agency for site specific guidance.
3. Turbidity and siltation from project-related work should be minimized and contained within the project area by silt containment devices and curtailing work during flooding or adverse tidal and weather conditions. BMPs should be maintained for the life of the construction period until turbidity and siltation within the project area is stabilized. All project construction-related debris and sediment containment devices should be removed and disposed of at an approved site.
4. All project construction-related materials and equipment (dredges, vessels, backhoes, silt curtains, etc.) to be placed in an aquatic environment should be inspected for pollutants including, but not limited to; marine fouling organisms, grease, oil, etc., and cleaned to remove pollutants prior to use. Project related activities should not result in any debris disposal, non-native species introductions, or attraction of non-native pests to the affected or adjacent aquatic or terrestrial habitats. Implementing both a litter-control plan and a Hazard Analysis and Critical Control Point plan (HACCP – see <http://www.haccp-nrm.org/Wizard/default.asp>) can help to prevent attraction and introduction of non-native species.
5. Project construction-related materials (fill, revetment rock, pipe, etc.) should not be stockpiled in, or in close proximity to aquatic habitats and should be protected from erosion (*e.g.*, with filter fabric, etc.), to prevent materials from being carried into waters by wind, rain, or high surf.
6. Fueling of project-related vehicles and equipment should take place away from the aquatic environment and a contingency plan to control petroleum products accidentally spilled during the project should be developed. The plan should be retained on site with the person responsible for compliance with the plan. Absorbent pads and containment booms should be stored on-site to facilitate the clean-up of accidental petroleum releases.
7. All deliberately exposed soil or under-layer materials used in the project near water should be protected from erosion and stabilized as soon as possible with geotextile, filter fabric or native or non-invasive vegetation matting, hydro-seeding, etc.



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# Punaluu Community Association

**From:** Roy Irei <roy@hawaiiengineering.net>  
**Subject:** Fw: Questions e-mail #2  
**Date:** July 6, 2023 at 12:50 PM  
**To:** charles@hewlengroup.com  
**Cc:** Jeremy Moncur <jeremy@stapleshawaii.com>, Karl Bromwell <karlbromwell@gmail.com>



Charles,  
FYI, see below of my response to the Punaluu Community Association.  
Is it ok to release the CPR doc?

Roy Irei  
Vice-President – Telecom Division  
**Hawaii Engineering Group, Inc.**  
1088 Bishop Street, Suite 2506  
Honolulu, HI 96813  
Phone 808.533.2092 ext 118 • Cell 808.460.0006 • Fax 808.533.2059  
Email: [roy@hawaiiengineering.net](mailto:roy@hawaiiengineering.net)  
Web: [www.hawaiiengineering.net](http://www.hawaiiengineering.net)

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**From:** Roy Irei <roy@hawaiiengineering.net>  
**Sent:** Thursday, July 6, 2023 12:49 PM  
**To:** Lorraine Matagi <matagisd4@gmail.com>; Karl Bromwell <karlbromwell.5ksenv@gmail.com>; Jeremy Moncur <jeremy@stapleshawaii.com>  
**Cc:** Racine Hee <punaluuassoc@gmail.com>; kawaiw <kawaiw@yahoo.com>; Paul Comeau <comeaup001@hawaii.rr.com>; billy.casey@byuh.edu <billy.casey@byuh.edu>  
**Subject:** Re: Questions e-mail #2

Hi Lorraine,

Thank you very much for your inquiry. In response to your questions, the responses are listed below:

1. It says the project covers 53-428 to 53-458 Kamehameha Highway. However, the map you'll see when you click on the attached link gives 55-424 Kamehameha Highway as the address for six of the units. Can you please clarify the address confusion for me and others?

Response: Sorry for the confusion, to clarify the addresses, I imported the updated address per CPR lot from the tax office.

Unit	TMK	Address	Lot Size
1	<a href="#">530050700001</a>	53-450 UNIT 1 KAMEHAMEHA HWY	4841 SF
2	<a href="#">530050700002</a>	53-452 UNIT 2 KAMEHAMEHA HWY	4820 SF
3	<a href="#">530050700003</a>	53-458 UNIT 3 KAMEHAMEHA HWY	3997 SF

4	<a href="#">530050700004</a>	53-424 UNIT 4 KAMEHAMEHA HWY	4171	SF
5	<a href="#">530050700005</a>	53-424 UNIT 5 KAMEHAMEHA HWY	4099	SF
6	<a href="#">530050700006</a>	53-424 KAMEHAMEHA HWY UNIT	10000	SF
7	<a href="#">530050700007</a>	53-424 UNIT 7 KAMEHAMEHA HWY	8408	SF
8	<a href="#">530050700008</a>	53-440 UNIT 8 KAMEHAMEHA HWY	7684	SF
9	<a href="#">530050700009</a>	53-428 UNIT 9 KAMEHAMEHA HWY	10333	SF
10	<a href="#">530050700010</a>	53-424 UNIT 10 KAMEHAMEHA HWY	38963	SF
11	<a href="#">530050700011</a>	53-424 UNIT 11 KAMEHAMEHA HWY	100531	SF

2. Another thing that stood out to me was that the Brahmbhatt house is large (4 bedroom, 2 bath) and has a main floor S.F. which is roughly 3 times more than the other units. Even the other proposed units take up no more than 17.0% of the lot. It certainly doesn't seem to align with the other homes.

Response: All new residences are required to be elevated due to code requirements for residences being built in Flood zone VE and AE. The Base Flood Elevation (BFE) is 10 feet and Sea Level Rise requirements. The Brahmbhatt's residence living area includes the entry and storage at the ground floor to the second level. The proposed residence is within code requirement for R5, max 50% of lot area.

3. Lastly, relating to the current CPR, can you please refresh my memory? Is it for the division of the land only? Can we get either a PDF copy or a link to find the current CPR?

Response: It is for division of land only. I am waiting for a copy of the document.

4. I know I already requested a copy or link to the existing CPR in my previous e-mail. In addition, is it possible to get a draft of the proposed CPR that includes any hoped for modifications and/or changes?

Response: I am waiting for a copy and will send it to you when I receive it. The CPR has been approved in 2018.

5. I also thought I saw that there is an HOA for 55-440 Kamehameha Highway. If there is, can we assume the HOA is for all homes in this project, and can we please get access to any public documents?

Response: The HOA is established with the unit owners of the CPR.

6. Why is a park needed in a development this size? What is the 5 year plan for the AG land portion? Can we please get a copy of that plan?

Response: There will be no development of a park. The EA and SMA will not have any plans for the AG portion and there are no plans in the future to do anything with the AG lot.

and notify the sender immediately by reply e-mail. Thank you.

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From: Lorraine Matagi «matagisd4@gmail.com»

Sent: Tuesday, July 4, 2023 4:50 PM

To: Roy Irei <roy@hawaiiengineering.net>; Karl Bromwell <karlbromwell.5ksenv@gmail.com>; Jeremy Moncur <jeremy@stapleshawaii.com>

Cc: Racine Hee <punaluuassoc@gmail.com>; kauiw <kauiw@yahoo.com>; Paul Comeau comeaup001@hawaii.rr.com»; billy.casey@byuh.edu <billy.casey@byuh.edu>

Subject: Questions e-mail #2

Aloha Roy, et.al;

Hope everyone is having a relaxing and enjoyable July 4th holiday.

I know I already requested a copy or link to the existing CPR in my previous e-mail. In addition, is it possible to get a draft of the proposed CPR that includes any hoped for modifications and/or changes?

I also thought I saw that there is an HOA for 55-440 Kamehameha Highway. If there is, can we assume the HOAs for all homes in this project, and can we please get access to any public documents?

My last two questions are:

Why is a park needed in a development this size?

What is the 5 year plan for the AG land portion? Can we please get a copy of that plan?

Again I appreciate everyone's patience and willingness to correct any misunderstanding, and help us better understand the nature and purpose of this proposed development by clarifying areas of concerns.

I look forward to seeing you July 11th. In the meantime, please let me know anytime my communication is confusing. I'm more than happy to clarify or make needed corrections.

With respect.

Lorraine Azain Matagi

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From: Lorraine Matagi «matagisd4@gmail.com»

Sent: Friday, June 30, 2023 3:04:39 PM

To: Roy Irei <roy@hawaiiengineering.net>; Karl Bromwell

karlbromwell.5ksenv@gmail.com>; Jeremy Moncur jeremy@stapleshawaii.com>

Cc: Racine Hee [punaluuassoc@gmail.com](mailto:punaluuassoc@gmail.com)



Subject: A few more Kahena Wai questions

Aloha Roy,

I have a question relating to the actual addresses involved in the proposed Kahena Wai Punalu'u project. It says the project covers 53-428 to 53-458 Kamehameha Highway. However, the map you'll see when you click on the attached link gives 55-424 Kamehameha Highway as the address for six of the units. Can you please clarify the address confusion for me and others?

[https://gpublic.schneidercorp.com/Application.aspx?](https://gpublic.schneidercorp.com/Application.aspx?AppID=1045&LayerID=23342&PageTypeID=1&PageID=9743&Q=1447252128&KeyValue=530050700001)

[AppID=1045&LayerID=23342&PageTypeID=1&PageID=9743&Q=1447252128&KeyValue=530050700001](https://gpublic.schneidercorp.com/Application.aspx?AppID=1045&LayerID=23342&PageTypeID=1&PageID=9743&Q=1447252128&KeyValue=530050700001)

Another thing that stood out to me was that the Brahmhatt house is large (4 bedroom, 2 bath) and has a main floor S.F. which is roughly 3 times more than the other units. Even the other proposed units take up no more than 17.0% of the lot. It certainly doesn't seem to align with the other homes.

Lastly, relating to the current CPR, can you please refresh my memory? Is it for the division of the land only? Can we get either a PDF copy or a link to find the current CPR?

Mahalo for your patience and assistance as we try to better understand the scope of this proposed project in its entirety.

Take care.

Lorraine

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Roy Irei

Vice-President - Telecom Division

Hawaii Engineering Group, Inc.

1088 Bishop Street, Suite 2506

Honolulu, HI 96813

Phone 808.533.2092 ext 118 • Cell 808.460.0006 • Fax 808.533.2059

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#1. Page 5 Kahena Wai Estates Current Use: There is unit #1,2,3, 8 and 9 noted on the map.

- Requesting to have the future units noted on the map.  
Created a chart in reference to the map for a better visual of the map
- Requesting to have this correction done before the presentation.  
Update will be sent
- What happened to Unit 6? Is this the AG portion?  
Yes, AG portion and no dwelling will be constructed

#2. Will this development be a gated community? Will the roadway within the development be privately owned?

No, it will not be a gated community.

#3. Could you provide details on the infrastructure improvements that DPP will require to install.

- Will the roadway be paved with AC?  
No pavement, gravel only at request of previous meeting of community.
- Will the roadway have curb and gutters?  
No curb and gutters.
- Will the electric conduits be installed underground?  
?(charles?)
- Will street lighting be installed?  
No street lights will be installed.
- What types of septic systems do you propose to install?  
?(Nishal?)

#4 Page 6 Describes the situation: Item #5 “states all future work needs an EA & SMA Permit” and Item #6 states Current EA and SMA only for the R-5 units, no proposed work in AG.

Per ROH Chapter 25 and HRS Chapter 343 EA & SMA permits are required for any construction.

This parcel is a split zoned AG and R-5. This EA and SMA permit is for the R-5 zoned lots only.

Is Unit #9 that is owned by Kahena Wai zoned for R-5. What is the land classification? What is Kahena Wai’s intention (build a home, leave the land open for residents, etc.)

At the time of publication Unit 9 was owned by Kahena Wai Estates. Since then Unit 9 has been sold.

Don't know the new owner's name.

#5. Page 14 Unit 8 -Existing Dwelling Unit- why does the Unit Summary show the Lot size in Acres is 4.7625 Ac?

Unit 8 lot size is 7684 square feet. The entire TMK is 4.7625 acres.

#6 page 15 Unit 9 proposed Dwelling Unit has Unit #3 Summary. Unit 9 is Kahena Wai. Can you confirm the intended use of this dwelling? rental dwelling?

Charles ?

Roy Irei  
Vice-President – Telecom Division  
Hawaii Engineering Group, Inc.  
1088 Bishop Street, Suite 2506  
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Phone 808.533.2092 ext 118 • Cell 808.460.0006 • Fax 808.533.2059  
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**From:** Racine Hee <[punaluuassoc@gmail.com](mailto:punaluuassoc@gmail.com)>  
**Sent:** Wednesday, June 28, 2023 7:20 AM  
**To:** Lorraine Matagi <[matagisd4@gmail.com](mailto:matagisd4@gmail.com)>  
**Cc:** Roy Irei <[roy@hawaiiengineering.net](mailto:roy@hawaiiengineering.net)>  
**Subject:** Re: Updated presentation on Kahena Wai Estates.

You don't often get email from [punaluuassoc@gmail.com](mailto:punaluuassoc@gmail.com). [Learn why this is important](#)

Aloha Roy,

My name is Racine Hee. I serve the Punalu'u community as the President of the Punalu'u Community Association. Thank you for providing the revised presentation for the community meeting. I had several questions regarding the proposed Kahena Wai Estates presentation.

#1. Page 5 Kahena Wai Estates Current Use: There is unit #1,2,3, 8 and 9 noted on the map.

- Requesting to have the future units noted on the map.
- Requesting to have this correction done before the presentation.
- What happened to Unit 6? Is this the AG portion?

#2. Will this development be a gated community? Will the roadway within the development be privately owned?

#3. Could you provide details on the infrastructure improvements that DPP will require to install.

- Will the roadway be paved with AC?
- Will the roadway have curb and gutters?
- Will the electric conduits be installed underground?
- Will street lighting be installed?
- What types of septic systems do you propose to install?

#4 Page 6 Describes the situation: Item #5 "states all future work needs an EA & SMA Permit" and Item #6 states Current EA and SMA only for the R-5 units, no proposed work in AG. Is Unit #9 that is owned by Kahena Wai zoned for R-5. What is the land classification? What is Kahena Wai's intention (build a home, leave the land open for residents, etc.)

#5. Page 14 Unit 8 -Existing Dwelling Unit- why does the Unit Summary show the Lot size in Acres is 4.7625 Ac?

#6 page 15 Unit 9 proposed Dwelling Unit has Unit #3 Summary. Unit 9 is Kahena Wai. Can you confirm the intended use of this dwelling? rental dwelling?

Thank you in advance for your response.

Malama Pono,

Racine Hee

On Sun, Jun 4, 2023 at 2:40 PM Lorraine Matagi <[matagisd4@gmail.com](mailto:matagisd4@gmail.com)> wrote:  
Aloha Roy,

Hope you're enjoying the weekend . With things getting busier for many of us, I don't want to overlook any steps pertaining to the revised Kahena Wai project proposal presentation so have the following question.

In order to facilitate the community's response to this project, we found it helpful that you submitted the first proposal well before the meeting. This gave community members time to review and more fully understand the proposal; thereby enabling community members to come to the meeting prepared with their comments, support, questions and/or concerns. Do you have any idea of the timeline for the revised proposal being sent to us for review before the actual presentation on July 11th?

Mahalo nui loa for your understanding as we work together to avoid unnecessary delays.

Lorraine Azain Matagi  
Punalu'u Rep for KNB

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**HAWAII  
ENGINEERING  
GROUP, INC.**

Reference #22-126

Consulting Civil Engineers, Structural Engineers & Land Surveyors  
US (SBA) SDB & DBE Certified

April 20, 2022

TO WHOM IT MAY CONCERN:

This is to inform you that Hawaii Engineering Group, Inc., will be presenting a proposed Special Management Area Use Permit for the existing CPR units that are designated as nine (9) single-family residential (R-5) units and one (1) agriculture (AG-2) CPR lots on a property located at 53-428 to 53-458 Kamehameha Hwy, Hauula, Hawaii to the Koolauloa Neighborhood Board No. 28. The regularly scheduled Neighborhood Board Meeting will be held on May 4<sup>th</sup> at the Hauula Community Center, 54-10 Kukuna Rd., Hauula, HI 96716 at 6:30 pm.

