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DEPARTMENT OF FIRE & PUBLIC SAFETY
COUNTY OF MAUI
200 DAIRY ROAD
KAHULUI, HI 96732

April 4, 2019



OFFICE OF THE
COUNTY COUNCIL

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RECEIVED

Ms. Michele M. Yoshimura *Mf*
Budget Director, County of Maui
200 South High Street
Wailuku, HI 96793

APPROVED FOR TRANSMITTAL

Michael P Victor 4/9/19
Mayor Date

Honorable Michael P. Victorino
Mayor, County of Maui
200 South High Street
Wailuku, HI 96793

For Transmittal to:

Honorable Keani Rawlins-Fernandez
Chair, Economic Development & Budget Committee
Maui County Council
200 South High Street
Wailuku, HI 96793

Dear Chair Rawlins-Fernandez:

SUBJECT: FISCAL YEAR (FY) 2020 BUDGET (FS-6) (EDB-1)

The Department of Fire & Public Safety has received your communication dated April 1, 2019.

1. Relating to CBS-1003, Countywide Fire Facilities (Program Budget, page 724):
 - a. The listed projects are grouped by location or project type. Please provide the following:
 - A breakdown of the cost for each project.
 - The projects in rank order, with number 1 being the highest priority and number 20 the lowest.

Priority	Project	Cost	Notes
1	Kahului Station Window Replacement	\$25,000	Hazardous due to potential falling glass
2	Lahaina Station Major Plumbing Upgrade	\$15,000	Health and safety concern
3	Paia Station Major Plumbing Upgrade	\$10,000	Health and safety concern
4	Hana Station Major Plumbing Upgrade	\$25,000	Health and safety concern
5	Ocean Safety Baldwin Tower with Storage	\$151,000	Flooding and erosion may lead to current space being loss
6	Ocean Safety Kanaha Roof for Storage Containers	\$20,000	Water leakage damaging equipment
7	Ocean Safety Hanakao'o Roof for Storage Containers	\$15,000	Water leakage damaging equipment
8	Ocean Safety Makena Roof for Storage Containers	\$20,000	Water leakage damaging equipment
9	Hana Station Storage Room Replacement	\$50,000	Reduce clutter for increased safety, etc.
10	Kihei Station Storage Building	\$6,000	Reduce clutter for increased safety, etc.
11	Lanai Station Window Replacement	\$40,000	Protection from high-wind events; increased energy efficiency
12	Kahului Station Turnout Drying Area	\$50,000	Lean-to for drying without UV exposure which damages PPE
13	Kaunakakai Station PV/Covered Parking	\$100,000	Energy-related cost savings; provides shelter for vehicles
14	Kahului Station Locker Replacement	\$20,000	Termite damage; functional for now but will need replacing soon.
15	Kaunakakai Station Solar Water Heating	\$20,000	Energy-related cost savings
16	Hana Station Carport Extension	\$50,000	Shelter for utility vehicle

17	Makawao Station Carport/Work Shed to House Utility Vehicle	\$50,000	Shelter for utility vehicle
18	Ho'olehua Station Carport	\$50,000	Shelter for Department vehicles
19	Wailuku Station Bathroom Renovation	\$40,000	Old + needs replacement but still functional
20	Kihei Station Captain's Quarters with Restroom	\$70,000	Separate space to perform duties

- b. Several projects relate to providing shelter to vehicles and equipment (number 5-7, 13). If these shelters are not full enclosures, are there any mechanisms in place to prevent or deter theft and vandalism?

PROJECT # 5: PV SYSTEM/COVERED PARKING AT KAUNAKAKAI FIRE STATION.

Apparatus and rescue watercrafts are currently stored in the parking lot with no theft or vandalism incidents. The covered parking would extend the life of the equipment and the PV system would be in line with the states renewable energy initiative.

PROJECT # 6: PARKING GARAGE AT MAKAWAO FIRE STATION FOR UTILITY VEHICLE.

Currently the Utility Vehicle is parked outside in the elements. The garage would provide storage for the Utility Vehicle as well as other equipment. The garage would be securable which would lessen the probability of theft and vandalism.

PROJECT # 7: STORAGE BUILDING FOR KIHEI FIRE STATION.

The Department has reviewed its long term goals and plans to move the Kihei Fire Station out of the tsunami zone. Therefore, we would like to forego this project.

PROJECT # 13: CARPORT IMPROVEMENTS AT HO'OLEHUA FIRE STATION.

Currently the Utility Vehicle and Relief Apparatus are parked outside in the elements with a higher likelihood of theft or vandalism. If funding and space permits, the Department's goal would be to build a second bay onto the station which would house the Utility Vehicle and potentially the Relief Apparatus. The new bay would be securable which would lessen the probability of theft and vandalism.

- c. With respect to project number 8, what other fire stations currently have separate quarters and restrooms for the captain? Please explain the need for separate accommodations.

The Department has reviewed its long term goals and plans to move the Kihei Fire Station out of the tsunami zone. Therefore, we would like to forego this project.

2. Relating to CBS-1096, Countywide Fuel Tank Replacements, to replace the Pukoo Fire Station diesel fuel tank (Program Budget, page 726), please explain:
 - a. Why is this listed as a Countywide project, as opposed to a Molokai district project?

The Department of Fire & Public Safety would like to rescind the request to purchase and install a new diesel fuel tank at the current Puko'o Fire Station, unless funding for the relocation of Puko'o Fire Station is withdrawn.

After further consideration it was found that a more cost-effective alternative would be to purchase a portable fuel trailer that would be efficient until the relocation is complete.

In the FY 2020 Budget, the Department as requested \$15,000.00 to purchase the portable fuel trailer under the "C" account and has been approved by the Mayor.

In response to why the project was listed as Countywide versus Molokai district, there is no particular reasoning.

- b. Your response dated March 4, 2019, to the Council's Governance, Ethics and Transparency Committee, lists this as a cost-saving measure and states: "Department is in the process of relocating Pukoo Fire Station and does not want to install a \$110,000 fuel tank." Please advise whether this project is only need if the Pukoo Fire Station Relocation project (CBS-4617) is not funded. Or, is this project necessary because of the time involved in relocating the facility and getting a new facility operational, even if the relocation is funded? Please explain.

The Puko'o Fire Station is in urgent need of a diesel fuel storage option as the current tank is corroded to the point of not being functional. This project simply can't be put on hold until the relocation of the Puko'o Fire Station is completed; which is an estimated two (2) years from now.

The following options has been identified as an immediate solution to the situation:

OPTION # 1: Repair the damages to the current fuel tank to ensure it functions properly. While functionally this would be the preferred method, it has several drawbacks:

- **It would be very expensive to repair the damage to the current fuel tank. In addition, if/when the Puko'o Fire Station relocation is completed, there would be additional expenses to remove, haul and re-install the fuel tank.**
- **The current Puko'o Fire Station which includes the current fuel tank resides in a tsunami evacuation zone.**
- **This area is also heavily exposed to salt air and water which accelerates corrosion.**

OPTION # 2: Purchase a portable fuel trailer to be used temporarily until the Puko'o Fire Station relocation is complete. While a portable fuel trailer is not designed for long term use at a fixed location, it would only be on a temporary basis until the relocation project is complete. Once the Puko'o Fire Station is relocated and operational, the portable fuel tank would be available to use elsewhere within the Department or County.

In addition, it is approximately \$95,000.00 cheaper than repairing the current fuel tank as noted in option # 1.

The Department feels that option # 2 will solve an immediate problem facing East Moloka'i while saving the County and its taxpayers money. Therefore, we have chosen to seek funding for a portable fuel trailer until the Puko'o Fire Station relocation is complete and withdraw our request for funds to repair the current fuel tank. However, in the event that the Puko'o Fire Station relocation project is halted, then installing a more expensive fixed fuel tank (approx. \$110,000.00) would be necessary as a portable fuel trailer is not designed for permanent use in a fixed location and would not be a workable alternative.

3. **Relating to CBS-1005, Lanai Fire Station Improvements (Program Budget, page 728), your presentation to the GET Committee on March 21, 2019, state that as of February 25, 2019, the subdivision and land acquisition process has not yet been completed. Further, the response states that once the land is acquired and recorded, the Department will be seeking funding for the design and planning phase, with no estimate available for this phase. In the FY 2019 Budget, \$100,000 was appropriated for the design, construction, and related costs for this project. The Department is now requesting \$1,872,000 for construction in FY 2020. What is the Department's state of readiness to**

construct the project this fiscal year, when the land has not yet been acquired and the project has not yet been designed? Please explain.

The 2018 Capital Improvement Project (CIP) for the Lanai Fire Station Expansion funding consisted of \$110,000.00. The Department of Fire & Public Safety has executed a contract in the amount of \$26,722.00 for the hiring of a consultant to complete the subdivision and land court processes for the project. The remaining funds, \$83,278.00 was returned.

There are zoning inconsistencies between two (2) parcels so an extension may be requested on the current contract if it cannot be resolved by August 2019. The consultant will file for a Limited Subdivision for Pulama Lanai's larger parcel. Pulama Lanai will need to sign off on the application or assign the consultant as an authorized representative. Upon completion of the subdivision, the Consultant will file a subdivision map with the Land Court. Please note that ownership will still be held by Pulama Lanai who will need to sign the appropriate paperwork. The Land Court process can take months to complete.

In the meantime, the Department will file a consolidation application for the two (2) smaller parcels at the County level. A zoning change will be required due to the inconsistencies of the two (2) smaller parcels. The Department of Fire & Public Safety will need to hire a consultant for planning and design portion of the project, which would include the necessary zoning changes.

