

**Final—Archaeological Assessment of TMK: (1) 6-2-003:037 in
Kawailoa Ahupua‘a, Waialua District, Island of O‘ahu,
Hawai‘i**



Prepared For:
Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813



April 2016

Keala Pono 

Keala Pono Archaeological Consulting, LLC • PO Box 1645, Kaneohe, HI 96744 • Phone 808.381.2361

**FINAL—Archaeological Assessment of TMK: (1) 6-2-003:37 in
Kawailoa Ahupua‘a, Waialua District, Island of O‘ahu, Hawai‘i**

Prepared For:

Group 70 International
925 Bethel Street, 5th Floor
Honolulu, Hawaii 96813



Prepared By:

Windy McElroy, PhD
Dietrix Duhaylonsod, BA
and
Joey J. Condit, MA

April 2016



MANAGEMENT SUMMARY

An archaeological inventory survey was conducted for TMK: (1) 6-2-003:037 in Kawaihoa Ahupua'a, Waialua District, on the Island of O'ahu. This was done in preparation for ground disturbance associated with a small commercial redevelopment called The Shops at Anahulu. The archaeological inventory survey included a pedestrian survey that covered 100% of the .512-acre property, as well as test excavations consisting of five trenches.

No surface or subsurface archaeological remains were found during pedestrian survey or subsurface testing. The property has been disturbed by a former gas station that was in operation from the 1940s to 2008. Even though there were no findings during this study, archaeological monitoring is recommended because of the proximity of the parcel to the beach, an environment traditionally favored for human burial, as well as proximity to Lokoea Fishpond, an important cultural resource on the neighboring property.

CONTENTS

MANAGEMENT SUMMARY	i
FIGURES	iv
TABLES	iv
INTRODUCTION	1
Project Location and Environment	1
The Project	5
BACKGROUND	5
Waialua and Kawaioloa in the Pre-Contact Era	6
Place Names	6
Land Use and Subsistence	6
<i>Mo'olelo</i>	8
<i>'Ōlelo No'ea</i>	10
Waialua and Kawaioloa in the Historic Period	10
Early Descriptions of Kawaioloa	10
Historic Maps and Illustrations	17
Māhele Land Tenure and Ownership of Kawaioloa	20
Post-Māhele Land Use	28
Previous Archaeology	28
Settlement Pattern	36
Summary and Anticipated Finds	37
Research Questions	38
METHODS	39
RESULTS	40
Community Consultation	40
Pedestrian Survey	40
Subsurface Testing	40
Summary of Findings	42
SUMMARY AND RECOMMENDATIONS	46
GLOSSARY	47
REFERENCES	48

FIGURES

Figure 1. Project area on a 7.5 minute USGS 1999 Haleiwa quadrangle map.	2
Figure 2. Project area (in red) on a 1933 TMK plat map.	3
Figure 3. Soils in the vicinity of the project area (data from Foote et al. 1972).	4
Figure 4. Location of place names mentioned in the text.	7
Figure 5. An 1842 or 1843 sketch of the Lower Anahulu River by Edwin Locke.	17
Figure 6. Portion of a historic map of Kawaioloa (Monsarrat 1876).	18
Figure 7. Portion of an historic map of Waialua Bay (Jackson 1884).	19
Figure 8. Portion of a Waialua Agricultural Company map (Wall 1901).	21
Figure 9. Portion of a USGS (1929) Haleiwa Quadrangle.	22
Figure 10. Portion of an Army Corps of Engineers (1956) map.	23
Figure 11. Portion of a 1965 aerial photo (USDA 1965).	24
Figure 12. Portion of a 1977 aerial photo (USGS 1977).	24
Figure 13. Previous archaeological studies in the vicinity of the project area.	29
Figure 14. Archaeological sites in Kawaioloa (adopted from Sterling and Summers 1978).	33
Figure 15. The healing stone at Pua'ena, as seen in 1935.	34
Figure 16. Overview of the parcel, showing light vegetation. Orientation is to the northwest.	39
Figure 17. Location of trenches on USGS Haleiwa quadrangle.	41
Figure 18. TR 1 north face profile drawing (left) and photo (right).	43
Figure 19. TR 2 east face profile drawing (left) and photo (right).	43
Figure 20. TR 3 east face profile drawing (left) and photo (right).	44
Figure 21. TR 4 southeast face profile drawing (left) and photo (right).	44
Figure 22. TR 5 north face profile drawing (left) and photo (right).	45