The residential lot owners are planning to have their homes permitted to build or renovate but an SMA permit is required. No plans for the agricultural lot are being proposed for the SMA permit.

The applicant is requesting for a SMA Permit and the process requires that nearby property owners within the 300 feet radius of the subject property are to be notified of the presentation.

If you have any questions, you may contact me at 808-533-2092 extension 118.

Sincerely,

Roy Irej, Vice-President  
Agent for the Applicant

TMK:530060020001  
YIN SIT SHA SOCIETY  
53-456 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:530060020002  
ROWE,HARLEY D/IOLANDA M U TR  
53-460 KAMEHAMEHA HWY 2  
HAUULA, HI 96717

TMK:530060020003  
SPROAT,KAPUA K Lessee  
JAMES,RUSSELL F II A/S on Lease  
53-462 KAMEHAMEHA HWY 3  
HAUULA, HI 96717

TMK:530060020004  
YIN SIT SHA SOCIETY Fee Owner  
JAMES,RUSSELL F II Lessee  
53-464 KAMEHAMEHA HWY 4  
HAUULA, HI 96717

TMK:53005042  
CHING,GODFREY W K TR EST  
53-452 A KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005027  
VOIGT,KIM  
53-448 A KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005029  
IZU,CLAYTON S TR  
IZU,NADINE E TR  
53-442 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005047  
VISWANATHAN,VIJAY  
RANGWALA,NOVENA A  
53-446 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005031  
KAMEHAMEHA HWY TR  
53-416 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005052  
PUNALUU LANI  
BHARDWAJ,HILDA G V  
53-414 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005007  
NGUYEN,KEN  
53-374 B KAMEHAMEHA HWY

HAUULA, HI 96717

TMK:53005053

NAKAYAMA,DALE H TR  
NAKAYAMA,DARLENE H TR  
53-408 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005049

WONG,STEVEN S T TR  
53-424 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005040

PECKENPAUGH,ROGER M TR  
PECKENPAUGH,JUDY A TR  
53-400 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005037

AANA,SAU KWAN C TR  
53-396 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005026

NGUYEN,KEN  
53-374 B KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005025

NGUYEN,KEN  
53-374 B KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005023

KAM,ANN M G  
53-472 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005054

KAM,ANN M G  
53-472 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005055

KAM,ANN M G  
53-472 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005022

YI,KWI S  
4530 Peninsula Point Dr  
Seaside, CA 93955

TMK:53005054

KAM,ANN M G  
53-472 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53006004  
KAM,ANN M G  
53-472 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53006005  
CHOY,AGNES K, CHOY,MELVIN K H,  
CHOY,JUDITH N W K, CHOY,DARRYL K H  
53-480 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53006003  
WAIONO INVESTMENT  
53-456 A KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53006078  
JAMES, RUSSELL  
53-462 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53006047  
STATE OF HAWAII  
Kalanimoku Building  
1151 Punchbowl Street  
Honolulu, HI 96813

TMK:53006048001  
PASI,NAOMI A & PASI,AMELIA M  
53-468 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53006048002  
PLAS-TECH LTD  
53-468 A KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53006001  
WATERLOO KALIHI INVESTMENTS LLC  
53-470 KAMEHAMEHA HWY  
HAUULA, HI 96717



United States Postal Service Certificate of Mailing — Firm

Name and Address of Sender  
**Hawaii Engineering Group, Inc.**  
 1088 Bishop Street, Suite 2506  
 Honolulu, HI 96813

TOTAL NO. of Pieces Listed by Sender: 30

TOTAL NO. of Pieces Received at Post Office™: AD

Postmaster, per (name of receiving employee): [Signature]

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UNITED STATES POSTAL SERVICE®  
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APR 21 2023

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2. 530060020002	ROWE, HARLEY D/JOLANDA M U TR 53-460 KAMEHAMEHA HWY 2 HAUULA, HI 96717				
3. 530060020003	SPROAT, KAPUA K Lessee JAMES, RUSSELL F II A/S on LS 53-462 KAMEHAMEHA HWY 3 HAUULA, HI 96717				
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5. 53005042	CHING, GODFREY W K TR EST 53-452 A KAMEHAMEHA HWY HAUULA, HI 96717				
6. 53005027	VOIGT, KIM 53-448 A KAMEHAMEHA HWY HAUULA, HI 96717				






Certificate of Mailing — Firm

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USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)					
1.	53005029	IZU, CLAYTON S TR IZU, NADINE E TR 53-442 KAMEHAMEHA HWY HAUULA, HI 96717	Postage	Fee	Special Handling	Parcel Airlift
2.	53005047	VISWANATHAN, VIJAY RANGWALA, NOVENA A 53-446 KAMEHAMEHA HWY HAUULA, HI 96717	Postage	Fee	Special Handling	Parcel Airlift
3.	53005031	KAMEHAMEHA HWY TR 53-416 KAMEHAMEHA HWY HAUULA, HI 96717	Postage	Fee	Special Handling	Parcel Airlift
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5.	53005007	NGUYEN, KEN 53-374 B KAMEHAMEHA HWY HAUULA, HI 96717	Postage	Fee	Special Handling	Parcel Airlift
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6.	53005023	KAM, ANN M G 53-472 KAMEHAMEHA HWY HAUULA, HI 96717							




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2.	KAM, ANN M G 53-472 KAMEHAMEHA HWY HAUULA, HI 96717  53005055				
3.	YI, KWIS 4530 Peninsula Point Dr Seaside, CA 93955  53005022				
4.	KAM, ANN M G 53-472 KAMEHAMEHA HWY HAUULA, HI 96717  53005054				
5.	KAM, ANN M G 53-472 KAMEHAMEHA HWY HAUULA, HI 96717  53006004				
6.	CHOY, AGNES K; CHOY, MELVIN K H, CHOY, JUDITH N W K, CHOY, DARRYL K H 53-480 KAMEHAMEHA HWY HAUULA, HI 96717  53006005				



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2.	53006078	JAMES, RUSSELL 53-462 KAMEHAMEHA HWY HAUULA, HI 96717			
3.	53006047	STATE OF HAWAII Kalanimoku Building 1151 Punchbowl Street Honolulu, HI 96813			
4.	53006048001	PASI, NAOMI A. & PASI, AMELIA M 53-468 KAMEHAMEHA HWY HAUULA, HI 96717			
5.	53006048002	PLAS-TECH LTD 53-468 A KAMEHAMEHA HWY HAUULA, HI 96717			
6.	53006001	WATERLOO KALIHI INVESTMENTS LLC 53-470 KAMEHAMEHA HWY HAUULA, HI 96717			



## KO'OLAULOA NEIGHBORHOOD BOARD NO. 28

c/o NEIGHBORHOOD COMMISSION • 925 Dillingham Boulevard Suite 160 • HONOLULU, HAWAII, 96813  
PHONE (808) 768-3710 • FAX (808) 768-3711 • INTERNET: <http://www.honolulu.gov>

### INITIAL CONVENING MEETING AGENDA THURSDAY, AUGUST 10, 2023 6:30 P.M. VIA IN PERSON AND WEBEX

#### IN PERSON LOCATION:

Hau'ula Community Center 54-10 Kukuna Rd., Hau'ula, HI 96717

#### WEBEX:

Meeting link: <https://cchnl.webex.com/cchnl/j.php?MTID=m061cb8003676ee9e8cf416f1516f36ef>

Meeting Number/Access Code: 2487 111 8529 Password: KNB#28 (562028 from phones and video systems)

Join by video system: Dial [24871118529@cchnl.webex.com](mailto:24871118529@cchnl.webex.com). You can also dial 173.243.2.68 and enter your meeting number.

Join by phone: +1-408-418-9388 Access code: 2487 111 8529

**Rules of Speaking:** To ensure the maximum opportunity for all attendees to be heard, the following guidelines apply: Those joining the meeting are reminded to mute their microphone. Anyone wishing to speak is asked to type their question in the chat box or raise their hand using the "raise hand" function in the online meeting platform - which is indicated by a hand or unmute yourself at the appropriate time as indicated by the chair. If accessing the meeting using your phone and you have a comment, indicate this by pressing the symbols \*9 – this will show the moderator that the person calling from that number wishes to speak. To mute/unmute your phone, press \*6. Please wait until recognized by the chair to begin. All comments, concerns, or questions shall be two (2) minutes or less.

**Please Kōkua:** To help all attendees the opportunity to hear presentations & comments, please place your device on mute until you would like to speak. When you are recognized, unmute yourself and make your comments.

**Note:** The Board may take action on any agenda item. As required by the State Sunshine Law (HRS 92), specific issues not noted on this agenda cannot be voted on, unless added to the agenda. A two-thirds vote (5) of this 9-member Board is needed to add an item to the agenda. Items may not be added if they are of major importance and will affect a significant number of people.

- I. **CALL TO ORDER** – Chair Pro-Tem Pane Meatoga III
  - A. Swearing in of all remaining board members who did not attend the 2023-2025 installation
- II. **ELECTION OF OFFICERS** – All officers are required to be voted on by roll call quorum vote
  - A. Chair
  - B. Vice Chair
  - C. Secretary
  - D. Treasurer
- III. **CITY/STATE MONTHLY REPORTS**
  - A. Honolulu Fire Department (HFD)
  - B. Honolulu Police Department (HPD)
  - C. United States Army
- IV. **FILLING OF VACANCIES**
  - A. Sub District 1 (1 vacancy); Sub District 2 (2 vacancies); Sub District 3 (2 vacancies)
- V. **INITIAL CONVENING PROCEDURES**
  - A. Determination of Meeting Date/Time/Location/Format – In person and WebEx
  - B. Board Recess Schedule – Up to three (3) per year
  - C. Rules of Speaking and Time Limits – Two (2) minutes or less for all questions, comments and concerns/Eight (8) minutes or less for presentations
  - D. Formation of Committees - NP §2-14-124[a]: The Board may establish committees. If any Board Member Is interested in serving on a committee; please inform the Chair.
  - E. To consider the conversion of Sub District Seats to At-Large Seats (Discussion Only)
- VI. **GOVERNMENT REPORTS (Three (3) minute limit per speaker.**
  - A. Mayor Rick Blangiardi's Representative – Cat Taschner <https://www8honolulu.gov/mayor>
  - B. Councilmember Matt Weyer or Staffer [mweyer@honolulu.gov](mailto:mweyer@honolulu.gov)
  - C. US House of Representatives- Congresswoman Jill Tokuda or Staffer [www.tokuda.house.gov](http://www.tokuda.house.gov)
  - D. Governor's Representative – Crystal Kionia <https://governor.hawaii.gov>
  - E. State Senator – Senator Brenton Awa or Staffer [sennawa@capitol.hawaii.gov](mailto:sennawa@capitol.hawaii.gov)



F. State House Representative – Representative Sean Quinlan or Staffer [repquinlan@capitol.hawaii.gov](mailto:repquinlan@capitol.hawaii.gov)

**VII. PRESENTATIONS- Eight (8) minute limit per presentation.**

- A. Special Management Area Use Permit: Location: 55-133 Kamehameha Hwy, Laie 96762, Construction dates: Fall 2023-Fall 2024, Type of Project: Demolition of existing single-family residence and construction of a new single-family residence. Presenter: Rachel Okoji/Gabrielle Sumner
- B. Special Management Area Use Permit: Kahena Wai Estates - Presenter- Roy Irei

**VIII. BOARD BUSINESS**

- A. Adoption of resolution regarding Kahena Wai Estate - Presenter: Lorraine Matagi
- B. Adoption of resolution to support the release of \$2.75 million of City Funds by the Mayor for the Ko'olauloa Resilience Hub – Presenter Dotty Kelly-Paddock

**IX. PUBLIC INPUT/COMMUNITY ANNOUNCEMENTS (Two (2) Minute Limit per Speaker)**

**X. APPROVAL OF THE REGULAR MINUTES**

- A. Approval of Thursday, November 11, 2021; January 13, 2022; April 13, 2023; and June 8, 2023 Meeting minutes

**XI. \$1000 FOR BOARD OUTREACH**

**XII. BOARD ANNOUNCEMENTS**

- A. The next meeting is scheduled for Thursday, September 14, 2023, 6:30 p.m.

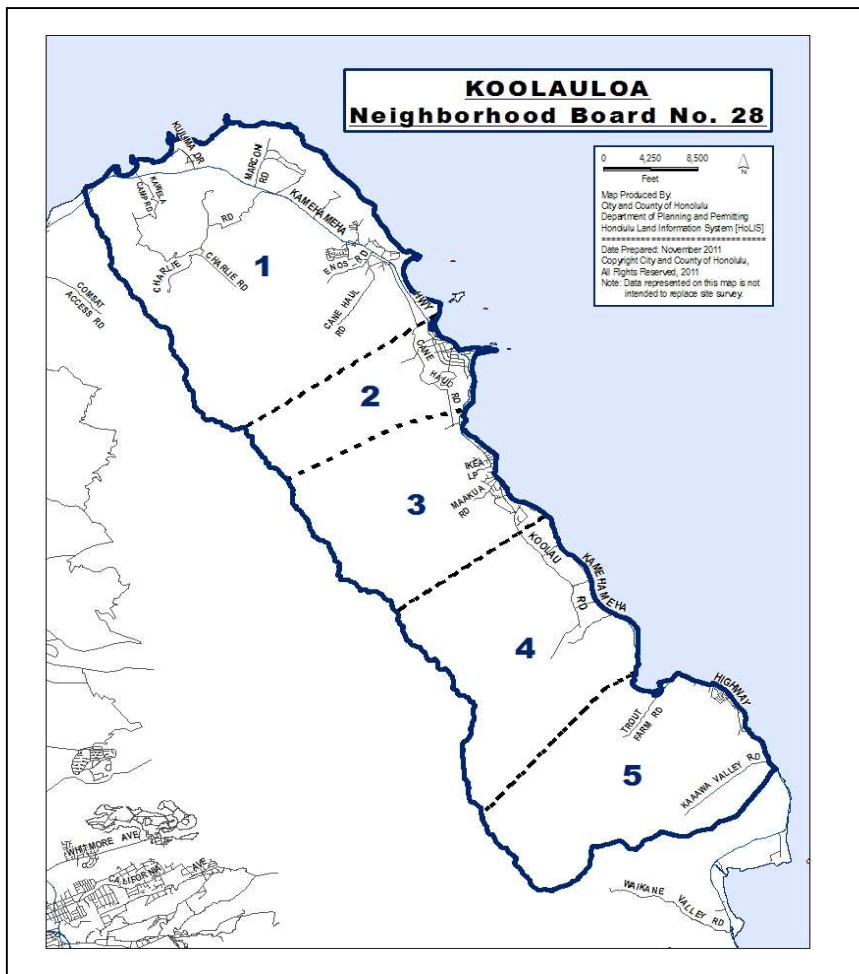
**XIII. ADJOURNMENT**

**Ko'olauloa Neighborhood Board**

A mailing list is maintained for interested persons and agencies to receive this board's agendas and minutes. Additions, deletions, and corrections to the list may be directed to the Neighborhood Commission Office (NCO) at Kapālama Hale, 925 Dillingham Boulevard, Suite 160, Honolulu, HI 96817; Telephone 1(808) 768-3710 Fax (808) 768-3710 between 8:00 a.m. and 4:00 p.m. or call Neighborhood Assistant Judi-Ann Smith-Kauhane at (808) 768-3705 or email [j.smith-kauhane@honolulu.gov](mailto:j.smith-kauhane@honolulu.gov). Agendas and minutes are also available on our website at [www.honolulu.gov/nco](http://www.honolulu.gov/nco).