The Department of Fire & Public Safety will not be working to obtain any construction permits until the Land Court process has been approved and consolidation is completed.

Upon the sign off of the Land Court, Pulama Lanai will need to decide how to move forward with the ownership conveyance. Pulama Lanai's would need to submit new deeds for the County of Maui ownership to the Land Court for recordation or voluntarily request deregistration of the two (2) smaller parcels from Land Court. Once ownership is completed, building permits can be issued and construction can be started.

The 2019 CIP budget funds of \$100,000.00 will be used to start the design process. It is the Department's hope to begin the construction phase during the second half of FY 2020.

4. Relating to CBS-4617, Pukoo Fire Station Relocation (Program Budget, page 729):
 - a. Last fiscal year, the Department intended to pursue a cultural/archaeological survey of foreclosed property (tax map key (2) 5-6-002:009) for the relocation of Pukoo Fire Station. Is this property the same site as the site noted in the Department's March 21, 2019 presentation, in the Ualapue area, adjacent to Kilohana School? If so, please advise of the results of the survey. If not, please advise what factors led to the change in selected site.

The preliminary site evaluation primarily focused on parcels (2) 5-6-002:029 and (2) 5-6-002:029, both currently owned by the State of Hawaii. Parcel (2) 5-6-002-009 is located very near and encompassed by to parcel (2) 5-6-002:029 which means it was included in the preliminary archaeological investigation.

While it is possible to utilize the (2) 5-6-002:029 and (2) 5-6-002:030 parcels for the proposed Puko'o Fire Station, it would not be idea for the neighboring community. Parcel (2) 5-6-002-009 which currently contains a dilapidated structure is currently in foreclosure and was not purchased during a recent auction. After receiving the preliminary reports, the Department of Fire & Public Safety would like to propose to acquire parcel (2) 5-6-002-009 and will be submitting an official proposal to request approximately \$300,000.00 in the near future. The acquisition of this parcel would make the site whole and provide a more direct access route to the highway while avoiding the park users and the adjacent neighborhood.

- b. What progress has been made in evaluating the site in the Ualapue area? If the results are favorable, what is the anticipated time frame for land acquisition? For design and planning?

Thus far, the site evaluation has been very favorable. The professional archeological review has not turned up anything that would prevent moving forward with the project. The preliminary reports are included and labeled "ATTACHMENT # 1."

As mentioned parcel (2) 5-6-002:029 and (2) 5-6-002:030 are currently owned by the State of Hawaii. No further action is needed regarding parcel (2) 5-6-002:029, as there is already an existing executive order between the State of Hawaii and the County of Maui which permits the construction of a fire station. The Department of Fire & Public Safety and the Department of Land and Natural Resources has been working together to create an executive order for parcel (2) 5-6-002:030. It is our goal to obtain a long term executive order to combine (2) 5-6-002:029 and (2) 5-6-002:030 parcels.

The proposed fire station would straddle the property lines of parcel (2) 5-6-002:029 and (2) 5-6-002:030. The enclosed site plan, titled ATTACHMENT # 2", is in the preliminary stages but shows how the station would be oriented on the parcels.

The Department of Fire & Public Safety would like request funding for design and construction as it can be a very lengthy process. At this time, the Department does not have a specified timeline on when the design and

construction phase can begin, so it may be more favorable to request the funds via Budget Amendment. There are many variables to consider that are out of our hands such as the parcel consolidation and the executive order for parcel (2) 5-6-002:030.

- c. Please provide a comprehensive list of criteria for the selection of a new site, including required lot size, access to roads, and impact on response times to main service areas and to remote service areas. Does the Department have alternate sites identified if evaluation of the Ualapue site is unfavorable?

While there is not required lot sizes, it generally takes approximately two (2) acres to house a fire station (including personnel and equipment) successfully. The size needs to accommodate the various equipment and apparatus, fire fighters, a fuel tank and adequate space to train safely.

The proposed property which is just mauka of Kamehameha V Highway provides enough space and is not situated in an tsunami evacuation zone.

At the July 6, 2019 Community Meeting at Kilohana Community Center there were six (6) specific sites that were identified, please see below for further detail.

1. UALAPUE MAUKA, TMK (5) 6-002:026.

This property is owned by the Department of Hawaiian Home Lands (DHHL) and is 13 acres in size. There was concern by politician(s) of the Department taking away DHHL lands.

2. PATRICK SILVA PROPERTY, TMK (5) 6-002:011.

This property was eliminated because there are too many owners on the property. The cost and labor to coordinate and try to obtain the property would be too laborious and time consuming.

3. MAPULEHUA, TMK (5) 7-008:076.

This property is owned by the County of Maui but it is a property that is sacred to the community. The Department felt it was not an appropriate place for a fire station and would require more discussion amongst the community, policy makers and the Department.

4. KAMALO

This property is owned by Bishop Estate but is too close to the ocean.

5. KILOHANA KAI, TMK (5) 6-002-0238.

This parcel is owned by the State of Hawaii but leased to someone else.

- d. What are the proposed plans for the structure(s) on the current site once the station has been relocated?

The structure is owned by the Department of Health and will be returned once the relocation is complete.

- e. Are there conditions within the lease concerning disposition of structures and the fuel tank on the property once the lease is terminated? If so, please explain.

The Department of Fire & Public Safety has had a lease with the Department of Health is on a 30-day basis for the last 30 years. There is no long term lease for the current Puko'o Fire Station. There is no conditions regarding the facility when we vacate the property. The Department will need to work with the Department of Health on the disposition of the fuel tank. It is assumed they would want it removed.

- f. What is the length of time remaining on the lease?

The Department is on a month-to-month lease with the Department of Health for the past 30 years.

- g. There is also a request in the FY 2020 Budget for land acquisition, planning and design funds for a Molokai Police Station (CBS-5536). What are the feasibility and main advantages and disadvantages of a joint facility or service compound for both the Department of Fire & Public Safety and the Department of Police?

Although the police and fire departments have similar overall goals in protecting the community, we have different responsibilities and strategies. We are open to reviewing any preliminary plans to have a joint facility on Molokai. Another option may be to purchase a large parcel with a separate facilities for a fire station and police station.

The Kaunakakai Fire Station which includes the dispatch center was completed in 2011. In addition, the Emergency Operations Center (EOC) at the Kaunakakai Fire Station will be completed in the near future which leaves limited space for a police station.

- h. Please identify any other fire stations or Department auxiliary buildings that are currently located in the flood and tsunami zones.

The Department is not aware of any facilities that are in an identified flood zone.

There are four (4) station that are located in a tsunami evacuation zone including, Paia Fire Station, Kihei Fire Station, Kahului Fire Station and Puko'o Fire Station.

- 5. Relating to CBS-2735, Kahului Fire Station Apparatus Shelter (Program Budget, page 731), are the proposed shelters fully enclosed structures? If not, has considerations been given to constructing fully-enclosed shelters that can provide broader protection to vehicles and equipment?

The proposed structure to protect apparatus and related equipment from the elements is not enclosed. At this time, the Department has not considered a fully enclosed structure but would be willing to do further research if it would be financially supported.

If you have any questions regarding this information, please contact the Fire Chief's Office at ext. 7561 or Fire Chief Thyne at ext. 7562.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Thyne', with a long horizontal flourish extending to the right.

DAVID C. THYNE
Fire Chief



March 13, 2019

Jeffrey H. Overton, AICP, LEED AP
Principal
Group 70 International
111 S. King Street, Suite 170
Honolulu, Hawaii 96813

email: jeff@g70.design

via email

Subject: A preliminary archaeological investigation of the proposed 2.926-acre site for a new fire station serving south/east Moloka'i, TMKs: (2) 5-6-002:009, 029, and 030, 'Ualapu'e Ahupua'a, Kona District, Island of Moloka'i

Dear Jeff:

As requested, ASM Affiliates (ASM) conducted a preliminary archaeological investigation of the proposed 2.926-acre site for a new fire station serving south/east Moloka'i (TMKs: (2) 5-6-002:009, 029, and 030) located in 'Ualapu'e Ahupua'a, Kona District, Island of Moloka'i (Figures 1, 2, and 3). This investigation includes a literature review and a pedestrian survey of the property, and was conducted to provide critical site planning information for the eventual development of the new fire station, which is needed to replace the aging Puko'o Fire Station that currently serves East Moloka'i. The study area includes three separate Tax Map Key parcels, two of which are owned by the State of Hawai'i (Parcels 029 and 030). The third, privately-owned parcel (Parcel 009), a former *kuleana* to Honokahi (LCAw. 3966:1), is currently in foreclosure, and may be acquired by the State as part of the fire station development. This 0.288-acre lot has a two-story house on it that was built in 1988 (effectively built in 1994), but is now unoccupied (Figure 4). The *makai* portion of the study area, to the south of the *kuleana* parcel on the southern half of the 2.13-acre Parcel 029, which is leased by the County of Maui from the State of Hawai'i, has been previously developed as the 'Ualapu'e County Park (Figure 5). The park area—bounded to the south by Kamehameha V Highway (Hawai'i State Route 450), to the west by a road easement that separates Parcel 029 from the Kilohana Elementary School property leading to Parcel 009, and to the north by privately-owned residential parcels—consists of a mowed lawn with four concrete picnic benches and two cobble and concrete sinks (that are no longer operable) present (Figure 6); several boulder push piles are also present within the park area. The 0.51-acre Parcel 030 and the northern portion of Parcel 029 are currently undeveloped, and are covered with thicker vegetation consisting primarily of Guinea grass (*Megathyrsus maximus*), *koa haole* (*Leucaena leucocephala*) and *kiawe* (*Prosopis pallida*) trees (Figure 7). Old fence lines in this area indicate that these portions of the study area were formerly used as pasture.