TABLES

Table 1. Previous Archaeology in Kawaioloa.	30
Table 2. Sediment Descriptions.	42

INTRODUCTION

At the request of Group 70 International, Keala Pono Archaeological Consulting conducted an archaeological inventory survey (AIS) of TMK: (1) 6-2-003:037 in Kawailoa Ahupua'a, Waialua District, on the island of O'ahu. A small commercial redevelopment called The Shops at Anahulu is proposed for the parcel. The archaeological inventory survey was designed to identify any historic properties that may be located on the lot, in anticipation of the proposed construction.

This report is drafted to meet the requirements and standards of state historic preservation law, as set out in Chapter 6E of the Hawai'i Revised Statutes and SHPD's *Rules Governing Standards for Archaeological Inventory Surveys and Reports*, §13–276. Due to negative findings, the AIS results are presented as an archaeological assessment per HAR §13–275.

The report begins with a description of the project area and an historical overview of land use and archaeology in the area. The next section delineates methods used in the fieldwork, followed by the results of the archaeological survey. Project results are summarized and recommendations are made in the final section. Hawaiian words, flora and fauna, and technical terms are defined in a glossary at the end of the document.

Project Location and Environment

The project area is located in Kawailoa Ahupua'a, Waialua District, on the island of O'ahu (Figure 1). TMK: (1) 6-2-003:037 encompasses .512 acres (.207 ha) on the *mauka* (east) side of Kamehameha Highway (Figure 2). The subject property is the owned by Queen Liliuokalani Trust, formerly occupied for many years by a Chevron service station. The service station ceased operations in 2008, and the property has since remained vacant. The location is directly across from the Surf N Sea surf shop, and is bounded by Kamehameha Highway to the north and west, Lokoea Place to the south, and the banks of Lokoea Pond to the east.

The parcel sits at less than 6 m (20 ft.) in elevation and is approximately 40 m (130 ft.) from the coast. Rainfall averages roughly 0–102 cm (0–40 in.) per year (Juvik and Juvik 1998). Anahulu Stream is the largest permanent watercourse in the area, located approximately 90 m (300 ft.) south of the property. Another major body of water is Lokoea Pond, which lies only 20 m (65 ft.) to the northeast. The project area's location relative to two major bodies of water, the Anahulu Stream and the Lokoea Fishpond, as well as being at the shoreline of the bay, suggests that it is a location which would be important to the settlement of the region. This will be discussed further in the Background section.

Topography of the parcel is very flat and the property is currently undeveloped with little vegetation. Clumps of short grass are scattered throughout, along with a few solitary trees (plumeria, palm, and paper bark trees) along the periphery of the lot. Generally, soils in the area are of the Kaena-Waialua Association, described by Foote et al. (1972) as follows:

Deep, mainly nearly level and gently sloping, poorly drained to excessively drained soils that have a fine-textured to coarse-textured subsoil or underlying material; on coastal plains and talus slopes and in drainageways.

Specifically, soils within the project area consist almost entirely of Jaucas sand, 0–15% slopes (JAC). Tropaquepts (TR) make up a small portion of the southeastern corner of the parcel, and a small section of Haleiwa silty clay, 0–2% slopes (HeA) is in the south (Figure 3).