All written testimony must be received in the Neighborhood Commission Office 48 hours prior to the meeting. If within 48 hours, written and/or oral testimony may be submitted directly to the board at the meeting. If submitting written testimony, please note the board and agenda item(s) your testimony concerns. Send to: Neighborhood Commission Office, 925 Dillingham Boulevard, Suite 160 Honolulu, Hawaii 96817. Fax: (808) 768-3711. Email: [nbtestimony@honolulu.gov](mailto:nbtestimony@honolulu.gov).

If you need an auxiliary aid/service or other accommodation due to a disability or an interpreter for a language other than English, please call the Neighborhood Commission Office at 1 (808) 768-3710 between 8:00 a.m. and 4:00 p.m. or send an e-mail [nco@honolulu.gov](mailto:nco@honolulu.gov) at least (3) business days before the scheduled meeting. It may not be possible to fulfill requests received after this date.





HAWAII  
ENGINEERING  
GROUP, INC.

Reference #22-126

Consulting Civil Engineers, Structural Engineers & Land Surveyors  
US (SBA) SDB & DBE Certified

July 7, 2022

TO WHOM IT MAY CONCERN:

An informational meeting notice was sent to inform you that Hawaii Engineering Group, Inc., will be presenting a proposed Special Management Area Use Permit for the existing CPR units that are designated as nine (9) single-family residential (R-5) units CPR lots on a property located at 53-424 to 53-458 Kamehameha Hwy, Hauula, Hawaii to the Koolauloa Neighborhood Board meeting on July 13, 2023.

I was informed by the Board that the meeting has been postponed for reasons beyond their control. The new meeting date is now set at a date and time listed below. The regularly scheduled Neighborhood Board Meeting will be held on:

Date: August 10, 2023  
Time: 6:30 pm  
Location: Hauula Community Center  
54-10 Kukuna Rd., Hauula, HI 96716

The residential lot owners are planning to have their homes permitted to build or renovate but an SMA permit is required. No plans for the agricultural lot are being proposed for the SMA permit.

The applicant is requesting for a SMA Permit and the process requires that nearby property owners within the 300 feet radius of the subject property are to be notified of the presentation.

If you have any questions, you may contact me at 808-533-2092 extension 118.

Sincerely,

Roy Irei, Vice-President  
Agent for the Applicant

TMK:530060020001  
YIN SIT SHA SOCIETY  
53-456 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:530060020002  
ROWE, HARLEY D/IOLANDA M U TR  
53-460 KAMEHAMEHA HWY 2  
HAUULA, HI 96717

TMK:530060020003  
SPROAT, KAPUA K Lessee  
JAMES, RUSSELL F II A/S on Lease  
53-462 KAMEHAMEHA HWY 3  
HAUULA, HI 96717

TMK:530060020004  
YIN SIT SHA SOCIETY Fee Owner  
JAMES, RUSSELL F II Lessee  
53-464 KAMEHAMEHA HWY 4  
HAUULA, HI 96717

TMK:53005042  
CHING, GODFREY W K TR EST  
53-452 A KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005027  
VOIGT, KIM  
53-448 A KAMEHAMEHA HWY  
HAUULA, HI 96717

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IZU, CLAYTON S TR  
IZU, NADINE E TR  
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TMK:53005047  
VISWANATHAN, VIJAY  
RANGWALA, NOVENA A  
53-446 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005031  
KAMEHAMEHA HWY TR  
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TMK:53005052  
PUNALUU LANI  
BHARDWAJ, HILDA G V  
53-414 KAMEHAMEHA HWY  
HAUULA, HI 96717

TMK:53005007  
NGUYEN, KEN

53-374 B KAMEHAMEHA HWY  
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NAKAYAMA,DALE H TR  
NAKAYAMA,DARLENE H TR  
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PECKENPAUGH,JUDY A TR  
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STATE OF HAWAII  
Kalanimoku Building  
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TMK:53006048001  
PASI,NAOMI A & PASI,AMELIA M  
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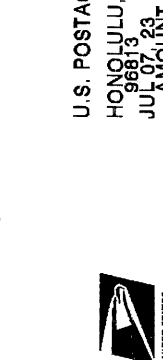

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PLAS-TECH LTD  
53-468 A KAMEHAMEHA HWY  
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WATERLOO KALIHI INVESTMENTS LLC  
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2.	53006078	JAMES, RUSSELL 53-462 KAMEHAMEHA HWY HAUULA, HI 96717					
3.	53006047	STATE OF HAWAII Kalanimoku Building 1151 Punchbowl Street Honolulu, HI 96813					
4.	53006048001	PASINAOMI A & PASIAMELIA M 53-468 KAMEHAMEHA HWY HAUULA, HI 96717					
5.	53006048002	PLAS-TECH LTD 53-468 A KAMEHAMEHA HWY HAUULA, HI 96717					
6.	53006001	WATERLOO KALIHI INVESTMENTS LLC 53-470 KAMEHAMEHA HWY HAUULA, HI 96717					



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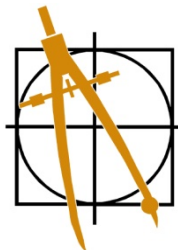
# Community Presentation

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# Hawaii Engineering Group, Inc.

Civil & Structural Consulting Engineers & Land Surveyors



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# Kahena Wai Estates / SMA Use Permit



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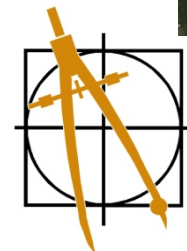
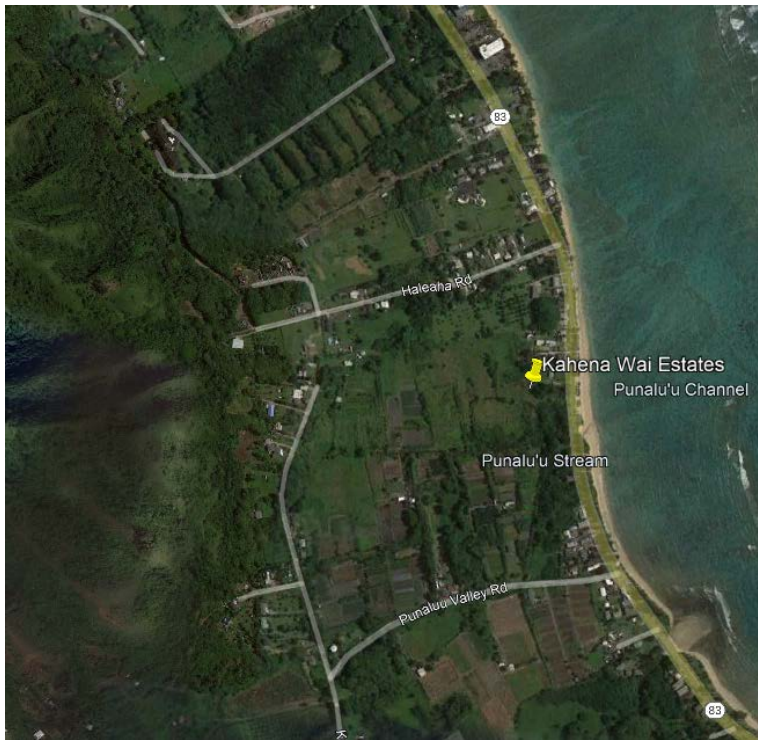


- **Applicant/Recorded Fee Owner:** Kahena Wai Estates, LLC and Various  
87-070 Farrington Hwy, Suite 303  
Waianae, HI 96792
- **Agent:** Hawaii Engineering Group, Inc.  
1088 Bishop St, Suite 2506  
Honolulu, HI 96813  
Contact: Roy Irei, VP
- **Project Location:** 53-428 to 53-458 Kamehameha Hwy  
Hau'ula, Hawai'i 96717 (*Figure 2-1*)
- **Tax Map Key (TMK) Parcels:** TMK Parcels: (1) 5-3-005: 070



# Site Location

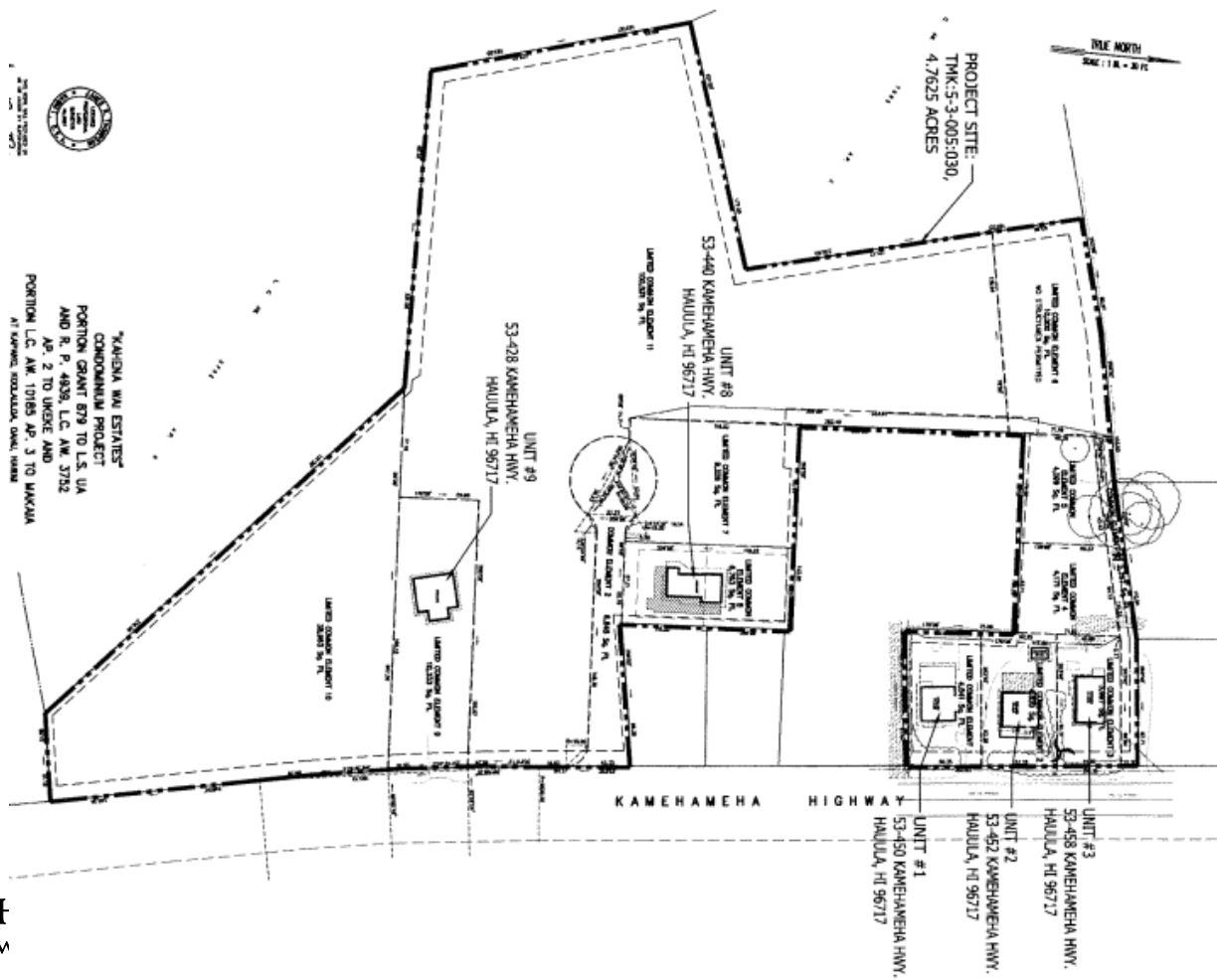
- Address: 53-428 to 53-458 Kamehameha Hwy, Hau'ula, Hawai'i 96717
- Tax Map Key: (1) 5-3-005: 030
- Area: Total property area is approximately 4.7625 Acres.



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# Kahena Wai Estates Current Use:

- Residential condominium units managed by Kahena Wai Estates



## PROJECT INFORMATION:

ADDRESS:  
53-428 TO 53-458 KAMEHAMEHA HWY.  
HAUULA, HI 96717

TMK:  
5-3-005:030, 4.7625 ACRES

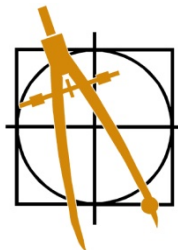
ZONING:  
AG-2 & R-5 (R-5 @ NEW LOCATION)

FLOOD INSURANCE RATE MAP ZONE:  
AE/VE/X  
SMA & UIC -YES

	Lot Size	Living Area		
Unit 1	4841 SF	360 SF	Harding	Owner Occupied
Unit 2	4820 SF	550 SF	Miramontes	Owner Occupied
Unit 3	3997 SF	678 SF	Haines	Owner Occupied
Unit 4	4171 SF	2071 SF	Brahmbhatt	future Owner Occupant
Unit 5	4099 SF	550 SF	Nicholson	future Owner Occupant
Unit 7	8408 SF	678 SF	Wang	future Owner Occupant
Unit 8	7684 SF	738 SF	Oba	Owner Occupied
Unit 9	10333 SF	678 SF	Kahena Wai	vacant

## Situation:

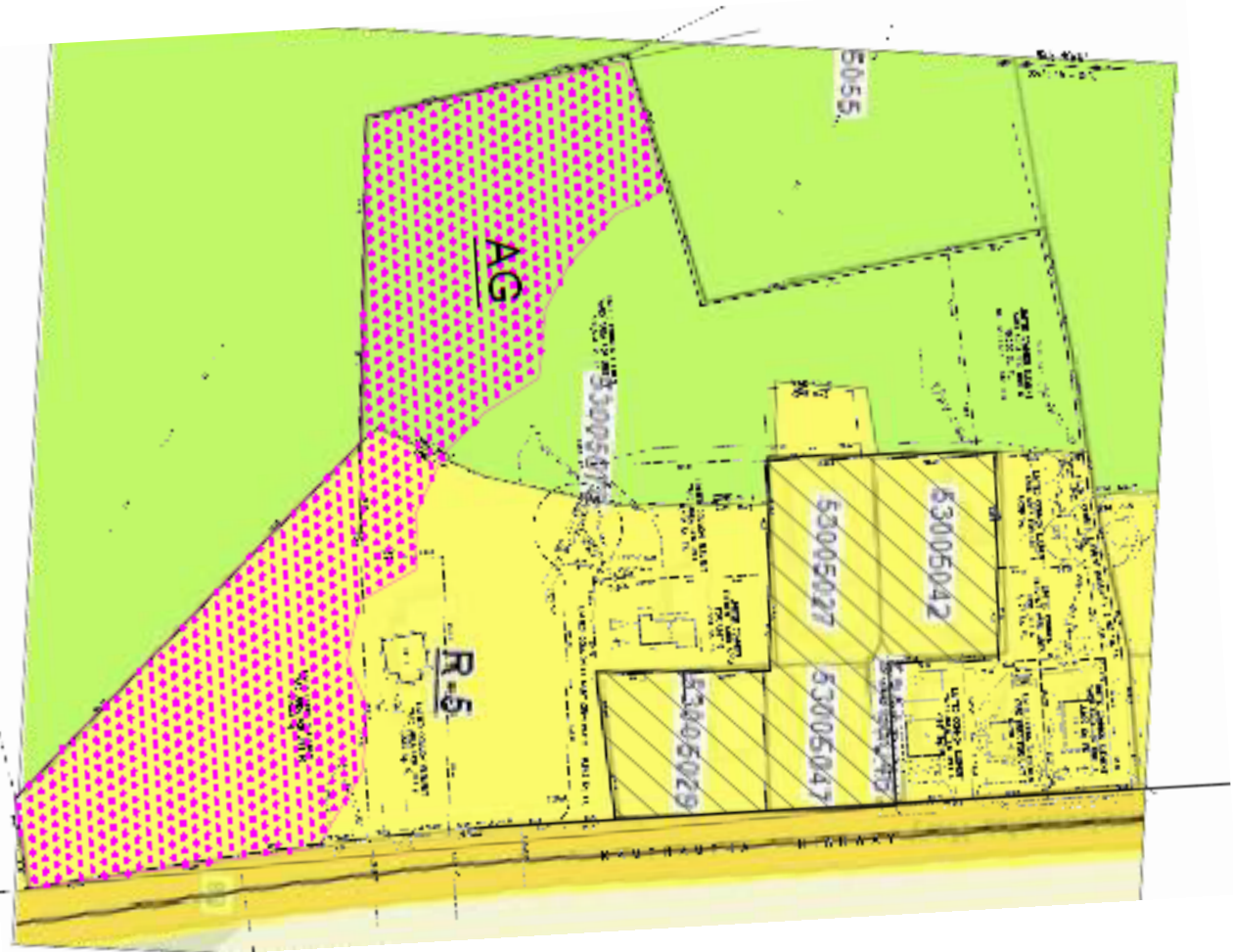
1. Property is in a SMA zone
2. Current owners wants to perform minor renovation
3. Current owners wants to construct new dwelling unit
4. Future owners want to build a simple home
5. All future work needs an EA & SMA Permit
6. Current EA and SMA only for the R-5 units, no proposed work in Ag