The study area is situated on the lower, southern slopes of the East Moloka'i Volcano at elevations ranging from 23 to 56 feet (7 to 17 meters) above sea level, on deposits of Holocene and Pleistocene Quaternary alluvium (Qa; Figure 8) comprised of unconsolidated silt, sand, and gravel carried from the mountain slopes to the coast through nearby gulches (Sherrod et al. 2007). These rich agricultural soils are classified as K1aB-Kawaihapai moist, stony clay loam on 2-6 percent slopes (throughout most of the study area; Figure 9), and PsA-Pulehu clay loam on 0 to 3 percent slopes (at the southern extent of Parcel 029 adjacent to Kamehameha V Highway) (Soil Survey Staff 2018). The study area receives a mean annual rainfall of roughly 40 inches (1016 millimeters), with more of the rain falling during the winter months of November to January than during the summer months (Giambelluca et al. 2013). Temperatures in the vicinity of the study area average between 70° F and 77° F throughout the year (Giambelluca et al. 2014).

Covering some 260 square miles, the island of Moloka'i is the fifth largest of the eight major Hawaiian Islands. Formed by the coalescence of three distinct volcanoes, Moloka'i contains considerable environmental diversity, and the uneven distribution of water was a major factor that influenced Precontact settlement patterns on Moloka'i (Kirch 1985). The northeast coast of the island is dominated by precipitous cliffs, some rising to more than 3,000 feet (900 meters) with deep valleys, while the lush east end boasts an array of amphitheater headed valleys that were intensively cultivated during the Precontact and Historic Period (Juvik and Juvik 1998; Kirch 1985). The study *ahupua'a* of 'Ualapu'e is situated along the sheltered south coast of Moloka'i, in a region characterized by broad flat reefs and numerous narrow gulches and valleys with intermittent stream flow. Although not ideal for intensive dry-land agriculture, the near shore alluvial deposits at the outlets of the stream gulches were once cultivated to the fullest possible extent, and this region was well suited for the development of walled fishponds. The south coast of Moloka'i displays the most elaborate and extensive aquaculture complexes found throughout Oceania (Kirch 1985). Rock-lined fishponds built on the shallow reef flats extend for some two-thirds the length of Moloka'i's south coast. These fishponds were constructed at the mouth of the many gulches that extend inland into the upper mountain range. Fifty of the island's sixty-two fishponds are found along the southern coast between Kalama'ula and Kumimi *ahupua'a* (Summers 1971). The origins of some of these fishponds can be traced to specific ruling chiefs. The current study area is located just northwest of 'Ualapu'e Fishpond, which is still actively maintained and utilized.

Traditionally, the island of Moloka'i was divided into two *moku* or districts. The Ko'olau (windward) District comprised the *ahupua'a* of Hālawā, Wailāu, Pelekunu, Waikolu, Kalawāo, Makanalua, and Kaulāupapa, all of which are located along the north and northeast side of the island. The current study area and all of the island's remaining *ahupua'a* are located within the Kona (leeward) District, which includes roughly three-quarters of the island (Summers 1971). The Kona District has been further described by Summers (1971:26) as having three topographically distinct sections:

Its eastern portion consisted of fertile gulches and valleys where wet-land taro was grown. The middle section, which lay between the eastern mountains and the mountains of Maunaloa, was a rolling plain ribbed by small gulches. There, there were extensive plantings of sweet potatoes... The western portion, Kaluako'i, was dry and arid, and had but a small population which grew sweet potatoes and fished in its coastal waters.

'Ualapu'e *Ahupua'a*, the name of which literally translates as "hilled sweet potato" (Pukui et al. 1974:214), is situated near the eastern extent of the Kona District. The name of the *ahupua'a* is likely a reference to the excellent agricultural soils located near the coast, and found in the valley bottoms, of the land division where sweet potatoes were once grown in abundance. 'Ualapu'e *Ahupua'a* also included an *'ili lele* (a geographically detached parcel) named Halekoki, located in Wailāu on the north side of the island. Although little information exists within the historical record for this *ahupua'a*, Kanepuu (1867) in Summers (1971:121) describes the land within 'Ualapu'e as being "...a good land, one filled with taro patches and also a pond." Summers also notes that Makaolehua is the wind of 'Ualapu'e. George P. Cook, who documented the *mo'olelo* of Moloka'i, described a spring in this area located south of the government road (present day Kamehameha Highway), called Lo'ipunawai, of which he writes that it is a "Famous spring about which there are many legends. In seeking this spring many people would die of thirst, or after finding it they would drink too much and die as a result" (Cooke 1949:152).

'Ualapu'e was also known for its *Kahua Maika* (game field for an ancient Hawaiian game similar to bowling) named Ka'akeke, which was frequented by the *ali'i* of Moloka'i, and was described by Kanepuu (1867):

Here ['Ualapu'e] lies the famous maika rolling field, Ka'akeke, and for this field came the proud boast, 'Pohapoha keiki o Ka'akeke (the lads of Ka'akeke make resounding noises).' Perhaps because they are such strong maika throwers. (in Summers 1971:121)

Summers also provides a description of the field, indicating that the *Kahua Maika* began (south of the study area) where “the stone wall of Kalua‘aha is...it went in a straight line to Kahanui stream, S of the road (a distance of 1000 yards)” (Summers 1971:121). She describes the course as a straight groove, similar to a ditch, that stretched for some distance, and that “if the ulu maika [the game stones] could be rolled up the other side of the Kahanui stream, then that stone was the winner.” Tape (n.d) also mentions the difficulty of this course, stating that “Some only went half way and were spent. The stone stopped rolling. The course was hard. At Milima‘a was where the stone scored” (in Summers 1971:121). Indeed this *Kahua Maika* was so famous that it was said that Kamehameha I visited the course in 1812, and had, evidentially, been there before, as ‘Ī‘ī (1959:106) relates that “...the king sailed to Molokai to see again the maika field Kaakeke”. According to Summers (1971), the Ka‘akeke game field is now filled in, and no longer evident.

Moloka‘i’s chiefs held autonomous rule over their island through the early part of the 18th century, but it appears that by the mid to late 1700s, their rule came to be increasingly challenged as the armies of the neighboring island chiefdoms grew significantly. The autonomy of Moloka‘i was further threatened by the fact that by this time, the royal genealogies of Moloka‘i were intricately entwined with those of O‘ahu, Maui, and Hawai‘i Islands. Unable to compete with the power of the neighbor island chiefdoms during the mid- and late 18th century, Moloka‘i’s political rule was eventually split between the chiefs of O‘ahu and Maui. The arrival of the first Westerners to the Hawaiian Islands in 1778, and the subsequent introduction of western ships and weaponry, also reshaped traditional warfare strategies and gave the advantage to those neighboring island chiefs, such as Kamehameha of Hawai‘i Island, who quickly incorporated foreign weapons and advisors into his arsenal. By the end of the 18th century Kamehameha had conquered Molokai, and by 1810 he had unified all of the Hawaiian Islands under his rule.

The accounts early Western visitors to the islands provide the first written descriptions of Moloka‘i. These early voyagers describe the lack of suitable harbors for the safe landing of large ships on the island, which essentially limited the explorations of these foreigners. In his account, Captain George Vancouver (1984:201–203) noted that the eastern side of Moloka‘i was more “verdant and fertile” making it more suitable to sustain a larger population, while the western side was barren and had limited access to fresh water sources. The lack of safe harbors and limited access to fresh water kept Moloka‘i relatively isolated from the influences of Western contact, as well as introduced diseases that were silently spreading across the other islands (Summers 1971).

A review of historical records indicates that the first foreigners to establish a presence on Moloka‘i in the early 1800s were Western missionaries. Although Protestant missions were established on the islands of Oahu and Hawai‘i by the 1820s, it was not until November of 1832 that Reverend Harvey Rexford Hitchcock and his wife became the first missionaries permanently stationed on the island of Moloka‘i. A mission station was first established at Kalua‘aha, on the more densely populated, southeast side of the island. The first church, consisting of a thatched hut, was erected in 1833. The church underwent various degrees of construction over time and was expanded to accommodate the growing congregation. An 1832 missionary census estimated the population on Moloka‘i to be around 6,000, with roughly half of the people living on the eastern side of the island between Hālawa and Kamalō, and 2,700 living between Wailau and Kalaupapa (Judd 1936). By 1853, however, Coulter (1931:20) reported that “[n]early all the western half of the island was uninhabited,” indicating a dramatic decline in the population of Moloka‘i during the first half of the nineteenth century.

By the mid-nineteenth century, the ever-growing population of Westerners in the Hawaiian Islands forced socioeconomic and demographic changes that promoted the establishment of a Euro-American style of land ownership (Chinen 1958). By 1840 the first Hawaiian constitution had been drafted and the Hawaiian Kingdom shifted from an absolute monarchy into a constitutional government. Convinced that the feudal system of land tenure previously practiced was not compatible with a constitutional government, the *Mō‘ī* (King), Kūikeyouli, and his high-ranking chiefs decided to separate and define the ownership of all lands in the Kingdom (King n.d.). The change in land tenure was further endorsed by missionaries and Western businessmen in the islands who were generally hesitant to enter business deals on leasehold lands that could

be revoked from them at any time. After much consideration, it was decided that three classes of people each had one-third vested rights to the lands of Hawai'i: the *Mō'ī*, the *ali'i* (chiefs) and *konohiki* (land agents), and the *maka'āinana* (common people or native tenants).

In 1845 the legislature created the Board of Commissioners to Quiet Land Titles (more commonly known as the Land Commission), first to adopt guiding principles and procedures for dividing the lands and granting land titles, and then to act as a court of record to investigate and ultimately award or reject all claims brought before them. All land claims, whether by chiefs for entire *ahupua'a*, or by tenants for their house lots and gardens, had to be filed with the Land Commission within two years of the effective date of the Act (February 14, 1848) to be considered. This deadline was extended several times for the *ali'i* and *konohiki*, but not for commoners (Alexander 1920). 'Ualapu'e Ahupua'a was retained as Crown Land by King Kamehameha III during the land division (*Buke Māhele* 1848), but was subsequently relinquished to the Government.

As the *Mō'ī* and *ali'i* made claims to large tracts of land during the *Māhele*, questions arose regarding the protection of rights for the native tenants. To address this matter, on August 6, 1850, the *Kuleana* Act or Enabling Act was passed, allowing native tenants to claim a fee simple title to any portion of lands which they physically occupied, actively cultivated, or had improved (Garavoy 2005). Additionally, the *Kuleana* Act clarified rights to gather natural resources, as well as access rights to *kuleana* parcels, which were typically landlocked. Lands awarded through the *Kuleana* Act were, and still are, referred to as *kuleana* awards or *kuleana* lands (Chinen 1958). The Land Commission oversaw the program and administered the *kuleana* as Land Commission Awards (LCAw.). Native tenants who wished to receive title to their lands were required to submit a register to the Land Commission describing those lands, followed by testimony, given by at least two individuals (typically neighbors), to confirm their claim. Upon submittal of the required documents, the Land Commission rendered their decision, and if successful, the tenant was issued the Land Commission Award. Native tenants claiming land through the *Kuleana* Act were required to pay for a Government surveyor to survey and map the boundaries of the awarded parcels in order to receive a Royal Patent for the lands.

A total of 66 *kuleana* parcels were awarded to 33 individuals within the *ahupua'a* of 'Ualapu'e during the *Māhele 'Āina* of 1848. Hawai'i Registered Map No. 1773, prepared by J.F. Brown in October of 1894, depicts the locations of the awarded LCAw. parcels within the *ahupua'a* (Figure 10). The 'Ualapu'e *kuleana* are all situated in relatively close proximity to the coast, with the majority of them located *makai* of the Government Road (Kamehameha V Highway) in the vicinity of the fishponds, and a fewer, larger parcels situated *mauka* of the road in the vicinity of the current study area. One of the study parcels (Parcel 009) consists of a former *kuleana* awarded to Hanakahi as LCAw. 3966:1. Hanakahi, who received a Royal Patent (R.P. No. 4780) for the land in 1860, claimed two 'āpana (sections) in the 'ili of Kuaimamaki within the *ahupua'a* of 'Ualapu'e, one as *kalo* land (for the cultivation of wetland taro), and one as *kula* land (for dryland cultivation). Given the more inland location of the 'āpana within the current study area (the other 'āpana is situated along the eastern edge of 'Ualapu'e Fishpond), it was likely the section claimed as the cultivated *kula* land.

An 1851 map of the parcel prepared as part of the LCAw. claim (Figure 11), lists the adjoining lands to the west (within Parcel 030 of the study area) as belonging to Ehu and Muu, the lands to the north and east as belonging to the *konohiki*, and the *alaloa* (literally, "long trail," perhaps referring to a foot trail the preceded the Government Road) as the southern boundary. The names Ehu and Muu, are also listed on the 1894 map of 'Ualapu'e (see Figure 10) within Parcel 30, perhaps indicating their former ownership of the land, although neither received a *kuleana* during the *Māhele 'Āina* of 1848 (a question mark below Ehu's name indicates that there was some uncertainty in 1894 about the ownership of that land). Rock walls are shown on the 1894 map surrounding the lands of Hanakahi, Ehu, and Muu, and three other *kuleana* are depicted to the north and west of the study area, LCAw. 6516:1 to Waililili, LCAw. 3666:2 to Melulama Kaule, and LCAw. 8105:1 to Hakuole. All three of these *kuleana* were also claimed as *kula* lands. The walls and *kuleana* are better illustrated on a 1922 map filed with C.S.F. 3731 (Figure 12).

In conjunction with the *Kuleana* Act, the King also authorized the issuance of Land Grants to applicants for tracts of Government land that were allocated during the *Māhele*. These Land Grants were generally larger than those awarded by the Land Commission. The Act resolved that portions of the Government Lands should be set aside and sold as grants ranging in size from one to fifty acres at a cost of fifty cents per acre. The stated goal of this program was to enable native tenants, many of whom were insufficiently awarded, or not awarded, land through the *Kuleana* Act to purchase parcels of their own. By 1894 the lower lands of ‘Ualapu‘e, those not awarded as *kuleana*, were divided up into 22 lots (the ‘Ualapu‘e Lots) that were sold as grants. The 2.13-acre Parcel 029 of the current study area, corresponding to Lot 13 of the subdivision (see Figure 10), was purchased in 1895 by an individual named Uilama as Grant No. 3793:1. In the grant documents, this parcel is listed as *kula* land, and a second parcel purchased as part of the same grant (Grant No. 3793:2), situated *makai* of the highway and east of the study area, is listed as taro land.

In 1910, ‘Ualapu‘e Lots 16, 17, 18, and 19, situated to the west of the current study area, were chosen as the site of a County Hospital (Executive Order No. 1; Figure 13). In 1921, ‘Ualapu‘e Lots 14 and 15, also located to the west of the study area (the current location of Kilohana Elementary School), were selected as the site of a ‘Ualapu‘e Public Park and Playground (Executive Order Nos. 94). In 1922 and 1923, some vacant lands inland of Lots 14 and 15, and ‘Ualapu‘e Lot 13 (encompassing Uilama’s Grant No. 3793:1 and Parcel 029 of the current study area), were added to ‘Ualapu‘e Park (Executive Order Nos. 118). The 1922 Mapulehu U.S.G.S. quadrangle depicts the lands in the vicinity of the current study area around this time (Figure 14). The map shows two structures located on, or very near, the *makai* portion of Parcel 029, and a third structure situated *mauka* of that parcel; it also depicts ‘Ualapu‘e Fishpond and several named *heiau* situated inland and west of the study area. An oblique aerial view of the of the south coast of Moloka‘i taken in 1950 shows that by that date the original buildings of the Kilohana Elementary School had been built, but that the study area was undeveloped and covered in tall trees (Figure 15). The portion of ‘Ualapu‘e County Park that encompasses the *makai* part of Parcel 029 was not cleared and developed until the late 1970s. A two-story, 1,496 square foot house was constructed on Parcel 009 of the study area in 1988. Parcel 30, and the *mauka* portion of Parcel 029, appear to have been used as pasture during the mid to late twentieth century, but were not subject to any development during the Modern Period.

There have been few formal archaeological studies conducted along the southeastern coast of Moloka‘i in the vicinity of the current study area. Archaeological studies along this coast began with John F.G. Stokes’ (1909) survey of *heiau* on the island of Moloka‘i for the B.P. Bishop Museum in 1909. Stokes spent ten weeks on Moloka‘i during 1909-1910, where he described 87 *heiau* and 21 *ko‘a* (shrines), including one along the boundary between Kahananui and ‘Ualapu‘e *ahupua‘a* inland of the current study area, Kalauonokukui Heiau (see Figure 14). He described the *heiau* as “an irregular shaped enclosure whose lines have been destroyed by later cultivation” (Stokes 1909:6).

This *heiau*, along with another similarly named and positioned *heiau*, were later inventoried by Catherine C. Summers (1971) of the B.P. Bishop Museum as Site 181 (Kalauonokukui Heiau) and Site 182 (Kalauonokukui Heiau), in her history and inventory of historic properties for the island of Moloka‘i. Summers described both *heiau* as situated along the western boundary of ‘Ualapu‘e *Ahupua‘a*, but provided very little information regarding their use. She also mentions a third *heiau* within ‘Ualapu‘e, Pu‘ukuhe Heiau, but provides no information concerning its location or construction, simply stating that it was not seen. Summers (1971) also provides descriptions of three additional sites within ‘Ualapu‘e, including the aforementioned *Kahua Maika* of Ka‘aeke (Site 183), and two fish ponds situated in the nearshore coastal waters of the *ahupua‘a*, Halemahana Fishpond (Site 184) and ‘Ualapu‘e Fishpond (Site 185). Both Kalauonokukui Heiau (Site 181) and ‘Ualapu‘e Fishpond (Site 185) were added to the list of Designated Historic Places for the State of Hawai‘i on October 15, 1966 as part of the Hōkūkano-‘Ualapu‘e National Historic Landmark (Site 50-60-04-322), which consists of 9 discontinuous historic properties located along the southern shore of Moloka‘i between ‘Ualapu‘e and Hōkūkano *ahupua‘a* (National Park Service 1988).

The only recently conducted studies within ‘Ualapu‘e Ahupua‘a, in the vicinity of the current study area, are limited to an archaeological literature review and field check of four DOE schools on Moloka‘i that included Kilohana Elementary (Hammatt 2008), and a monitoring plan for cesspool improvements at three of those schools that also including Kilohana Elementary. Archaeological monitoring conducted for the cesspool improvements at Kilohana Elementary School (Wilkinson and Hammatt 2010) revealed no significant surface or subsurface historic properties within the school parcel.