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# Zoning Map with Approximate Wetland



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# Unit 1 – Existing Dwelling

## UNIT #1 SUMMARY:

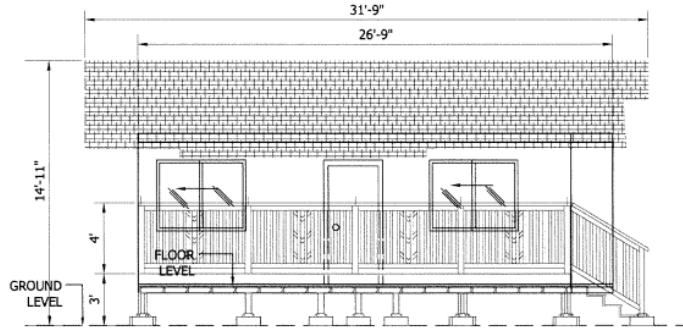
53-450 KAM HWY.  
HAUULA, HI 96717

### PROJECT SUMMARY:

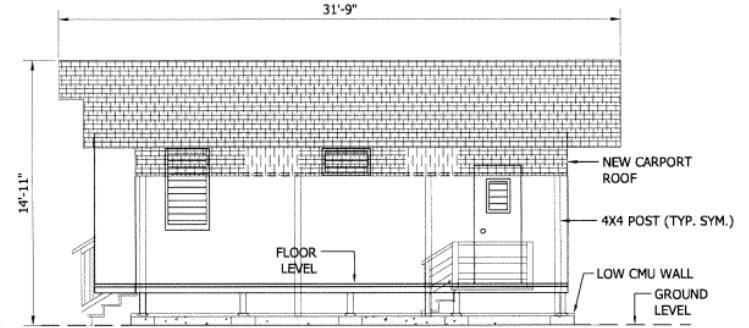
EXIST. LIVING AREA	360 SF.
EXIST. OPEN DECK	144 SF.
EXIST. CARPORT	342 SF.
TOTAL:	846 SF.
TOTAL LIVING AREA:	360 SF.
LOT SIZE:	4,841 SF.
PERCENTAGE OF LOT:	7.5 %

### CONSTRUCTION NOTES:

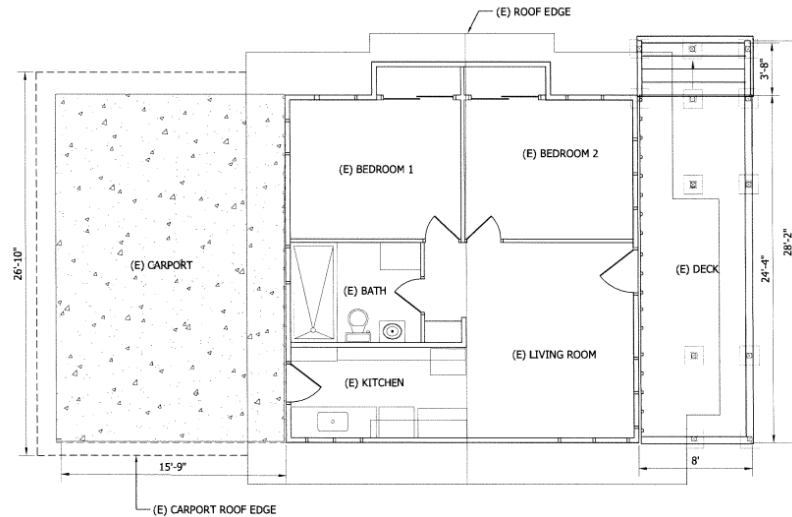
1. SINGLE WALL CONSTRUCTION
2. POST & BLOCK FOUNDATION
3. COMPOSITE ASPHALT SHINGLE ROOF
4. COMPACTED GRAVEL DRIVEWAY



4 FRONT ELEVATION  
1/4" = 1'-0"



5 BACK ELEVATION  
1/4" = 1'-0"



1 LIMITED COMMON ELEMENT UNIT #1 - 53-450 KAMEHAMEHA HWY.  
1/4" = 1'-0"



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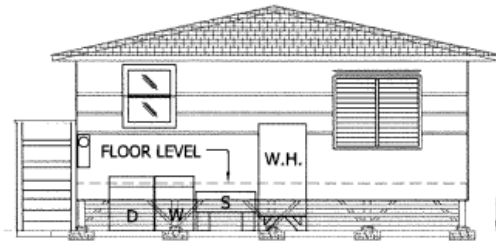
# Unit 2 – Existing Dwelling

## UNIT #2 SUMMARY:

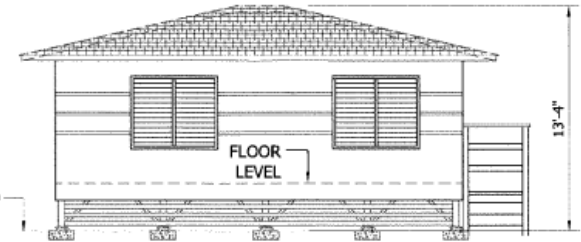
53-452 KAM HWY.  
HAUULA, HI 96717

### PROJECT SUMMARY:

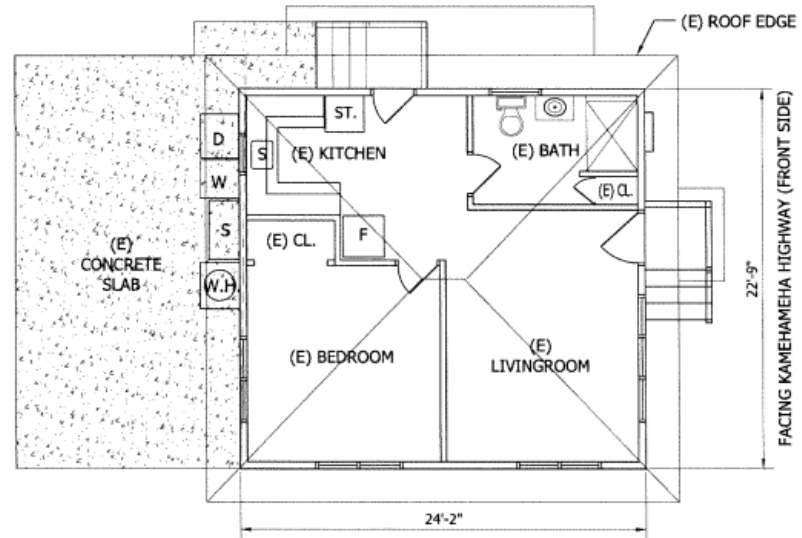
EXIST. LIVING AREA	550 SF.
EXIST. OPEN CONC. FL.	335 SF.
EXIST. PORCH	55 SF.
TOTAL:	940 SF.
TOTAL LIVING AREA:	550 SF.
LOT SIZE:	4,820 SF.
PERCENTAGE OF LOT:	11.5%



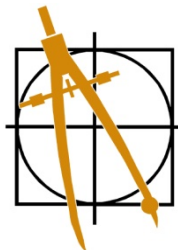
4 BACK ELEVATION  
3/16" = 1'-0"



5 LEFT ELEVATION  
3/16" = 1'-0"



1 LIMITED COMMON ELEMENT UNIT #2 - 53-452 KAMEHAMEHA HWY.  
3/16" = 1'-0"



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# Unit 3 – Existing Dwelling

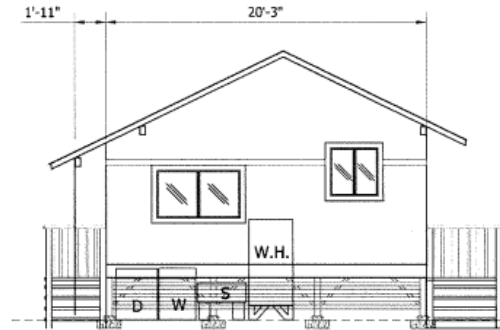
## UNIT #3 SUMMARY:

53-458 KAM HWY.  
HAUULA, HI 96717

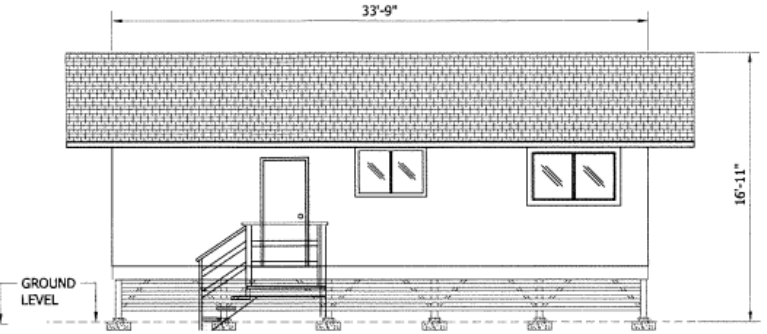
### PROJECT SUMMARY:

EXIST. LIVING AREA	678 SF.
TOTAL:	678 SF.
TOTAL LIVING AREA:	678 SF.
LOT SIZE:	3,997 SF.
PERCENTAGE OF LOT:	17.0 %

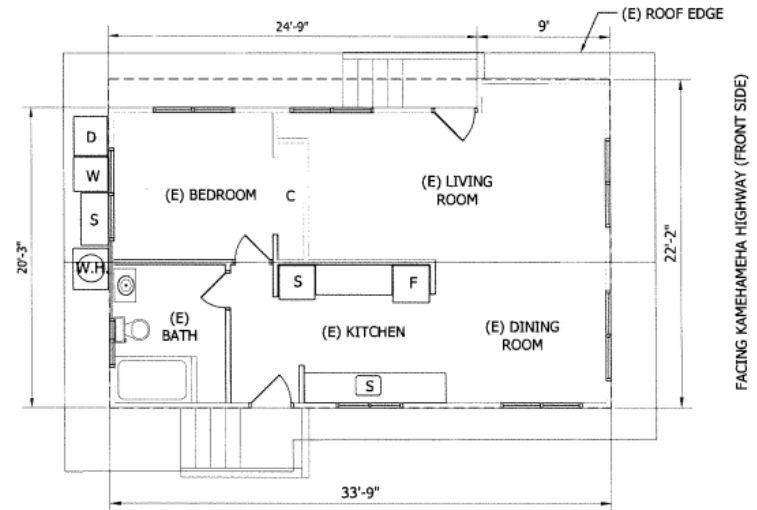
CONSTRUCTION NOTES:



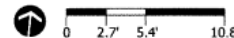
4 BACK ELEVATION  
3/16" = 1'-0"



5 LEFT ELEVATION  
3/16" = 1'-0"

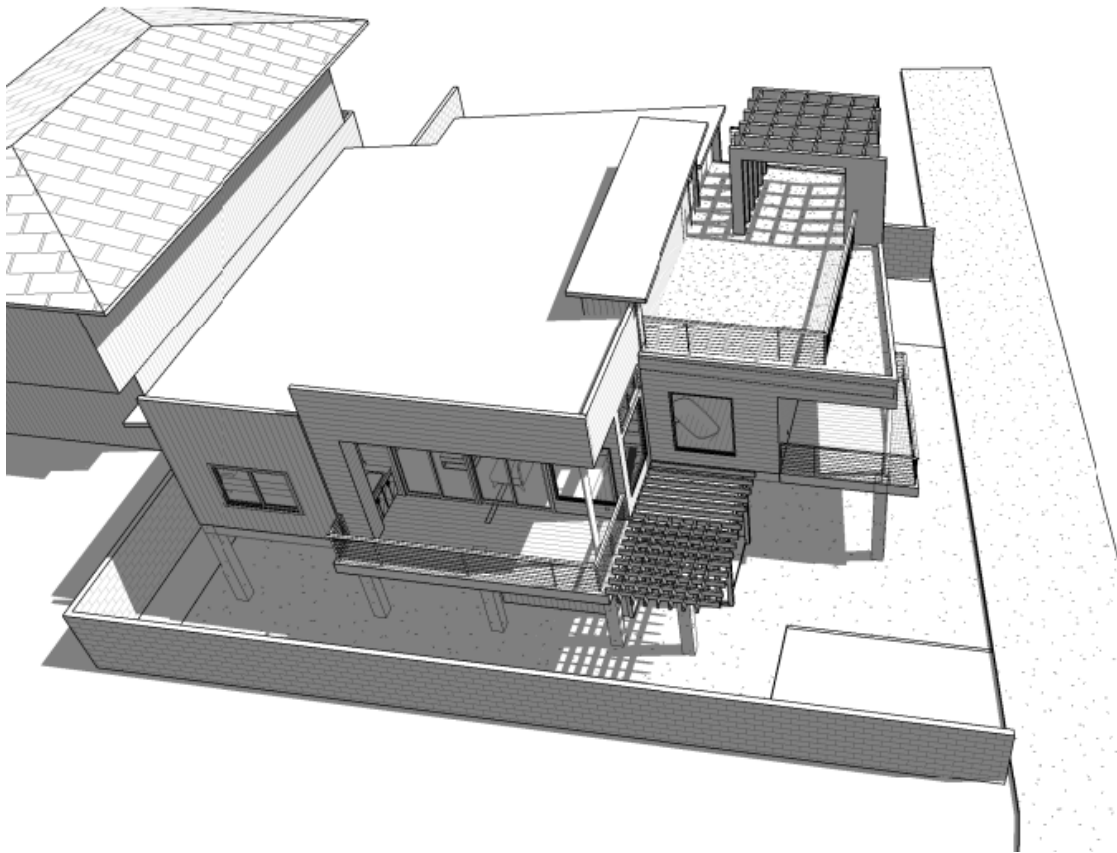


1 LIMITED COMMON ELEMENT UNIT #3 - 53-458 KAMEHAMEHA HWY.  
3/16" = 1'-0"



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# Unit 4 – Proposed Dwelling



**TMK:** 5-3-005-070 CPR LOT #4  
**LOT AREA:** 211,397 SF (LOT #4: 4,171 SF)  
**ZONING:** R-5 / AG-2

**MAXIMUM BUILDING AREA ALLOWED(50%)** LOT #4: 2,085.5 SF

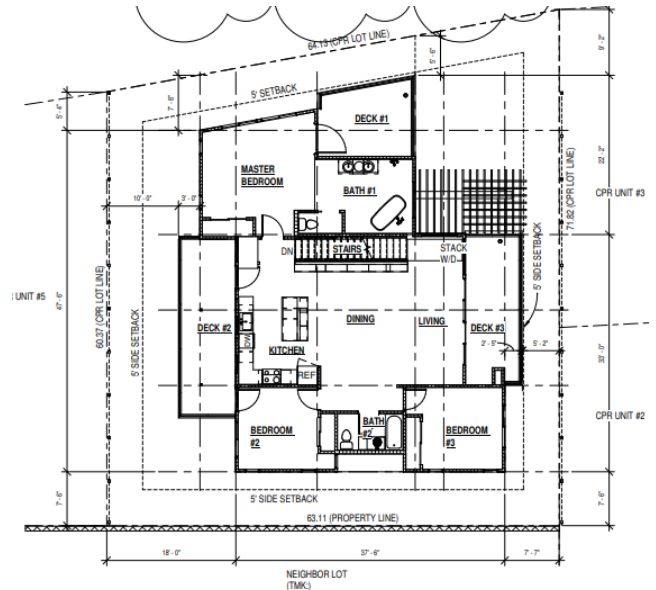
**BUILDING AREA:**  
 SINGLE FAMILY DWELLING 2071.18. SF

**FLOOR AREA:**  
 SINGLE FAMILY DWELLING 350.00 SF (LOWER)  
 1,874.73 SF (MAIN)  
**TOTAL** 2,124.73 SF 0.51 < 0.6 FAR

NO ADDITIONAL REQUIREMENT PER BILL 57 / ORD 20-43.