On February 14 and 15, 2019, Matthew R. Clark, M.A. and Johnny R. Dudoit, B.A. of ASM conducted a preliminary archaeological investigation of the 2.926-acre study area. The investigation included a 100% surface survey of the parcels, and the documentation of all identified historic properties (Figure 16). The archaeological features recorded within, or along the boundaries of, the current study area include the rock walls surrounding LCAw. 3966:1 (Parcel 009) to Hanakahi (Temporary Site 1 [T-1] Figure 17), the rock walls surrounding the lands once belonging to Muu (Temporary Site 2 [T-2] Figure 18) and Ehu (Temporary Site 4 [T-4] Figure 19) on Parcel 030, and a short section of rock wall along the western boundary of Grant No. 3793:1 to Uilama at its northern end (Temporary Site 5 [T-5] Figure 20). Additionally, a small enclosure (Temporary Site 3 [T-3] Figure 21) located adjacent to western edge of Muu’s land (T-2), and a rock wall along the *mauka* edge of a road corridor adjacent to the northern boundary of Parcel 029 (Temporary Site 6 [T-6] Figure 22) were also recorded. Both of these sites (T-3 and T-6) appear to be situated just beyond the boundaries of the study area, but an official metes and bounds survey of the property should be undertaken to determine the exact parcel boundaries and the locations of these sites relative to those boundaries. The remnants of an early Historic Period structure built of cut stone and mortar are also present immediately to the west of T-4, but this site is clearly beyond the limits of the study area, and was therefore not recorded.

All of the rock walls documented during the current study (with the exception of the T-3 enclosure, which appears associated with Muu’s land and T-2) are depicted on an 1894 map of ‘Ualapu‘e (see Figure 10), and are at least that old, but their initial construction likely dates back to the middle or early part of the nineteenth century. In the 1848 *Māhele* testimony for LCAw. 3966, Hanakahi states that one of his claimed ‘*āpana* was enclosed with a rock wall (probably T-1, but it is not clear from the testimony). It is likely that the walls surrounding the lands once belonging to Mu‘u (T-2 and T-3) and Ehu (T-4), and the wall segments along the western and northern boundaries of Grant No. 3793:1 to Uilama (T-5 and T-6), which are coterminous with the boundaries of LCAw. 3666:2 to Melulama Kaule, were also in place by the time of the *Māhele* ‘*Āina* of 1848, as the *kuleana* in this area were mostly claimed as *kula* gardens, and by that time the introduction of livestock to the island of Moloka‘i had made growing anything difficult without first walling off the agricultural lands to protect them from the free ranging cattle and goats. No evidence of archaeological features related to the former cultivation of these parcels was identified on the surface of the study area.

The presence of the Historic boundary walls within the proposed project area will necessitate the preparation of an Archaeological Inventory Survey (AIS) of the study area in compliance with Chapter 6E-8 and in accordance with HAR 13§13-275 and 276. The AIS will need to be submitted to, and accepted by, the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) prior to receiving any State or County permits for the construction of the new fire station. If Federal monies are involved in the project, then the AIS document will also need to comply with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), and be submitted to the Hawai‘i State Historic Preservation Officer (SHPO) for review and concurrence prior to receiving any development permits. As part of the Section 106 process, additional consultation with Native Hawaiian Organizations (NHOs) regarding the proposed project will be required. Upon acceptance of the AIS, it is possible that the SHPD/SHPO might require preservation of some of the boundary walls identified within the proposed project area. This will require the preparation and acceptance of an Archaeological Preservation Plan in accordance with HAR 13§13-277 prior to receiving any development permits for the project. It is also likely that SHPD will require archaeological monitoring of subsurface development activities within the subject

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parcels, as they have previously done this for development activities on nearby parcels. This will require the preparation and acceptance of an Archaeological Monitoring Plan in accordance with HAR 13§13-279 prior to receiving any development permits for the project, and the presence of a qualified archaeological monitor during all ground disturbing activities with the parcels.

Additionally, as the proposed project will occur on State-owned lands and will involve the use of State or County funds, it will trigger HRS Chapter 343, and require the preparation of an environmental assessment (EA), which will necessitate the preparation of a Cultural Impact Assessment (AIS) that identifies and considers any adverse effects on cultural resources or traditional cultural practices. The CIA, which will accompany other environmental documentation prepared in compliance with HRS Chapter 343, must follow OEQC *Guidelines for Assessing Cultural Impacts*, adopted by the Environmental Council, State of Hawai'i, November 19, 1997.

Thank you for the continued opportunity to provide you with our services. Should you have any questions, or if you would like further information please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Clark', with a long horizontal flourish extending to the right.

Matthew R. Clark, M.A.

Senior Archaeologist – Director ASM Hilo

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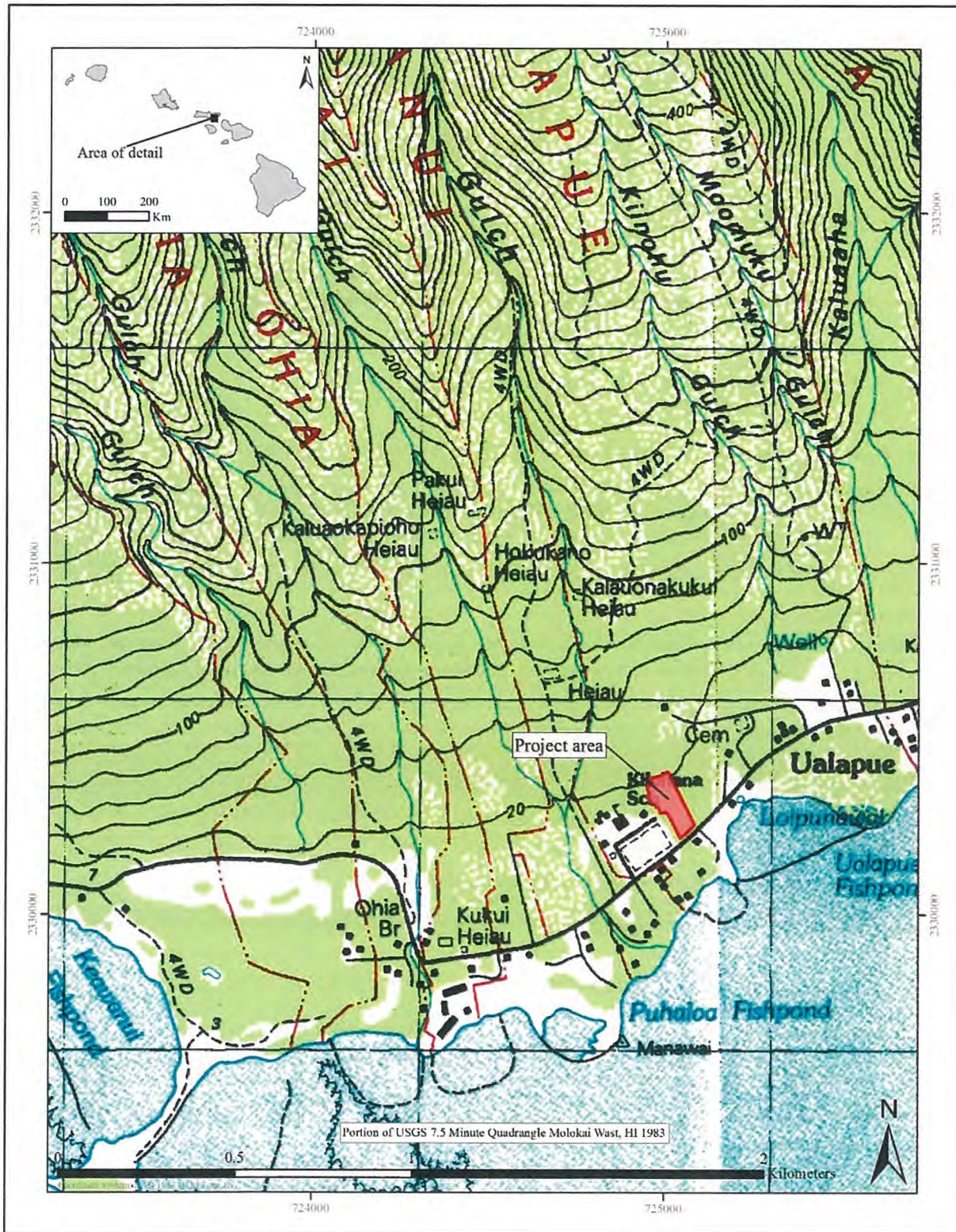


Figure 1. Study area location.