**BATHROOM COUNTS**  
 SINGLE FAMILY DWELLING 2 BATH  
**MAX ALLOW PER BILL 57 / ORD 20-43** 4 BATH PER UNIT

<b>PARKING FOR 2,124.73 SF</b>	<b>REQUIRED</b>	<b>PROVIDED</b>
<b>PARKING PER BILL 2 / ORD 20-41</b>	2	3 COVERED





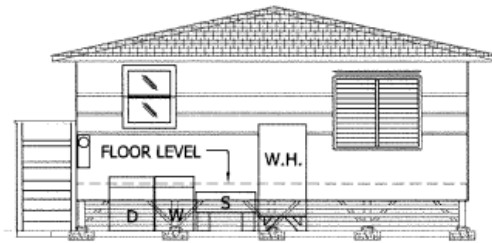
# Unit 5 – Proposed Dwelling

## UNIT #2 SUMMARY:

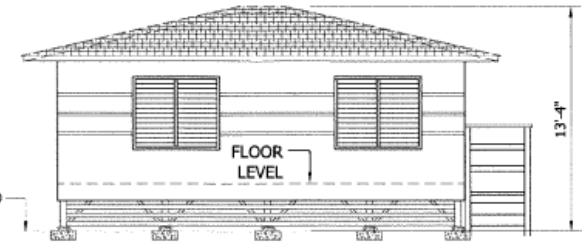
53-452 KAM HWY.  
HAUULA, HI 96717

### PROJECT SUMMARY:

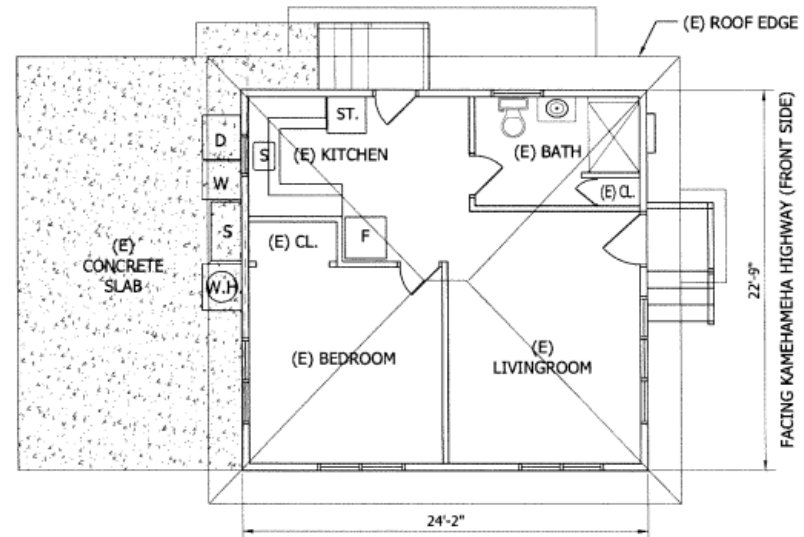
EXIST. LIVING AREA	550 SF.
EXIST. OPEN CONC. FL.	335 SF.
EXIST. PORCH	55 SF.
TOTAL:	940 SF.
TOTAL LIVING AREA:	550 SF.
LOT SIZE:	4,820 SF.
PERCENTAGE OF LOT:	11.5%



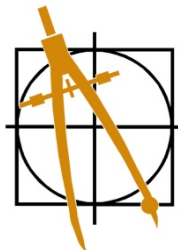
4 BACK ELEVATION  
3/16" = 1'-0"



5 LEFT ELEVATION  
3/16" = 1'-0"



1 LIMITED COMMON ELEMENT UNIT #2 - 53-452 KAMEHAMEHA HWY.  
3/16" = 1'-0"



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# Unit 7 – Proposed Dwelling Unit

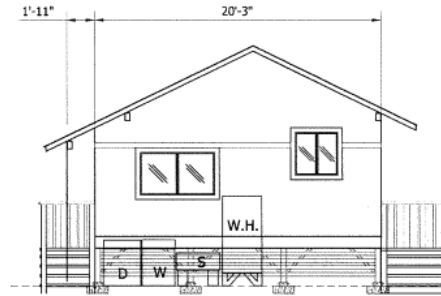
## UNIT #3 SUMMARY:

53-458 KAM HWY.  
HAUULA, HI 96717

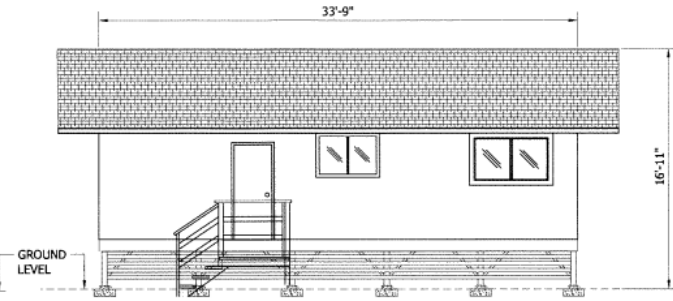
### PROJECT SUMMARY:

EXIST. LIVING AREA	678 SF.
TOTAL:	678 SF.
TOTAL LIVING AREA:	678 SF.
LOT SIZE:	3,997 SF.
PERCENTAGE OF LOT:	17.0 %

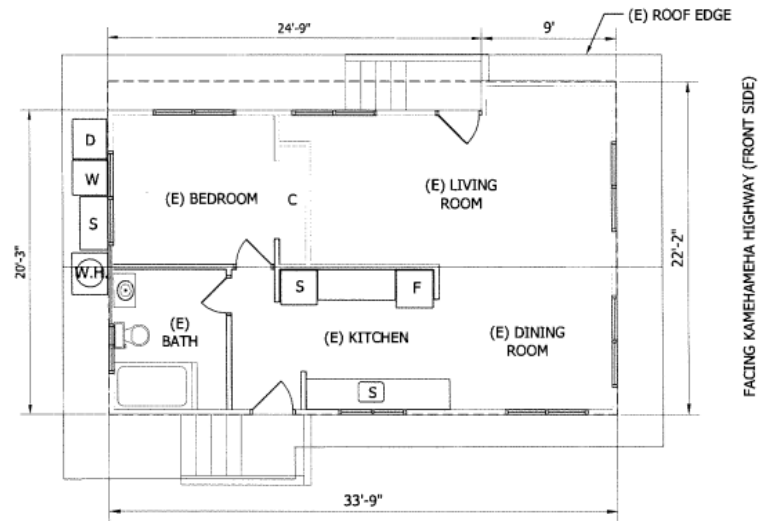
CONSTRUCTION NOTES:



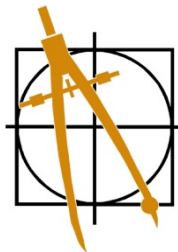
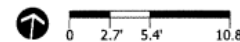
4 BACK ELEVATION  
3/16" = 1'-0"



5 LEFT ELEVATION  
3/16" = 1'-0"



1 LIMITED COMMON ELEMENT UNIT #3 - 53-458 KAMEHAMEHA HWY.  
3/16" = 1'-0"



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# Unit 8 – Existing Dwelling Unit

## UNIT SUMMARY:

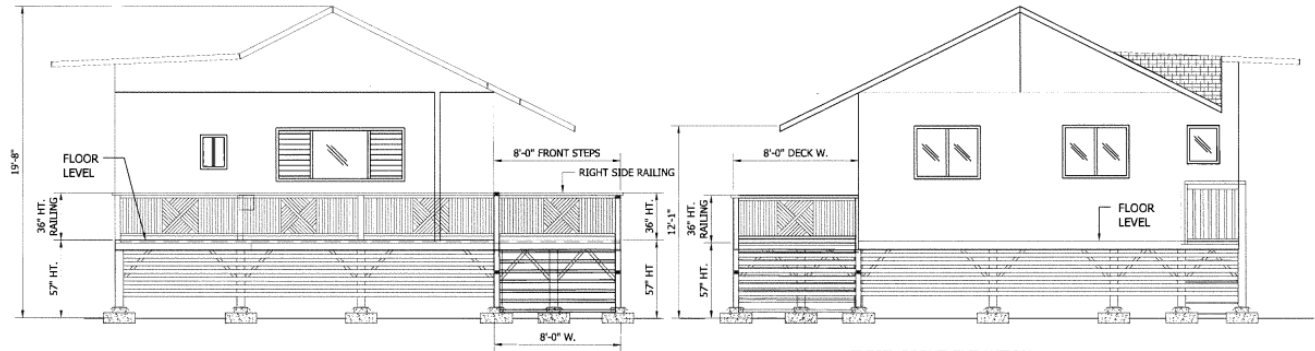
53-440 KAM HWY.  
HAUULA, HI 96717

### PROJECT SUMMARY:

EXIST. LIVING AREA	738 SF.
EXIST. CARPORT/CONC.FL.	270 SF.
EXIST. TOTAL:	1,008 SF.
NEW DECK AREA:	528 SF.
NEW TOTAL:	1,516 SF.
TOTAL LIVING AREA:	738 SF.
LOT SIZE IN ACRES:	4.7625 AC.
LOT SIZE IN SF.:	207,454 SF.
PERCENTAGE OF LOT:	.01 %

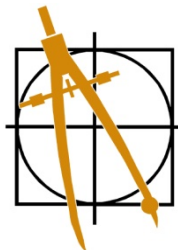
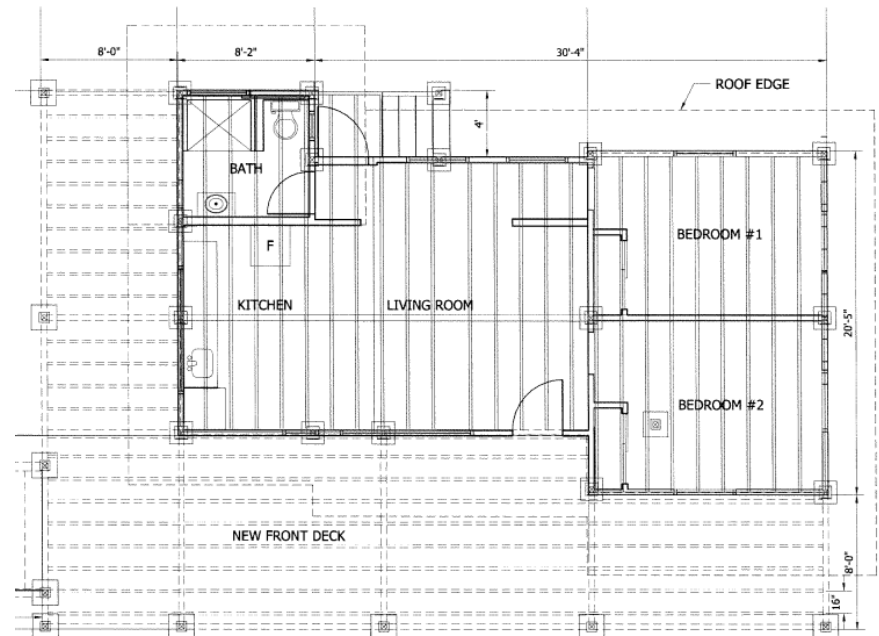
### CONSTRUCTION NOTES:

1. SINGLE WALL CONSTRUCTION
2. POST & BLOCK FOUNDATION
3. COMPOSITE ASPHALT SHINGLE ROOF
4. COMPACTED GRAVEL DRIVEWAY



3 EXIST. LEFT ELEVATION  
1/4" = 1'-0"

4 EXIST. RIGHT ELEVATION  
1/4" = 1'-0"



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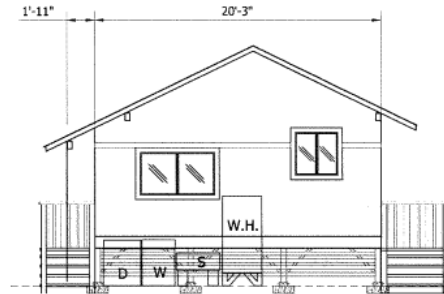
# Unit 9 – Proposed Dwelling Unit

**UNIT #3 SUMMARY:**

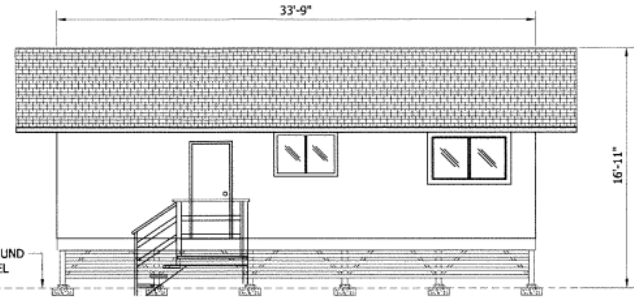
53-458 KAM HWY.  
HAUULA, HI 96717

<b>PROJECT SUMMARY:</b>	
EXIST. LIVING AREA	678 SF.
TOTAL:	678 SF.
TOTAL LIVING AREA:	678 SF.
LOT SIZE:	3,997 SF.
PERCENTAGE OF LOT:	17.0 %

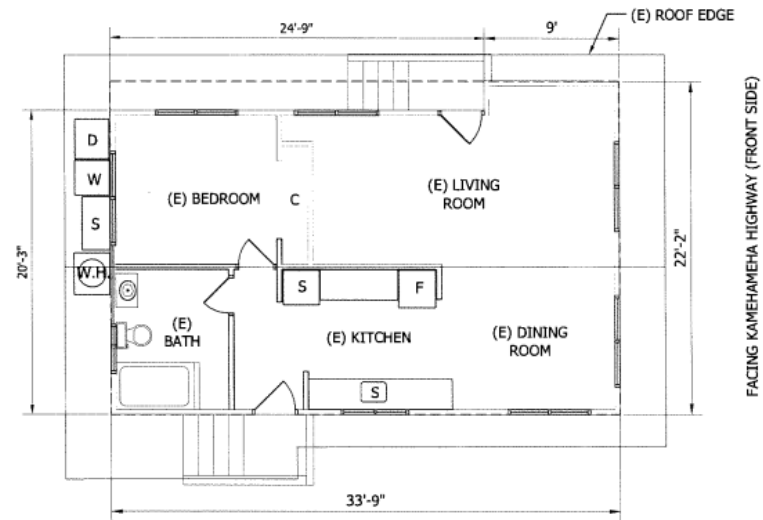
CONSTRUCTION NOTES:



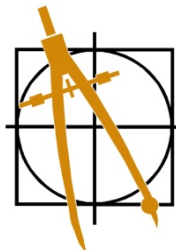
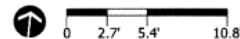
4 BACK ELEVATION  
3/16" = 1'-0"



5 LEFT ELEVATION  
3/16" = 1'-0"



1 LIMITED COMMON ELEMENT UNIT #3 - 53-458 KAMEHAMEHA HWY.  
3/16" = 1'-0"



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## **APPENDIX D**

### **Prior Archaeology Reports in the Vicinity**

Due to the size and number of reports referenced, if the reader wishes to view the reports they are available on-line or I can provide upon request at [karlbromwell@gmail.com](mailto:karlbromwell@gmail.com)



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# **APPENDIX E**

## **Declaration of Condominium Property Regime Kahena Wai Estates**

Due to the size and number of reports referenced, if the reader wishes to view the reports they are available on-line or I can provide upon request at [karlbromwell@gmail.com](mailto:karlbromwell@gmail.com)

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# **APPENDIX F**

## **Wetland Delineation Report**

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**Wetland delineation on TMK: 5-3-005:070  
in Hau'ula, windward O'ahu**

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*AECOS Inc.*  
45-939 Kamehameha Highway  
Suite 104  
Kāne'ohe, Hawai'i 96744

March 6, 2024

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# Wetland delineation on TMK: 5-3-005:07 in Hau‘ula, windward O‘ahu

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March 6, 2024

AECOS No. 1802

**Dr. Patricia Myer, Susan Burr, and Carmen Hoyt**

AECOS Inc.