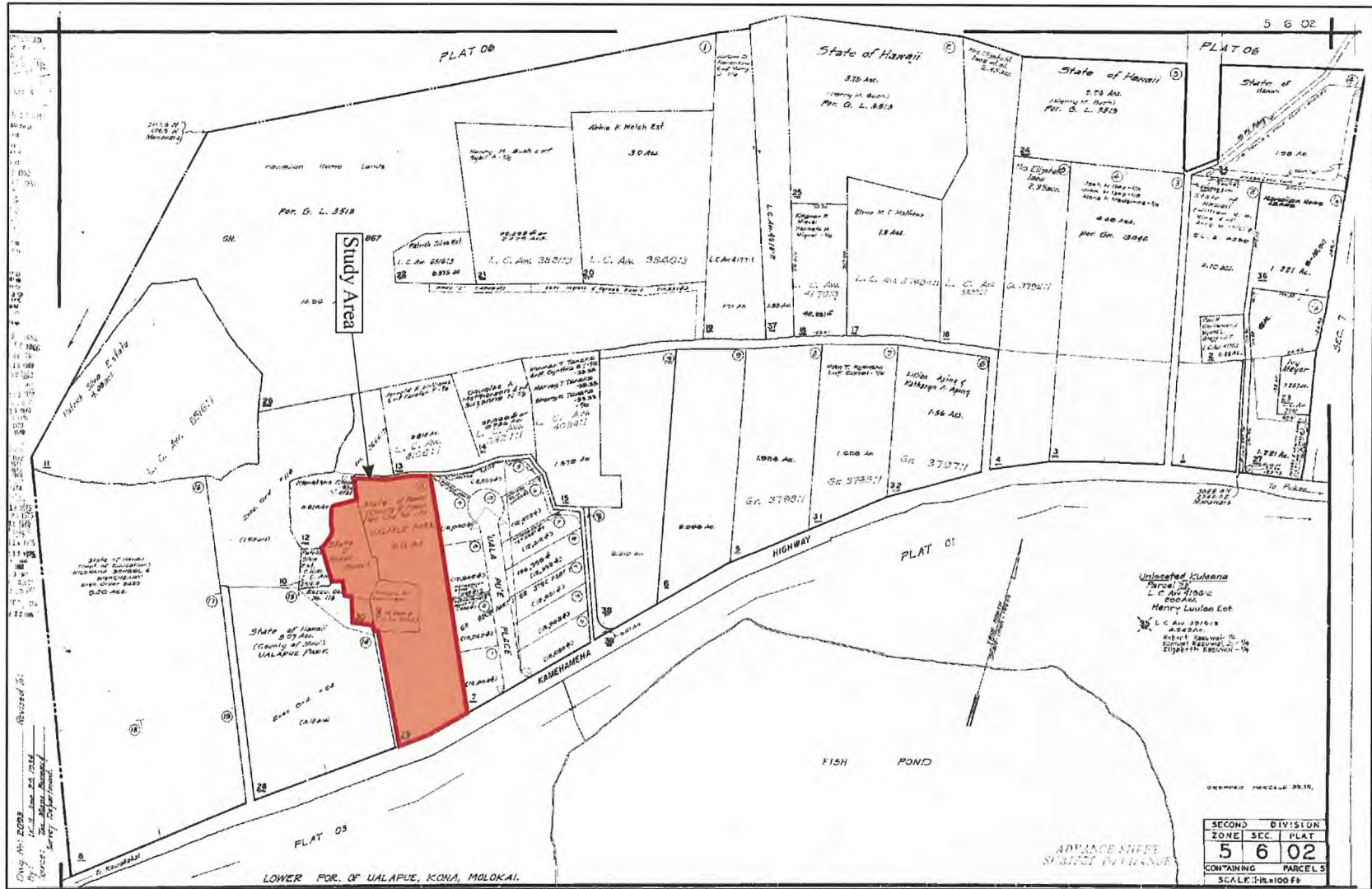


Figure 2. Tax Map (3) 5-6-002 showing the current study area (shaded red).

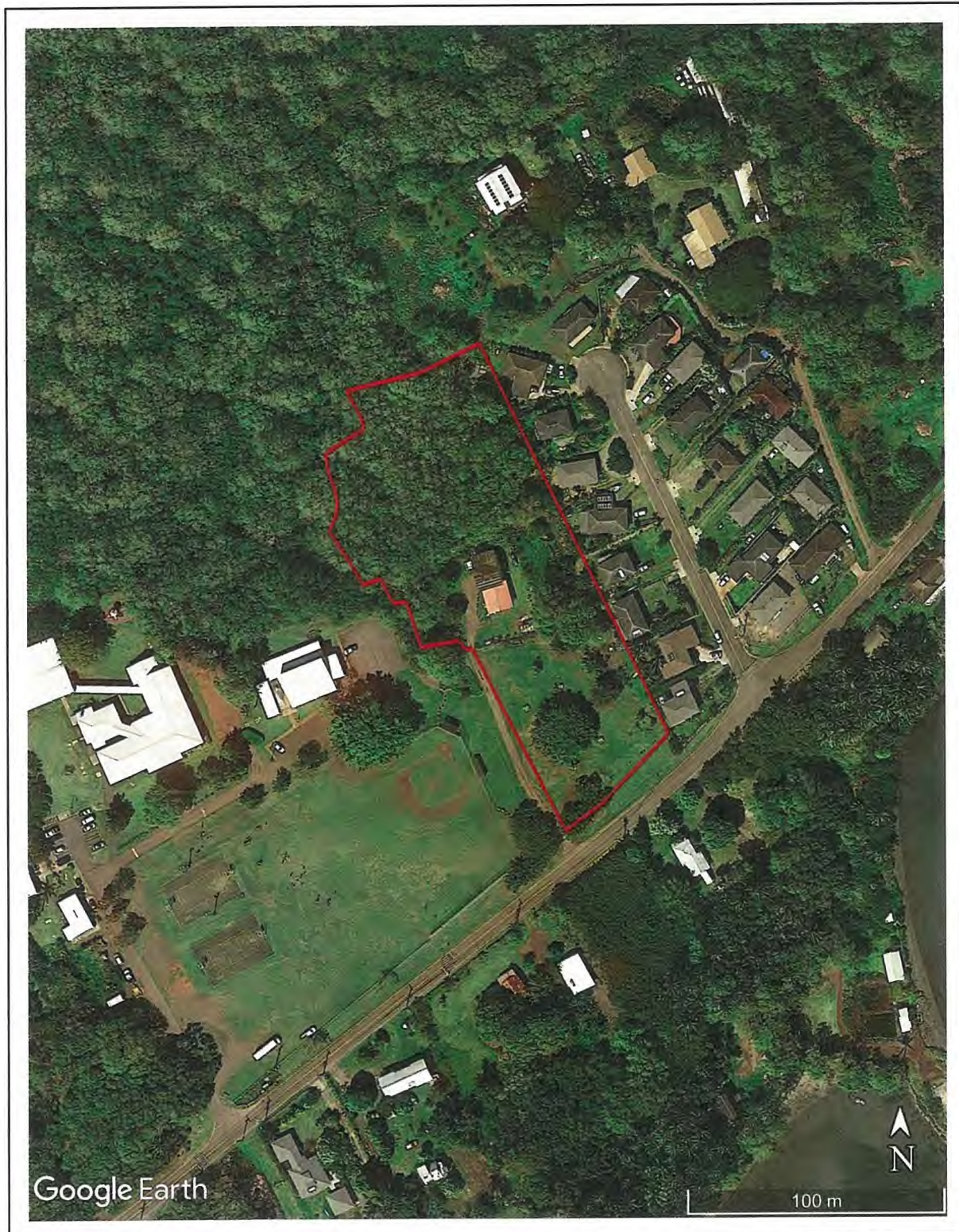


Figure 3. A 2013 Google Earth™ satellite image showing the current study area (outlined in red).



Figure 4. Vacant two-story house on Parcel 009, view to the north with ‘Ualapu‘e Park in the foreground.



Figure 5. ‘Ualapu‘e Park situated on the *makai* portion of Parcel 029, view to the northwest.



Figure 6. Concrete picnic table at 'Ualapu'e Park with a cobble and concrete sink visible in the background, view to the north.



Figure 7. Typical vegetation in the northern portion of the study area on Parcels 029 and 030, view to the south.

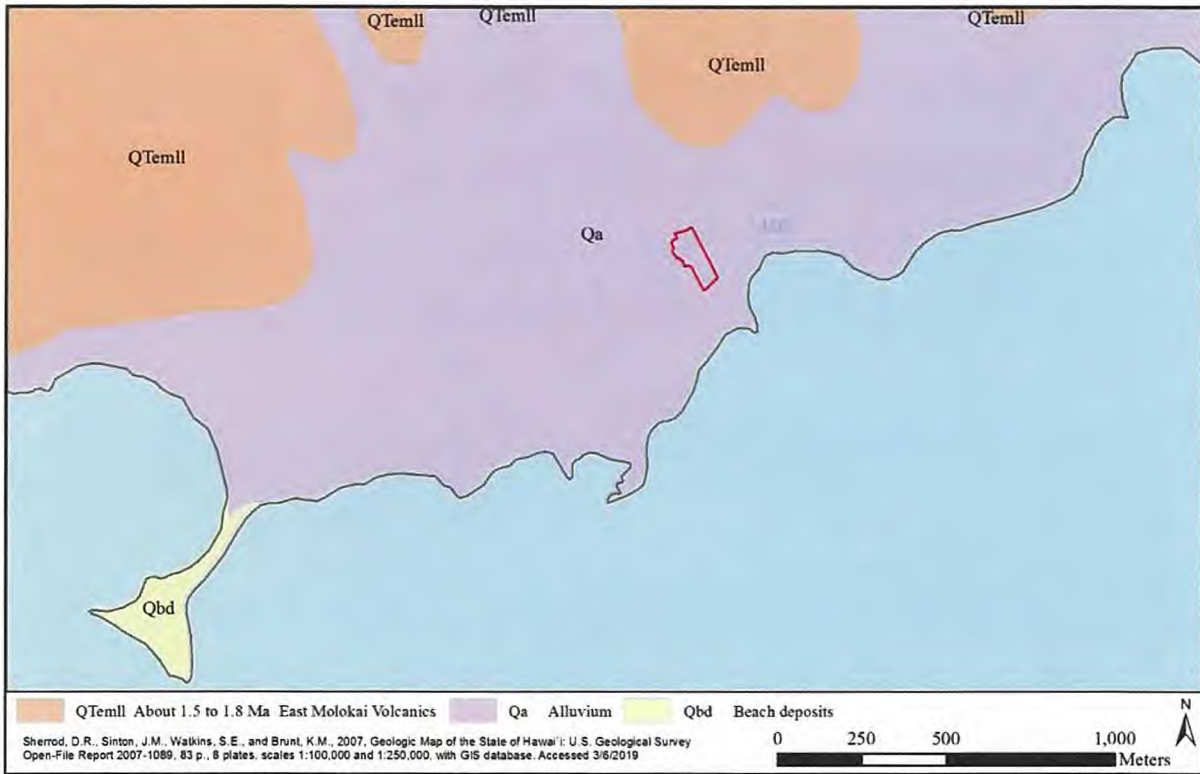


Figure 8. Geology in the vicinity of the study area.