45-939 Kamehameha Highway Suite 104

Kāne‘ohe, Hawai‘i 96744

Phone: (808) 234-7770

Email: patricia@aecos.com

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## Table of Contents

Introduction.....	1
Site Description .....	1
Jurisdictional Waters.....	4
Methods.....	6
Identify and Delineate Wetlands .....	6
Results .....	8
Rainfall Conditions.....	8
Identify and Delineate Wetlands .....	8
Conclusions.....	12
References Cited .....	13

## Introduction

AECOS Inc. was contracted by 5Ks ENV Island Resource Solutions LLC to conduct a survey on a 1.93-ha (4.76-ac) parcel (TMK: 5-3-005:070) in Hau‘ula on windward O‘ahu (Figure 1) for the purpose of identifying if wetlands are present, and, if present, delineating and determining whether the wetlands meet jurisdictional criteria as “Waters of the United States” (USACE and USEPA, 2023a; 2023b).

## Site Description

The subject parcel is in a relatively small (80-ha or 198-ac) subwatershed (Mitchell et al., 2023; USGS, 2023) of the much larger watershed of Punalu‘u





**Figure 1. TMK: 5-3-005:070 outlined in red. Inset: star represents Hau'ula on the northeast coast of O'ahu.**

Stream (1560-ha or 3960-ac). The U.S. Geological Survey (USGS) Kahana quadrangle (USGS, 2017) does not show a named stream or gulch in the subwatershed, but the USGS StreamStats map-based web application (USGS, 2023) shows a small stream in the parcel.

The National Wetlands Inventory (NWI) shows freshwater and marine surface waters and wetlands within and around the parcel (Figure 2; USFWS, n.d.). An excavated ditch that terminates in a *muliwai* (coastal estuary) lies within the south end of the parcel. A seasonally flooded forested and scrub/shrub wetland is adjacent to this ditch within the subject parcel. A seasonally flooded herbaceous wetland that is partially drained and ditched occupies the western part of the parcel.

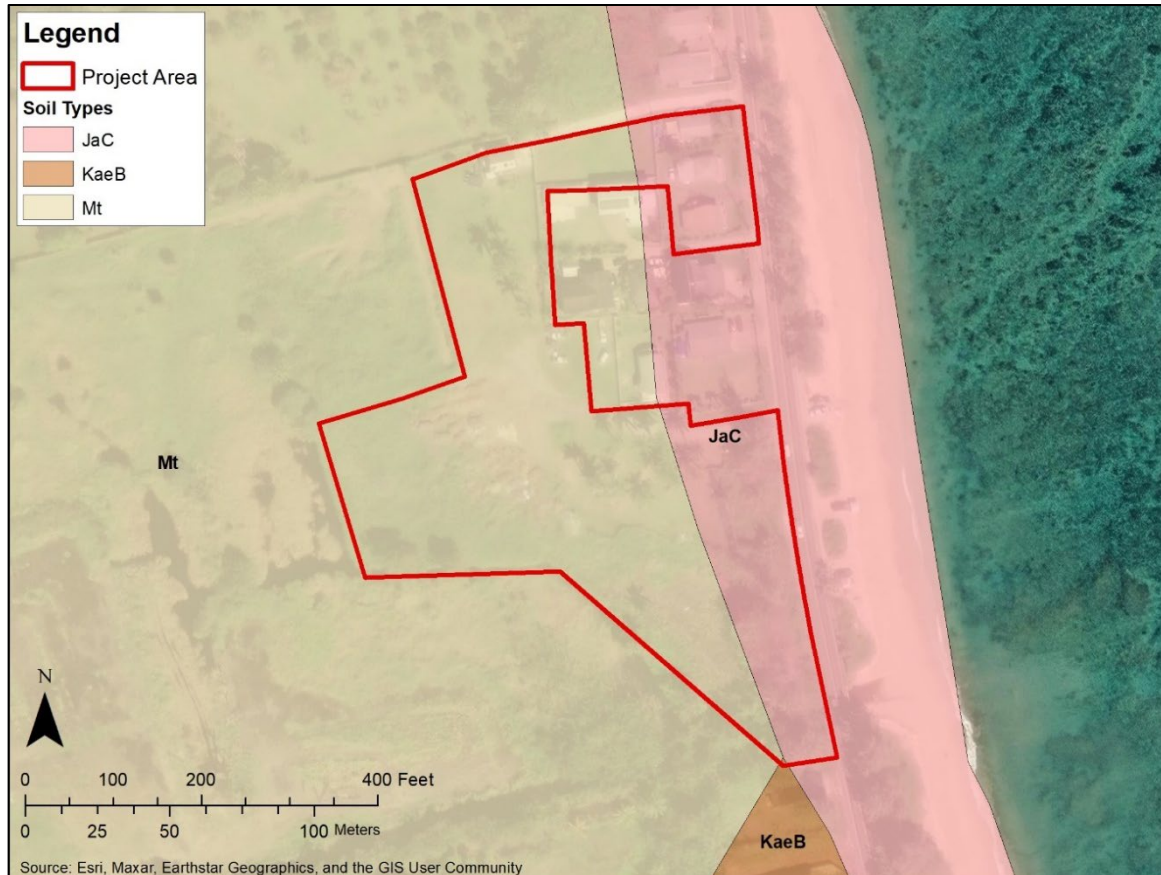


**Figure 2. Surface waters and wetlands for TMK: 5-3-005:070 (outlined in red) and vicinity (after USFWS, nd).**

Mapped soils in the subject parcel include primarily “Mt” (Mokuleia clay loam), “JaC” (Jaucas sand, 0 - 15% slopes), and “KaeB” (Kaena stony clay; 2 - 6% slopes) at the boundary (Figure 3; USDA-NRCS, 2023; Soil Survey Staff USDA-NRCS, n.d.), which are all classified as non-hydric soils. Hydric soils are defined as soils that form under conditions of saturation, flooding, or ponding of sufficient duration during the growing season to develop anaerobic conditions in the upper part (USDA-SCS, 1994). These classifications are made on a broad scale, and it is important to note that local conditions can render a normally non-hydric soil, even fill material, hydric.

Three flood zones occur within the parcel: Zones X, AE, and VE (HDLNR, n.d.). Zone X, which includes a small portion of the western side of the parcel, is outside of the 0.2% annual chance (500-year) floodplain. The remainder of the parcel is classified as a Special Flood Hazard Area (SFHA); Zones AE and VE are within the 1% annual chance (100-year) floodplain (FEMA, 2020).





**Figure 3. Mapped soils in the Project area (after USDA-NRCS, 2021).**

Precipitation in Hau'ula is moderately high. The National Oceanographic and Atmospheric Administration–National Centers for Environmental Information (NOAA-NCEI) climate normal (three-decade averages of climatological variables) for Sta. “KAPAKA FARM 904.1, HI US” in Hau'ula, northwest of the parcel, includes an average annual rainfall of 1,290 mm (50.78 in; NOAA-NCEI, 2021). USGS StreamStats calculates mean annual precipitation for the subwatershed at 1,770 mm (69.7 in; USGS, 2023).

## Jurisdictional Waters

Waters of the U.S. (also called “jurisdictional waters,” “federally jurisdictional waters,” or “WOTUS”) are surface waters that come under federal jurisdiction as authorized by the CWA and the Rivers and Harbors Act (RHA). Authority over these waters is granted to various federal agencies, including the U.S. Environmental Protection Agency (USEPA), with the U.S. Army Corps of Engineers (USACE) having permit authority for some actions that impact



jurisdictional waters. Jurisdictional waters include all tidal waters and a subset of streams, lakes, reservoirs, and wetlands.

***Revised Definition of Waters of the US*** – On March 20, 2023, the final “Revised Definition of ‘Waters of the United States’” (“2023 rule”) took effect (USACE and USEPA, 2023a). Jurisdictional waters identified in the rule include:

- tidal waters, also known as traditionally navigable waters (TNWs) [(a)(1)(i)]<sup>1</sup>;
- impoundments of jurisdictional waters [(a)(2)];
- tributaries of TNWs that have relatively permanent water (RPW) [(a)(3)(i)] or tributaries of TNWs that have a significant effect on the chemical, physical, or biological integrity of a TNW [(a)(3)(ii)];
- wetlands adjacent to TNWs [(a)(4)(i)] or wetlands adjacent to and with a continuous surface connection to RPW tributaries [(a)(4)(ii)], or wetlands adjacent to tributaries, provided the wetlands significantly affect the chemical, physical, or biological integrity of a TNW [(a)(4)(iii)];
- other waters not identified above that have RPW and a surface connection to a TNW or RPW tributary [(a)(5)(i)] or other waters not identified above that significantly affect the chemical, physical, or biological integrity of a TNW [(a)(5)(i)],

Non-jurisdictional waters identified in the rule include:

- prior converted cropland (PCC) [(b)(2)];
- ditches excavated wholly in and draining only dry land that do not carry RPW [(b)(3)]; and
- artificial lakes or ponds created by excavating or diking dry land to collect and retain water and are used exclusively for irrigation [(b)(5)].

Although a definition of a tributary is not included in the rule, “tributary” for the purposes of this rule includes rivers, streams, lakes, ponds, and impoundments, regardless of their flow regime, that flow directly or indirectly through another water or waters to a traditional navigable water, the territorial seas, or an interstate water. Waters through which a tributary may flow indirectly include, for example, impoundments, wetlands, lakes, ponds, and streams. A tributary may flow through a number of downstream waters, including a non-jurisdictional tributary or non-jurisdictional features, such as [an excluded ditch,] excluded waste treatment system, and jurisdictional waters that are not tributaries, such as an adjacent wetland” (USACE and USEPA, 2023a; pg. 3080).

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<sup>1</sup> Numbers and letters given in brackets are from the final rule (USACE and USEPA, 2023a). Waterbody types are referred to by these designations.

***US Supreme Court Ruling*** – On May 25, 2023, a Supreme Court of the US (SCOTUS) ruling, *Sackett v. Environmental Protection Agency* (SCOTUS, 2023), rejected the *significant nexus* standard, effectively eliminating jurisdiction over (a)(3)(ii), (a)(4)(iii), and (a)(5)(ii) waters as listed above; revised the “adjacent wetlands” definition; and eliminated jurisdiction over intrastate wetlands.

***Revised Definition of Waters of the US; Conforming Rule*** – On September 8, 2023, the agencies published a conforming rule for the Revised Definition of ‘Waters of the United States’ (“Conforming Rule; USACE and USEPA, 2023b) to comply with the SCOTUS opinion. According to the Conforming Rule, (a)(3)(ii), (a)(4)(iii), and (a)(5)(ii) waters are no longer jurisdictional and the only jurisdictional wetlands, including intrastate wetlands, are ones that are adjacent (meaning they have a continuous surface connection) to bodies that qualify as WOTUS in their own right.

## Methods

AECOS scientists conducted field work during the 2023 - 2024 wet season. Prior to our field surveys, we reviewed literature and GIS data, including the following: previous AECOS surveys in the area (AECOS, 2006, 2012, 2017, 2018, 2023), mapped soil types (USDA-NRCS, 2023), recent rainfall (NOAA-NWS, 2023a; 2023b), surface waters and wetlands identified in the NWI (USFWS, nd); and mapped flood zones (HDLNR, n.d.). Much of this information has been presented above.

### Identify and Delineate Wetlands

On December 19, 2023, AECOS scientists conducted a survey to identify and delineate aquatic features on TMK: 5-3-005:070. Wetland delineations follow the methods described in the *Corps of Engineers Wetland Delineation Manual* (“Manual”; USACE, 1987) and *Regional Supplement for Hawai‘i and Pacific Islands* (USACE, 2012). The wetland status of plant species derives from the 2012 National Wetland Plant List (Lichvar, 2012) and a 2020 update (USACE, 2020). Delineated surface waters and wetlands are categorized using the *Classification of Wetlands and Deepwater Habitats of the United States* (FGDC, 2013), which is the classification system adapted from Cowardin et al. (1979).

A wetland determination sampling point (“SP”) is used to evaluate the presence of either wetland or upland characteristics at a selected location in the landscape. The approach for wetland delineation for Clean Water Act (CWA) purposes requires finding positive evidence of hydric soil, wetland hydrology, and

hydrophytic vegetation at a SP. All three indicators must be present for a positive wetland determination. The boundary between wetland and upland (non-wetland) is established as a line outside of which at least one of the three wetland indicators is absent.

The National Wetland Plant List (NWPL), administered by the USACE, assigns a wetland indicator status to each species of vascular plant on a regional basis (Lichvar, 2012; USACE, 2020). Table 1 provides wetland status indicators and their definitions. The wetland indicator status of each species in the plant assemblage at a SP is used to determine if a site has a “prevalence of vegetation typically adapted for life in saturated soil conditions.” We identified plant assemblages in the survey area and made visual estimates at each SP of percent cover of plant species in sample plots of appropriate size and shape, based on the type of vegetation.

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

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

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

Although the soil types mapped within the survey area are nonhydric (Fig. 3), inspection at soil pits at each SP is necessary because local conditions can deviate from a USDA mapped soil type, and sufficient saturation or inundation can render any soil, even fill material, hydric.

We used a combination of mapped soil types and plant communities to position the SPs in the parcel. We established at least one SP within each combination of plant community and mapped soil type. AECOS scientists recorded the geospatial positions of 6 SPs and the wetland boundaries established during the survey using handheld global navigation satellite system (GNSS) instruments (Trimble 7X), providing, in most cases, 0.5 m (19 in) or better position accuracy. The resulting shapefile was processed with GPS Pathfinder, including differential correction, and exported as ArcMap shapefiles using a projected coordinate system of NAD 1983 UTM Zone 4N. These data were used to prepare the wetland delineation figure presented in this report.

## Results

### Rainfall Conditions

Year-to-date (through December 2023) total annual rainfall at nearby Punaluu Pump Station (PUNH1) was 58.61 in (148.9 cm), 91% of average (NOAA-NWS, 2023a). Drought information statements issued by the National Weather Service Forecast Office in Honolulu stated that windward O'ahu experienced moderate drought (D1) conditions in December 2023 that were improving as the wet season progressed (NOAA-NWS, 2023b).

### Identify and Delineate Wetlands

Figure 4 shows the boundaries of the wetland, as delineated in the field in by examining six SPs (SP-01 through SP-06). The locations and status (wetland or upland) of these 6 SPs are shown on the figure and the current extent of wetlands is shown as a polygon shaded with the marsh symbology. The wetland boundary was established by a change in vegetation, a change in ground elevation, and the presence of standing water. Wetland data determination sheets for all SPs are provided in Attachment A. Photographs to document conditions at each SP are provided in Attachment B.

### ***Vegetation***

The subject parcel is mostly undisturbed grass in the eastern and southern parts, whereas the middle and northern parts are maintained lawn. The wetland area, especially in the western part of the parcel (containing SP-04), is primarily dense California grass (*Urochloa mutica*; FACW; Figure 5). The southern section around SP-02 is a mixed forest of tropical almond (*Terminalia catappa*; FAC) and *hau* (*Hibiscus tiliaceus*; FACW) and a variety of herbaceous plants (Figure 6).



**Figure 4. Wetland (blue with marsh symbology) and upland as delineated in the field in December 2023. Sampling Points (SPs) are marked with upside-down triangles and numbered (01-06).**

The dominance of California grass at SP-04 (100% cover) leads to a positive dominance test for hydrophytic vegetation. SP-02 includes dominantly tropical almond (*Terminalia catappa*; FAC; 50% tree stratum cover), wedelia (*Sphagneticola trilobata*; FAC; 30% herb stratum cover), 'ahu'awa (*Cyperus javanicus*; FACW; 30% herb stratum cover), and hau (*Hibiscus tiliaceus*; FACW; 20% tree stratum cover), which leads to a positive dominance test for hydrophytic vegetation as well.

SP-01 represents a disturbed, upland plant community, dominated by wedelia (FAC; 30% herb stratum cover), beach pea (*Vigna marina*; FAC; 30% herb stratum cover), and St. Augustine grass (*Stenotaphrum secundatum*; FACU; 30% herb stratum cover). The dominant trees in the area are tropical almond (FAC; 25% tree stratum cover) and coconut (*Cocos nucifera*; FACU; 20% tree stratum cover).





**Figure 5. California grass (FACW) dominates the western wetland portion of the parcel (shown here at SP-04, looking west).**



**Figure 6. Dominant vegetation at SP-02 is all FAC and FACW; some plants appear to be stressed or dead, possibly the result of seawater inundation.**



SP-03 represents a slightly elevated, relatively recently disturbed, mostly cut down *hau* (FACW) forest. This is the dominant, and nearly the only type of vegetation in the area, which leads to a positive dominance test for hydrophytic vegetation. However, SP-03 is ultimately classified as upland due to the absence of wetland hydrology and soil.

SP-05 and SP-06 represent undisturbed fields that are dominantly elephant grass (*Cenchrus purpureus*; FAC 80%; herb stratum) and Guinea grass (*Megathyrsus maximus*; FAC 110%; herb stratum) respectively. SP-05 does not meet an indicator for wetland vegetation, but SP-06 does. SP-06 is ultimately classified as upland as well, due to the absence of wetland hydrology and soil.

### ***Hydrology***

A high groundwater table (Figure 7) accounts for wetland hydrology within the parcel. The ditch at the south end of the parcel (between SP-01 and SP-02) may flood the adjacent wetlands either from increased runoff, high tide, or high surf.



**Figure 7. A high groundwater table (shown here at SP-04 at 12 in below the ground surface) is the primary source of wetland hydrology for the subject wetland.**

SP-02 is 16 in (41 cm) away from standing water and features a high water table (A2) that is 4 in (10 cm) below the surface. Other wetland hydrology indicators

include saturation at 4 in (10 cm) (A3), stunted and stressed plants (D1), geomorphic position (D2), and a positive FAC-neutral test (D5). The boundary between SP-02 and SP-05, as well as SP-02 and SP-03, was determined by walking along the edge of standing water and recording the path using a handheld GNSS instrument.

SP-04 also features a high water table (A2) that is 12 in (30 cm) below the surface (Fig. 7). The soil changes color upon exposure to air, indicating the presence of reduced iron (C4). Other wetland hydrology indicators include saturation at 5 in (A3) and a positive FAC-neutral test (D5).

SP-01, SP-03, SP-05, and SP-06 feature no wetland hydrology indicators. At SP-03, surface water was present approximately 16.5 ft (5 m) away, but neither saturation or groundwater surface were present.

### ***Soils***

SP-04 features sandy clay at the surface with fine roots, and clay with redox features below 4 in. The soil is categorized as hydric due to its loamy gleyed matrix ("F2"<sup>2</sup>).

SP-02 features sandy clay loam at the surface; the layer below 6 in is muck with 80% asphalt (Figure 8). The presence of muck ("A8") is a hydric soil indicator. Both SP-02 and SP-04 are categorized as wetlands due to the presence of wetland vegetation, hydrology, and soils.

SP-01, SP-03, SP-05, and SP-06 feature nonhydric soil, with no hydric soil indicators, and are all categorized as upland (non-wetland).

## **Conclusions**

We established the boundaries of a 0.60-ha (1.48-ac) wetland on TMK: 5-3-005:070. The wetland is adjacent (meaning it has a continuous surface connection) to an excavated channel that contains relatively permanent water (RPW) and has a surface outlet to the ocean. In consideration of the 2023 Revised Definition of Waters of the United States Rule and Revised Definition of Waters of the United States Conforming Rule (USACE and USEPA, 2023a; 2023b), the delineated wetland here is a Waters of the US because it has a continuous surface connection to a water body that qualifies as a 'Waters of the US' (the Pacific Ocean).

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<sup>2</sup> Soil characteristics are given these indicator codes in the Regional Supplement (USACE, 2012).



**Figure 8. The soil at SP-02 is a sandy clay loam at the surface, and muck matrix (hydric, A8) with 80% asphalt below 6 in. The water table is 4 in below the surface.**

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

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Attachment A

Wetland determination  
data forms

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

OMB Control #: 0710-0024, Exp: 11/30/2024  
 Requirement Control Symbol EXEMPT:  
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Kahena Wai City: Hau'ula Sampling Date: 12/19/2023 Time: 9:50  
 Applicant/Owner: Karl Bromwell State/Terr/Comlth.: Hawai'i Island: O'ahu Sampling Point: 1  
 Investigator(s): Susan Burr, Carmen Hoyt, Patricia Myer TMK/Parcel: 5-3-005:007  
 Landform (hillside, coastal plain, etc.): Coastal plain Local relief (concave, convex, none): Concave  
 Lat: 2387013.62 N Long: 615213.27 E Datum: NAD 1983 Slope (%): 5  
 Soil Map Unit Name: Jaucas sand, 0-15% slopes, MLRA 163 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks: Sampling point on right side of stream, across from the rest of the parcel	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>10 m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																
1. <u>Cocos nucifera</u>	<u>20</u>	Yes	FACU																	
2. <u>Casuarina equisetifolia</u>	<u>15</u>	Yes	FACU																	
3. <u>Terminalia catappa</u>	<u>25</u>	Yes	FAC																	
4. <u>Trema orientalis</u>	<u>5</u>	No	FACU																	
5. <u>    </u>	<u>65</u> =Total Cover																			
Sapling/Shrub Stratum (Plot size: <u>1 m</u> )				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>85</u></td> <td>x 3 = <u>255</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>155</u> (A)</td> <td><u>535</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.45</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>85</u>	x 3 = <u>255</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>155</u> (A)	<u>535</u> (B)	Prevalence Index = B/A = <u>3.45</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>85</u>	x 3 = <u>255</u>																			
FACU species <u>70</u>	x 4 = <u>280</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>155</u> (A)	<u>535</u> (B)																			
Prevalence Index = B/A = <u>3.45</u>																				
1. <u>    </u>																				
2. <u>    </u>																				
3. <u>    </u>																				
4. <u>    </u>																				
5. <u>    </u>																				
Herb Stratum (Plot size: <u>1 m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Sphagneticola trilobata</u>	<u>30</u>	Yes	FAC																	
2. <u>Vigna marina</u>	<u>30</u>	Yes	FAC																	
3. <u>Stenotaphrum secundatum</u>	<u>30</u>	Yes	FACU																	
4. <u>    </u>																				
5. <u>    </u>																				
6. <u>    </u>																				
7. <u>    </u>																				
8. <u>    </u>																				
	<u>90</u> =Total Cover																			
Woody Vine Stratum (Plot size: <u>10 m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>X</u>																
1. <u>    </u>																				
2. <u>    </u>																				

Remarks:  
 Disturbed lawn between the stream and the house (outside of the parcel); Stenotaphrum secundatum was not flowering, identification uncertain

**SOIL**

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 5	10YR 2/1	100					Loamy/Clayey	Sandy clay loam; roots throughout
5 - 17	10YR 5/3	95					Sandy	5% limestone cobble

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
2 in layer of grass stems on surface; observations recorded at 10:10; pit dug at 10:00

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

Wetland Hydrology Present? Yes  No

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

Remarks:  
Steam is 3 m away; negative alpha-alpha-dipyridyl reaction



Project/Site: Kahena Wai City: Hau'ula Sampling Date: 12/19/2023 Time: 10:28  
 Applicant/Owner: Karl Bromwell State/Terr/Comlth.: Hawai'i Island: O'ahu Sampling Point: 2  
 Investigator(s): Susan Burr, Carmen Hoyt, Patricia Myer TMK/Parcel: 5-3-005:007  
 Landform (hillside, coastal plain, etc.): Coastal plain Local relief (concave, convex, none): Concave  
 Lat: 2387038.42 N Long: 615204.69 E Datum: NAD 1983 Slope (%): 2  
 Soil Map Unit Name: Jaucas sand, 0-15% slopes, MLRA 163 NWI classification: PSS3C\*

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil X, or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: *PSS3C = broad-leaved evergreen, scrub-shrub palustrine wetland that is seasonally flooded	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>10-m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Terminalia catappa</u>	50	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u>Thespesia populnea</u>	5	No	FAC																	
3. <u>Hibiscus tiliaceus</u>	20	Yes	FACW																	
4. <u>Cocos nucifera</u>	10	No	FACU																	
5. <u>Pandanus tectorius</u>	10	No	FAC																	
	100	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>1-m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Terminalia catappa</u>	10	Yes	FAC	<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>50</u></td> <td>x 2 = <u>100</u></td> </tr> <tr> <td>FAC species <u>105</u></td> <td>x 3 = <u>315</u></td> </tr> <tr> <td>FACU species <u>14</u></td> <td>x 4 = <u>56</u></td> </tr> <tr> <td>UPL species <u>1</u></td> <td>x 5 = <u>5</u></td> </tr> <tr> <td>Column Totals: <u>170</u> (A)</td> <td><u>476</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.80</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>50</u>	x 2 = <u>100</u>	FAC species <u>105</u>	x 3 = <u>315</u>	FACU species <u>14</u>	x 4 = <u>56</u>	UPL species <u>1</u>	x 5 = <u>5</u>	Column Totals: <u>170</u> (A)	<u>476</u> (B)	Prevalence Index = B/A = <u>2.80</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>50</u>	x 2 = <u>100</u>																			
FAC species <u>105</u>	x 3 = <u>315</u>																			
FACU species <u>14</u>	x 4 = <u>56</u>																			
UPL species <u>1</u>	x 5 = <u>5</u>																			
Column Totals: <u>170</u> (A)	<u>476</u> (B)																			
Prevalence Index = B/A = <u>2.80</u>																				
2. <u>    </u>																				
3. <u>    </u>																				
4. <u>    </u>																				
5. <u>    </u>																				
	10	=Total Cover																		
Herb Stratum (Plot size: <u>1-m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Sphagneticola trilobata</u>	30	Yes	FAC	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Cyperus javanicus</u>	30	Yes	FACW																	
3. <u>    </u>																				
4. <u>    </u>																				
5. <u>    </u>																				
6. <u>    </u>																				
7. <u>    </u>																				
8. <u>    </u>																				
	60	=Total Cover																		
Woody Vine Stratum (Plot size: <u>10-m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>    </u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																
2. <u>    </u>																				
		=Total Cover																		

Remarks:  
 Nearby umbrella sedge outside of radius but in standing water; dead job's tears; area appears to be flooded by tide or swell

**VEGETATION Continued** – Use scientific names of plants.

Sampling Point: 2

<u>Tree Stratum</u>	Absolute % Cover	Dominant Species?	Indicator Status	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants less than 3 in. DBH, and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody Vine</b> – All woody vines greater than 3.28 ft in height.
6. <u>Casuarina equisetifolia</u>	4	No	FACU	
7. <u>Schefflera actinophylla</u>	1	No	UPL	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
	<u>100</u>	=Total Cover		
<u>Sapling/Shrub Stratum</u>				
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
	<u>10</u>	=Total Cover		
<u>Herb Stratum</u>				
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
15. _____	_____	_____	_____	
16. _____	_____	_____	_____	
17. _____	_____	_____	_____	
18. _____	_____	_____	_____	
19. _____	_____	_____	_____	
20. _____	_____	_____	_____	
	<u>60</u>	=Total Cover		
<u>Woody Vine Stratum</u>				
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	_____	=Total Cover		

Remarks:  
Casuarina equisetifolia is stressed or dead

**SOIL**

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 6	10YR 4/1	100					Loamy/Clayey	Sandy clay loam
6 - 16	10YR 2/1	20					Muck	80% asphalt

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6) ( <b>Guam, CNMI, and American Samoa</b> )
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input checked="" type="checkbox"/> Muck Presence (A8)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:  
 Observed at 10:48; pit dug at 10:39; standing water 16 in away; negative alpha-alpha-dipyridyl reaction; chunks of asphalt present

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Tilapia Nests (B17)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Fiddler Crab Burrows (C10) ( <b>Guam, CNMI, and American Samoa</b> )
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Salt Deposits (C5)	
<input checked="" type="checkbox"/> Stunted or Stressed Plants (D1)	
<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Shallow Aquitard (D3)	
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> Saturation Present?        Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Standing water 16 in away

Project/Site: Kahena Wai City: Hau'ula Sampling Date: 12/19/2023 Time: 11:35  
 Applicant/Owner: Karl Bromwell State/Terr/Comlth.: Hawai'i Island: O'ahu Sampling Point: 3  
 Investigator(s): Susan Burr, Carmen Hoyt, Patricia Myer TMK/Parcel: 5-3-005:007  
 Landform (hillside, coastal plain, etc.): Coastal plain Local relief (concave, convex, none): Concave  
 Lat: 2387048.91 N Long: 615175.12 E Datum: NAD 1983 Slope (%): 5  
 Soil Map Unit Name: Mokuleia clay loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>10-m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Hibiscus tiliaceus</u>	<u>95</u>	<u>Yes</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
	<u>95</u> =Total Cover																			
Sapling/Shrub Stratum (Plot size: <u>1-m radius</u> )																				
1. <u>Terminalia catappa</u>	<u>2</u>	<u>No</u>	<u>FAC</u>	<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td style="text-align: center;"><u>0</u> x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>95</u></td> <td style="text-align: center;"><u>190</u> x 2 = <u>190</u></td> </tr> <tr> <td>FAC species <u>2</u></td> <td style="text-align: center;"><u>6</u> x 3 = <u>6</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td style="text-align: center;"><u>0</u> x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>11</u></td> <td style="text-align: center;"><u>55</u> x 5 = <u>55</u></td> </tr> <tr> <td>Column Totals: <u>108</u> (A)</td> <td style="text-align: center;"><u>251</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.32</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	<u>0</u> x 1 = <u>0</u>	FACW species <u>95</u>	<u>190</u> x 2 = <u>190</u>	FAC species <u>2</u>	<u>6</u> x 3 = <u>6</u>	FACU species <u>0</u>	<u>0</u> x 4 = <u>0</u>	UPL species <u>11</u>	<u>55</u> x 5 = <u>55</u>	Column Totals: <u>108</u> (A)	<u>251</u> (B)	Prevalence Index = B/A = <u>2.32</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	<u>0</u> x 1 = <u>0</u>																			
FACW species <u>95</u>	<u>190</u> x 2 = <u>190</u>																			
FAC species <u>2</u>	<u>6</u> x 3 = <u>6</u>																			
FACU species <u>0</u>	<u>0</u> x 4 = <u>0</u>																			
UPL species <u>11</u>	<u>55</u> x 5 = <u>55</u>																			
Column Totals: <u>108</u> (A)	<u>251</u> (B)																			
Prevalence Index = B/A = <u>2.32</u>																				
2. <u>Leucaena leucocephala</u>	<u>10</u>	<u>Yes</u>	<u>UPL</u>																	
3. <u>Paederia foetida</u>	<u>1</u>	<u>No</u>	<u>UPL</u>																	
4. _____																				
5. _____																				
	<u>13</u> =Total Cover																			
Herb Stratum (Plot size: <u>1-m radius</u> )																				
1. _____				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
	=Total Cover																			
Woody Vine Stratum (Plot size: <u>10-m radius</u> )																				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																
2. _____																				
	=Total Cover																			

Remarks:  
 Appears as though Hibiscus tiliaceus (Hau) forest was cut down within the past 5 years, and currently there is new growth through downed logs, Paederia foetida (a woody vine) is included in sapling/shrub stratum because it covers <5%.