Figure 9. Soils in the vicinity of the study area.

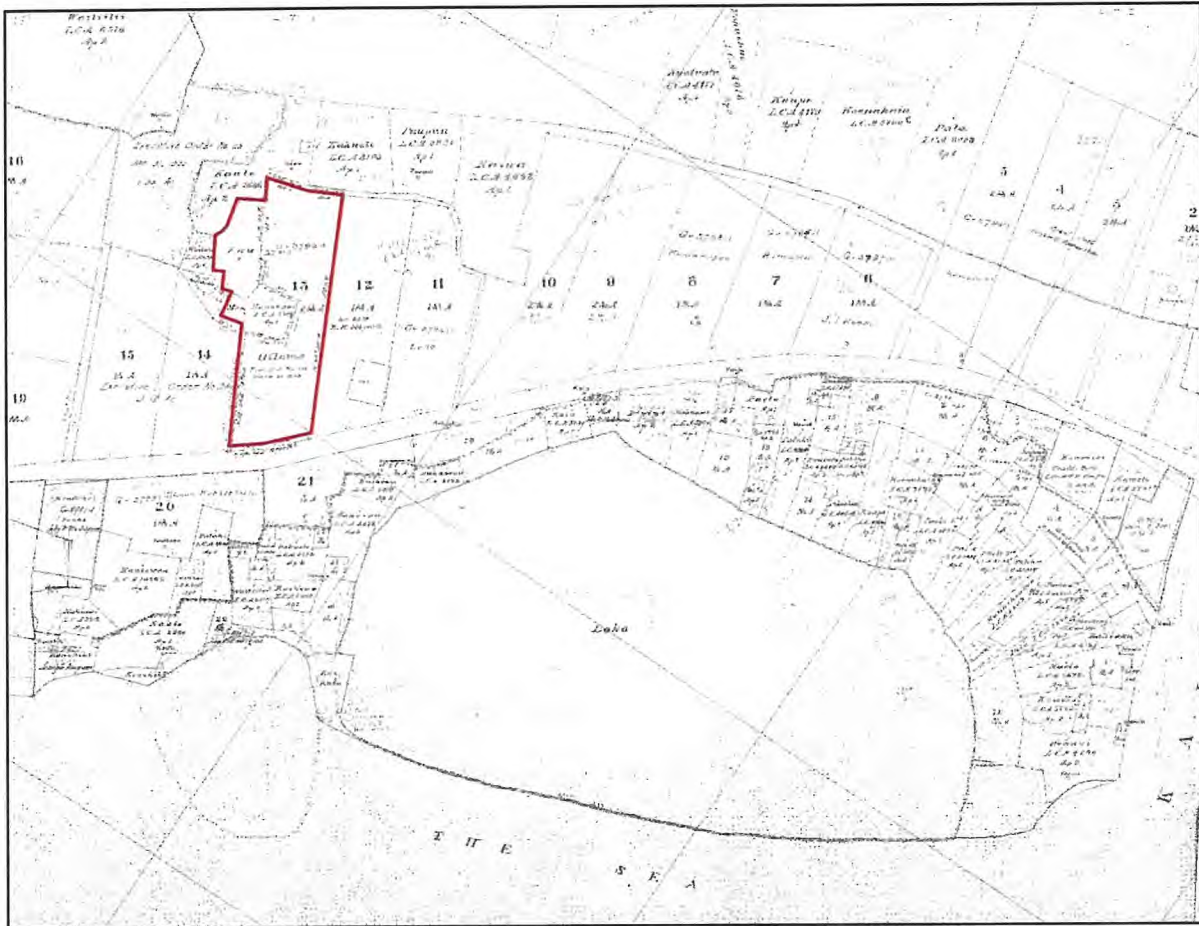


Figure 10. Portion of Hawai'i Registered Map No. 1773 (prepared by J.F. Brown in 1894) showing the *kuleana* awarded within the 'Ualapu'e and the location of the study area (outlined in red).

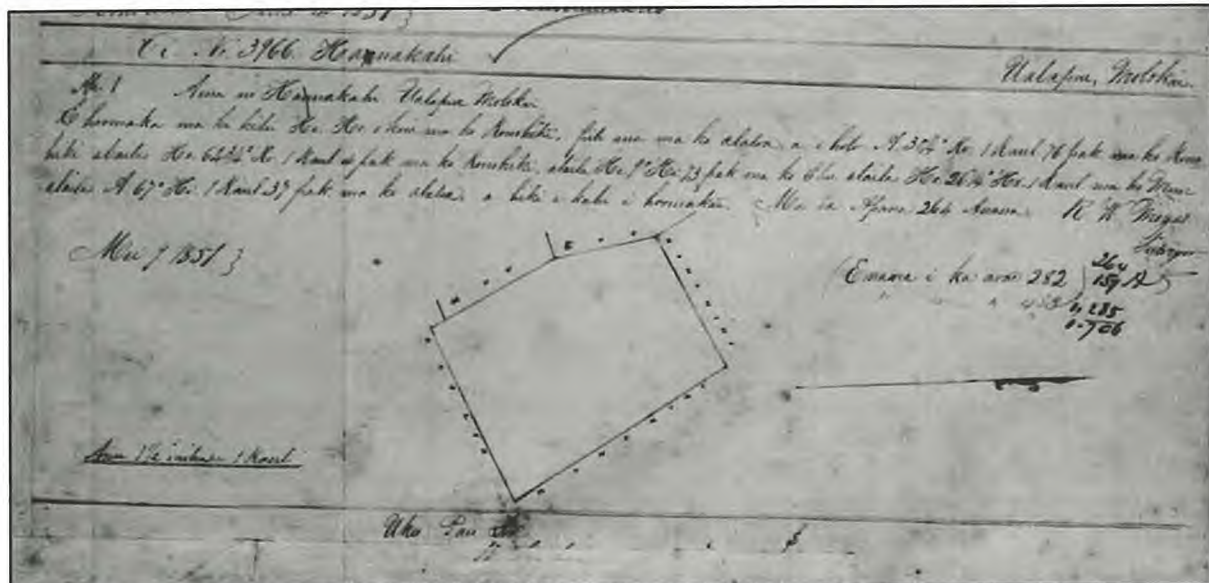


Figure 11. An 1851 map of LCAw. 3966:1 to Hanakahi.



Figure 13. Portion of Hawai'i Registered Map No. 4088 (prepared by S. Kato in 1956) showing the current study area (outlined in red).

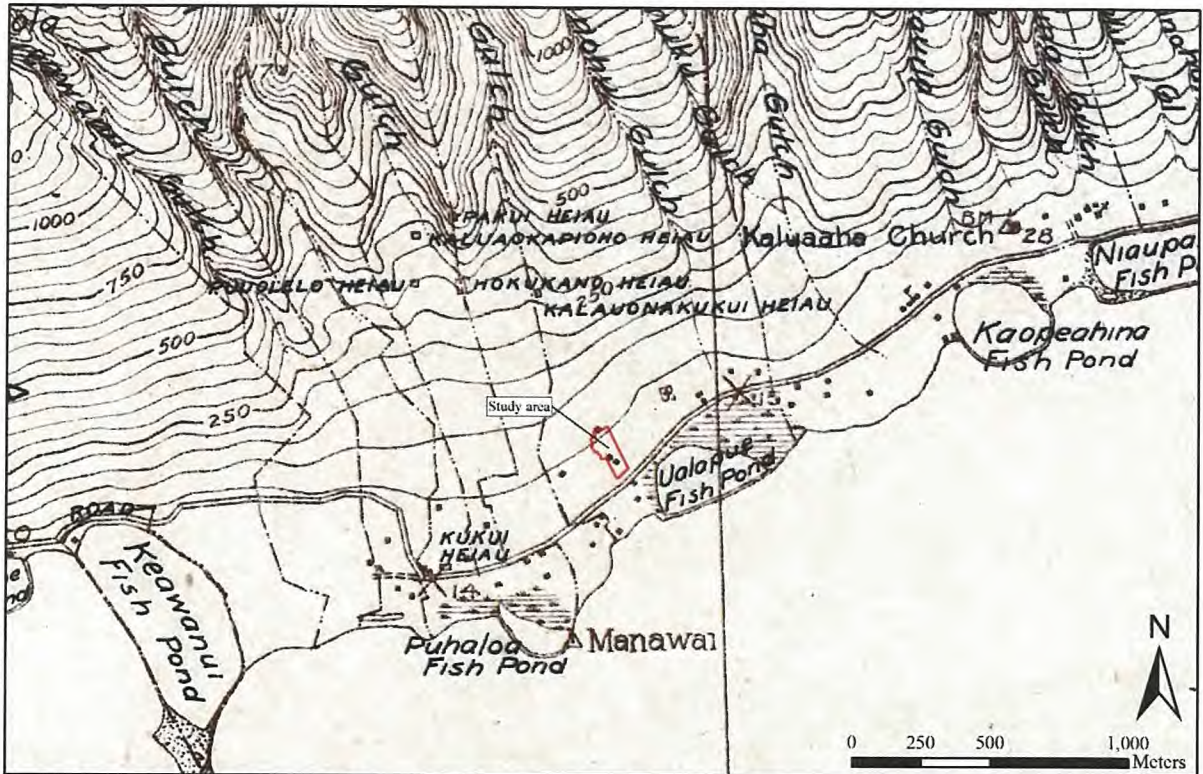


Figure 14. Portion of the 1922 Mapulehu U.S.G.S. quadrangle showing the current study area (shaded red).