**SOIL**

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 15	2.5Y 2.5/1	100					Loamy/Clayey	Silty clay/loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Muck Presence (A8)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6) (**Guam, CNMI, and American Samoa**)
- Dark Surface (S7)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:  
 Observation at 11:54

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Aquatic Fauna (B13)
- Tilapia Nests (B17)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Fiddler Crab Burrows (C10) (**Guam, CNMI, and American Samoa**)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

**Wetland Hydrology Present?** Yes  No

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

Remarks:  
 Surface water 5 m away; >15 in depth to water table; no saturation; no reaction to alpha-alpha-dipyridyl



Project/Site: Kahena Wai City: Hau'ula Sampling Date: 12/19/2023 Time: 12:20  
 Applicant/Owner: Karl Bromwell State/Terr/Comlth.: Hawai'i Island: O'ahu Sampling Point: 4  
 Investigator(s): Susan Burr, Carmen Hoyt, Patricia Myer TMK/Parcel: 5-3-005:007  
 Landform (hillside, coastal plain, etc.): Coastal plain Local relief (concave, convex, none): none  
 Lat: 2387084.67 N Long: 615121.24 E Datum: NAD 1983 Slope (%): 0  
 Soil Map Unit Name: Mokuleia clay loam NWI classification: PEM1Cd\*

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: *PEM1Cd = a partially drained/ditch, seasonally flooded palustrine wetland with persistent, emergent vegetation.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum	(Plot size: <u>10-m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1.	_____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>    1    </u> (A) Total Number of Dominant Species Across All Strata: <u>    1    </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
		=Total Cover																			
Sapling/Shrub Stratum	(Plot size: <u>1-m radius</u> )																				
1.	_____	_____	_____	_____	<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>    0    </u></td> <td>x 1 = <u>    0    </u></td> </tr> <tr> <td>FACW species <u>100</u></td> <td>x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>    3    </u></td> <td>x 3 = <u>    9    </u></td> </tr> <tr> <td>FACU species <u>    0    </u></td> <td>x 4 = <u>    0    </u></td> </tr> <tr> <td>UPL species <u>    2    </u></td> <td>x 5 = <u>10</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>219</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.09</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>    0    </u>	x 1 = <u>    0    </u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>    3    </u>	x 3 = <u>    9    </u>	FACU species <u>    0    </u>	x 4 = <u>    0    </u>	UPL species <u>    2    </u>	x 5 = <u>10</u>	Column Totals: <u>105</u> (A)	<u>219</u> (B)	Prevalence Index = B/A = <u>2.09</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>    0    </u>	x 1 = <u>    0    </u>																				
FACW species <u>100</u>	x 2 = <u>200</u>																				
FAC species <u>    3    </u>	x 3 = <u>    9    </u>																				
FACU species <u>    0    </u>	x 4 = <u>    0    </u>																				
UPL species <u>    2    </u>	x 5 = <u>10</u>																				
Column Totals: <u>105</u> (A)	<u>219</u> (B)																				
Prevalence Index = B/A = <u>2.09</u>																					
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
		=Total Cover																			
Herb Stratum	(Plot size: <u>1-m radius</u> )																				
1.	<u><i>Urochloa mutica</i></u>	100	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  X  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2.	<u><i>Coccinia grandis</i></u>	1	No	UPL																	
3.	<u><i>Macroptilium atropurpureum</i></u>	3	No	FAC																	
4.	_____	_____	_____	_____																	
5.	<u><i>Leucaena leucocephala</i></u>	1	No	UPL																	
6.	_____	_____	_____	_____																	
7.	_____	_____	_____	_____																	
8.	_____	_____	_____	_____																	
		105 =Total Cover																			
Woody Vine Stratum	(Plot size: <u>10-m radius</u> )																				
1.	_____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>    </u>																
2.	_____	_____	_____	_____																	
		=Total Cover																			
Remarks: Leucaena leucocephala (sapling/shrub) accounted in herb stratum																					

**SOIL**

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 4	7.5YR 4/2	100					Sandy	Sandy clay; fine roots present
4 - 19	10Y 4/1	80	10YR 3/3	20	C	M	Mucky Loam/Clay	Distinct redox concentrations

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils <sup>3</sup> :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Stratified Layers (A5)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6) ( <b>Guam, CNMI, and American Samoa</b> )	<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Muck Presence (A8)	<input type="checkbox"/> Depleted Matrix (F3)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)					

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Tilapia Nests (B17)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Salt Deposits (C5)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Fiddler Crab Burrows (C10) ( <b>Guam, CNMI, and American Samoa</b> )	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12</u> Saturation Present?        Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>5</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Soil from 4-19 layer changes color upon exposure to air (indicative of reduced iron present).

Project/Site: Kahena Wai City: Hau'ula Sampling Date: 12/19/2023 Time: 12:45  
 Applicant/Owner: Karl Bromwell State/Terr/Comlth.: Hawai'i Island: O'ahu Sampling Point: 5  
 Investigator(s): Susan Burr, Carmen Hoyt, Patricia Myer TMK/Parcel: 5-3-005:007  
 Landform (hillside, coastal plain, etc.): Coastal plain Local relief (concave, convex, none): None  
 Lat: 2387088.97 N Long: 615187.04 E Datum: NAD 1983 Slope (%): 0  
 Soil Map Unit Name: Jaucas sand, 0-15% slopes, MLRA 163 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>10-m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>    1    </u> (A) Total Number of Dominant Species Across All Strata: <u>    3    </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>    33.3%    </u> (A/B)																
1. <u>Cocos nucifera</u>	5	Yes	FACU																	
2. <u>Trema orientalis</u>	10	Yes	FACU																	
3. <u>    </u>																				
4. <u>Leucaena leucocephala</u>	3	No	UPL																	
5. <u>    </u>																				
	18 =Total Cover																			
Sapling/Shrub Stratum (Plot size: <u>1-m radius</u> )				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>    0    </u></td> <td>x 1 = <u>    0    </u></td> </tr> <tr> <td>FACW species <u>    1    </u></td> <td>x 2 = <u>    2    </u></td> </tr> <tr> <td>FAC species <u>    96    </u></td> <td>x 3 = <u>   288    </u></td> </tr> <tr> <td>FACU species <u>    17    </u></td> <td>x 4 = <u>    68    </u></td> </tr> <tr> <td>UPL species <u>    4    </u></td> <td>x 5 = <u>    20    </u></td> </tr> <tr> <td>Column Totals: <u>   118    </u> (A)</td> <td><u>   378    </u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>    3.20    </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>    0    </u>	x 1 = <u>    0    </u>	FACW species <u>    1    </u>	x 2 = <u>    2    </u>	FAC species <u>    96    </u>	x 3 = <u>   288    </u>	FACU species <u>    17    </u>	x 4 = <u>    68    </u>	UPL species <u>    4    </u>	x 5 = <u>    20    </u>	Column Totals: <u>   118    </u> (A)	<u>   378    </u> (B)	Prevalence Index = B/A = <u>    3.20    </u>	
Total % Cover of:	Multiply by:																			
OBL species <u>    0    </u>	x 1 = <u>    0    </u>																			
FACW species <u>    1    </u>	x 2 = <u>    2    </u>																			
FAC species <u>    96    </u>	x 3 = <u>   288    </u>																			
FACU species <u>    17    </u>	x 4 = <u>    68    </u>																			
UPL species <u>    4    </u>	x 5 = <u>    20    </u>																			
Column Totals: <u>   118    </u> (A)	<u>   378    </u> (B)																			
Prevalence Index = B/A = <u>    3.20    </u>																				
1. <u>    </u>																				
2. <u>    </u>																				
3. <u>    </u>																				
4. <u>    </u>																				
5. <u>    </u>																				
	=Total Cover																			
Herb Stratum (Plot size: <u>1-m radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Cenchrus purpureus</u>	80	Yes	FAC																	
2. <u>Canavalia cathartica</u>	2	No	FACU																	
3. <u>Megathyrsus maximus</u>	16	No	FAC																	
4. <u>Coccinia grandis</u>	1	No	UPL																	
5. <u>Commelina diffusa</u>	1	No	FACW																	
6. <u>    </u>																				
7. <u>    </u>																				
8. <u>    </u>																				
	100 =Total Cover																			
Woody Vine Stratum (Plot size: <u>10-m radius</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>X</u>																
1. <u>    </u>																				
2. <u>    </u>																				
	=Total Cover																			

Remarks:  
 Most Leucaena leucocephala (koa haole) saplings present outside of the sampling point radius. Moved Leucaena leucocephala from sapling shrub stratum to tree stratum because <5%.

**SOIL**

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 2	2.5Y 3/2	100					Loamy/Clayey	Sandy clay; 30% Cobble till
2 - 13	2.5Y 3/1	100					Loamy/Clayey	Sandy clay

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6) ( <b>Guam, CNMI, and American Samoa</b> )
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Muck Presence (A8)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
	<input type="checkbox"/> Stratified Layers (A5)
	<input type="checkbox"/> Red Parent Material (F21)
	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	<input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:  
Water level checked at 13:00

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Tilapia Nests (B17)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Fiddler Crab Burrows (C10) ( <b>Guam, CNMI, and American Samoa</b> )
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Salt Deposits (C5)
	<input type="checkbox"/> Stunted or Stressed Plants (D1)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
No surface water or saturation

Project/Site: Kahena Wai City: Hau'ula Sampling Date: 12/19/2023 Time: 13:50  
 Applicant/Owner: Karl Bromwell State/Terr/Comlth.: Hawai'i Island: O'ahu Sampling Point: 6  
 Investigator(s): Susan Burr, Carmen Hoyt, Patricia Myer TMK/Parcel: 5-3-005:007  
 Landform (hillside, coastal plain, etc.): Coastal plain Local relief (concave, convex, none): Concave  
 Lat: 2387164.31 N Long: 615106.93 E Datum: NAD 1983 Slope (%): 5  
 Soil Map Unit Name: Mokuleia clay loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Tree Stratum	(Plot size: <u>10 m</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1.	_____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
				=Total Cover																	
Sapling/Shrub Stratum	(Plot size: <u>1 m</u> )																				
1.	_____	_____	_____	_____	<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>113</u></td> <td>x 3 = <u>339</u></td> </tr> <tr> <td>FACU species <u>1</u></td> <td>x 4 = <u>4</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>114</u> (A)</td> <td><u>343</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.01</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>113</u>	x 3 = <u>339</u>	FACU species <u>1</u>	x 4 = <u>4</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>114</u> (A)	<u>343</u> (B)	Prevalence Index = B/A = <u>3.01</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>0</u>	x 2 = <u>0</u>																				
FAC species <u>113</u>	x 3 = <u>339</u>																				
FACU species <u>1</u>	x 4 = <u>4</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>114</u> (A)	<u>343</u> (B)																				
Prevalence Index = B/A = <u>3.01</u>																					
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
				=Total Cover																	
Herb Stratum	(Plot size: <u>1 m</u> )																				
1.	<u>Megathyrsus maximus</u>	<u>110</u>	<u>Yes</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2.	<u>Macroptilium atropurpureum</u>	<u>3</u>	<u>No</u>	<u>FAC</u>																	
3.	<u>Mimosa pudica</u>	<u>1</u>	<u>No</u>	<u>FACU</u>																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
6.	_____	_____	_____	_____																	
7.	_____	_____	_____	_____																	
8.	_____	_____	_____	_____																	
				<u>114</u> =Total Cover																	
Woody Vine Stratum	(Plot size: <u>10 m</u> )																				
1.	_____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																
2.	_____	_____	_____	_____																	
				=Total Cover																	

Remarks:



**SOIL**

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 9	10YR 2/1	100					Loamy/Clayey	
9 - 13	10YR 5/3	100					Sandy	Loamy sand

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

No reaction to alpha-alpha-dipyridyl; 2 inches of Megathyrsus maximus (guinea grass) above soil; water table reading at 14:05

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

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

Wetland Hydrology Present? Yes  No

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

Remarks:

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Attachment B

Photos of Sampling Points  
(SPs)

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**SP-01 Non-wetland**



SP-01 is located on the south side of the parcel, near the boundary. Water table is deeper than 17 in below surface. A stream is ~3 m away.



View east towards Kamehameha Hwy.



View north towards the stream that transects the southern side of the parcel. Kamehameha Hwy can be seen in the background.



View west towards the southwest edge of the parcel.



**SP-02 Wetland**



SP-02 is 16 in away from standing water. Water table is 4 in deep. Chunks of asphalt that were removed at SP-02 can be seen above it.



View south toward the boundary of the parcel. SP-01 is across the stream.



View north toward standing water. The upland/wetland boundary is in the background, with a visible change in vegetation.



View west toward Kamehameha Hwy.



**SP-03 Non-wetland**



SP-03 is in a cut down hau (*Hibiscus tiliaceus*; FACW) forest. Water table is > 15 in deep. Surface water is ~5 m away.



View north, facing the wetland/upland boundary. Hau forest.



View south, upland conditions continue until parcel boundary, past which is the stream. Hau forest.



View east, facing the wetland/upland boundary. Hau forest.



**SP-04 Wetland**



SP-04 is in thick California grass (*Urochloa mutica*; FACW). Soil changed color upon air exposure. Water table present at 12 in, saturation at 5 in.



View south, toward the parcel boundary. California grass dominates.



View east, toward the wetland/upland boundary. California grass.



View west, wetland continues. California grass dominates.



**SP-05 Non-wetland**



SP-05 is located upland in thick elephant grass (*Cenchrus purpureus*; FAC). Water table is > 13 in deep.



View north, upland continues, dominated by elephant grass.



View south, toward wetland/upland boundary, dominated by elephant grass.



View east, upland continues, dominated by elephant grass.



**SP-06 Non-wetland**



SP-06 is located upland in thick guinea grass (*Megathyrsus maximus*; FAC). Water table is > 13 in deep.



View north, upland continues until parcel boundary, dominated by Guinea grass.



View south, upland continues until the wetland boundary, dominated by Guinea grass.



View east, upland continues until parcel boundary, which is located at the houses in the background of the photo.