Figure 15. 1950 oblique aerial photograph showing the location of the current study area (outlined in red).

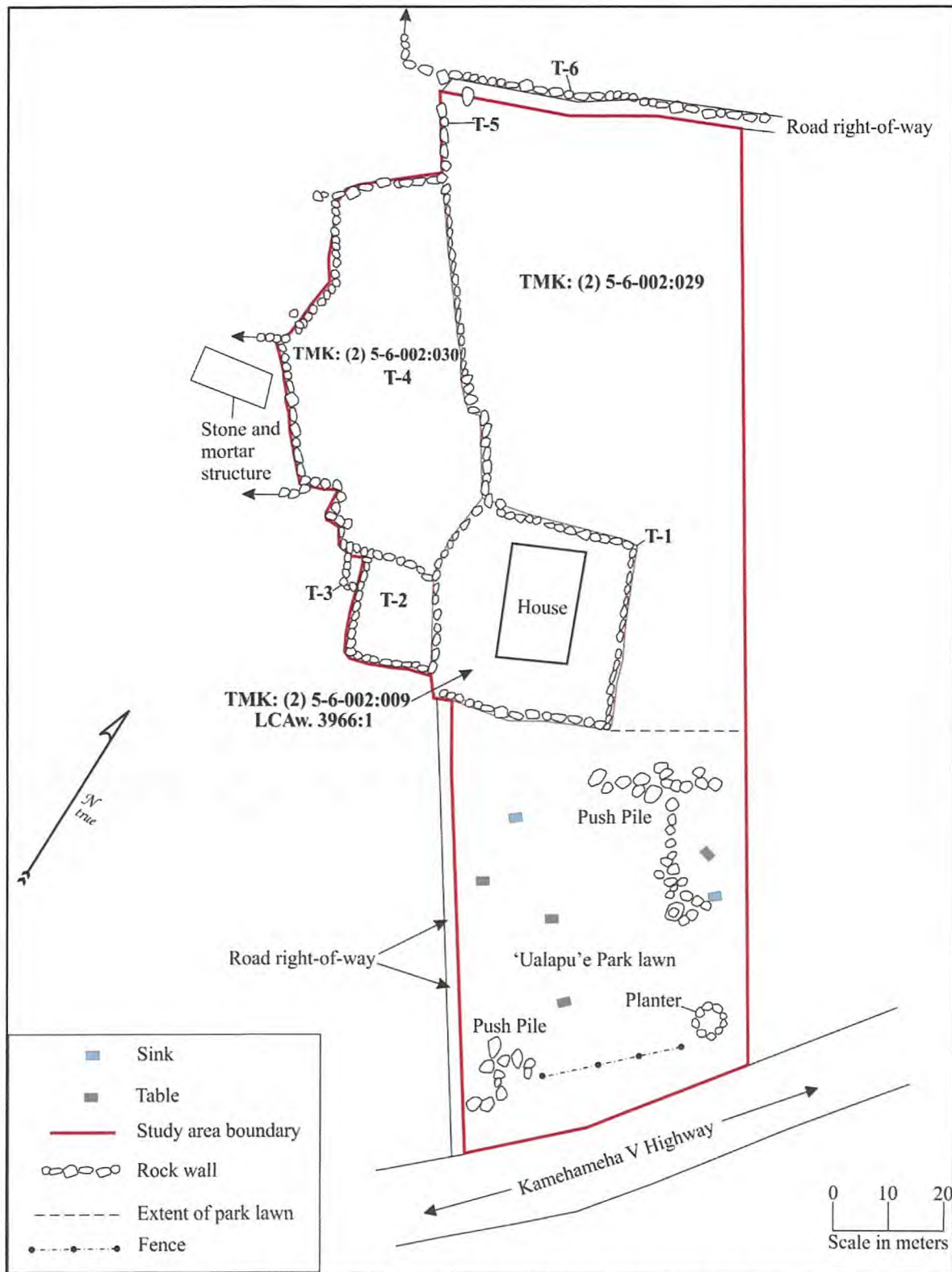


Figure 16. Locations of the Temporary Sites (T-1 to T-6) identified within and adjacent to the current study area.



Figure 17. A section of T-1 rock wall that encloses LCAw. 3966:1 (TMK: (2) 5-6-002:009), view to the north.



Figure 18. A section of T-2 rock wall that surrounds the lands once belonging to Muu (TMK: (2) 5-6-002:030 por.), view to the north.



Figure 19. A section of T-4 rock wall that surrounds the lands once belonging to Ehu along the western boundary of TMK:(2) 5-6-002:030, view to the west.



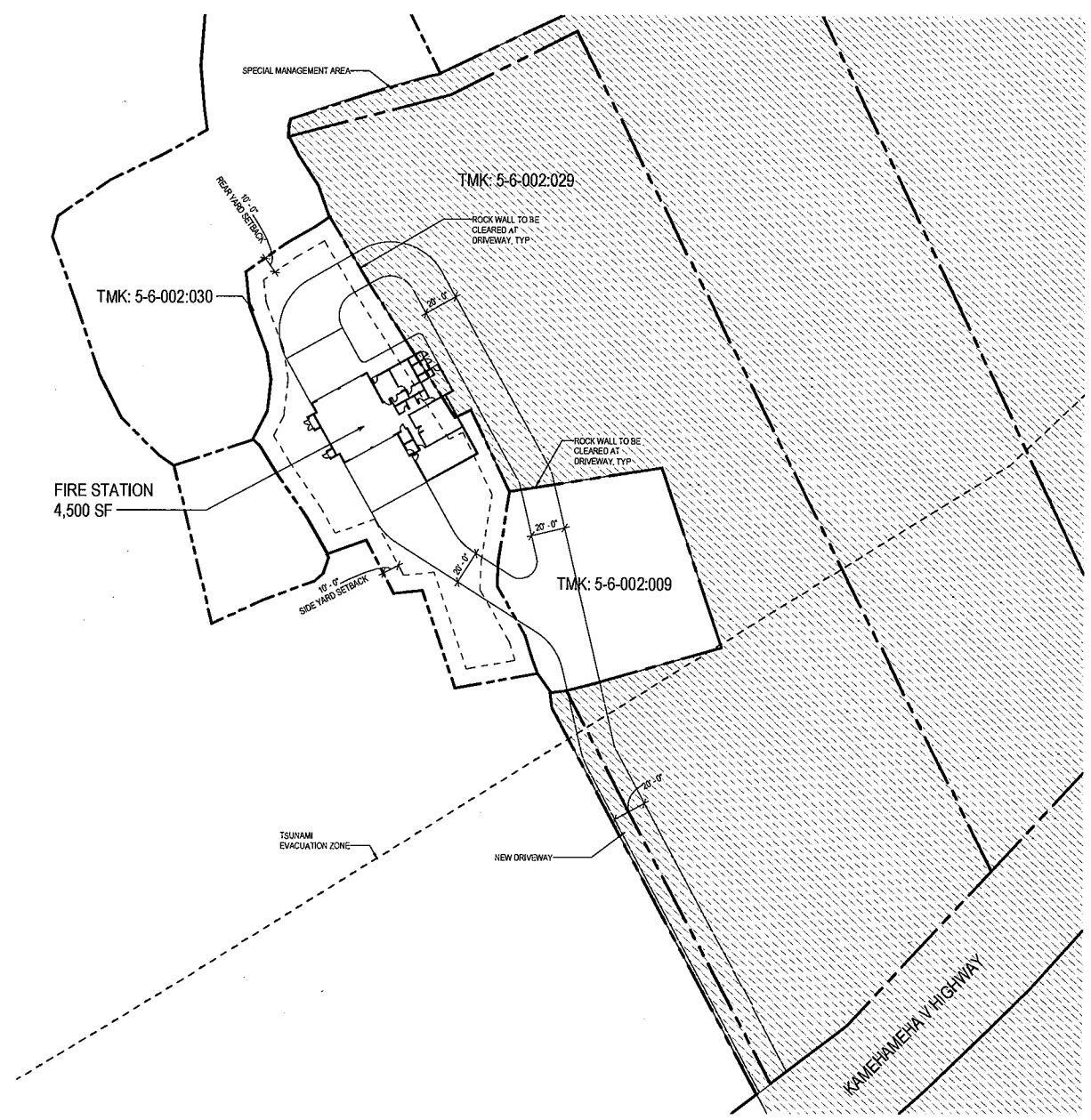
Figure 20. A short section of the T-5 rock wall along the western boundary of Grant No. 3793:1 to Uilama (TMK: (2) 5-6-002:029), view to the southwest.



Figure 21. A small enclosure (T-3) located adjacent to western edge of Muu's land (T-2), view to the south.



Figure 22. A section of the T-6 rock wall along the *mauka* edge of the road corridor adjacent to the northern boundary of Parcel 029, view to the northwest.



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CONCEPT PLAN
PRELIMINARY SITE EVALUATION
PUKOO FIRE STATION RELOCATION

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2/26/2019

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