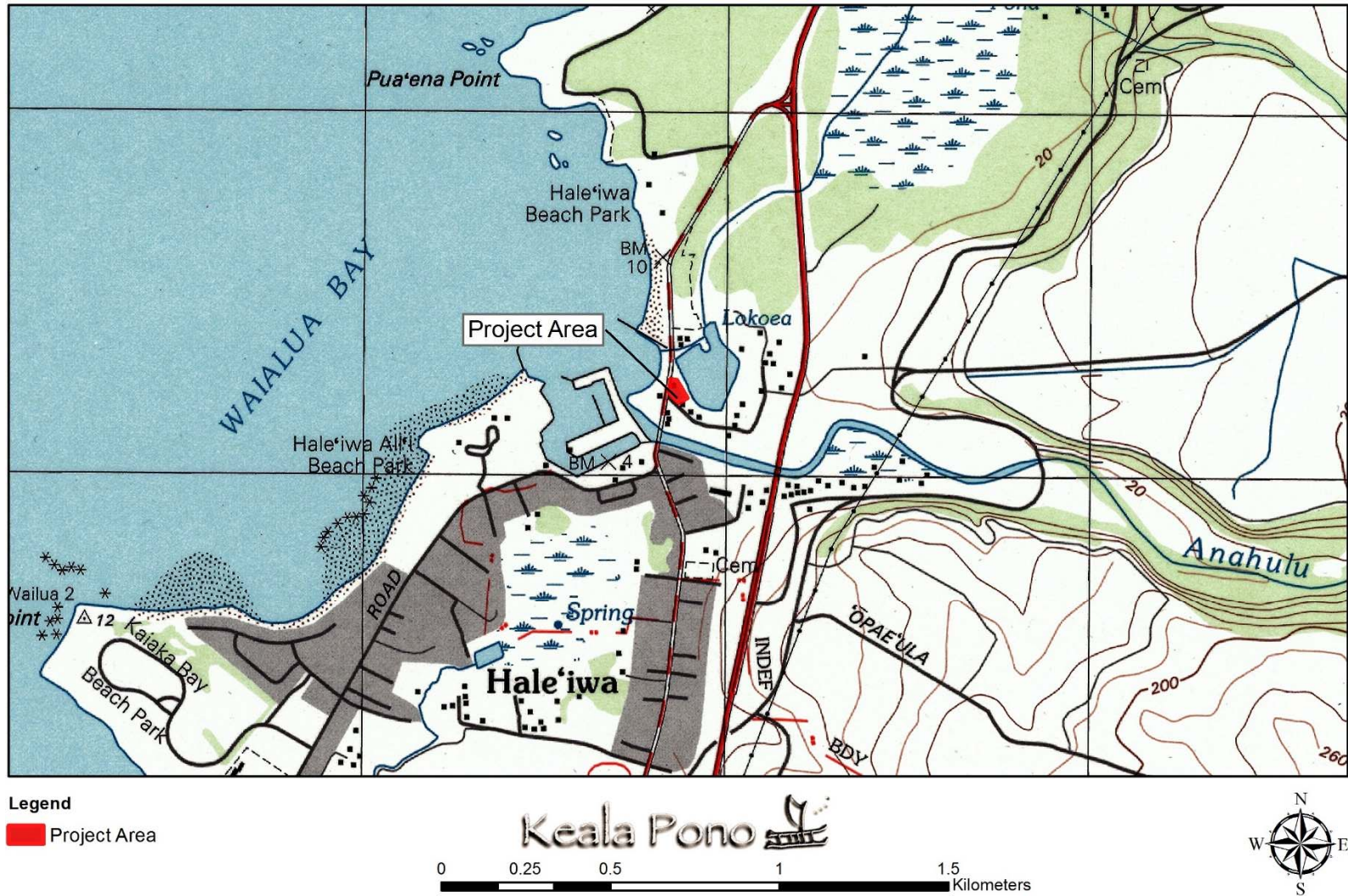


Figure 1. Project area on a 7.5 minute USGS 1999 Haleiwa quadrangle map.

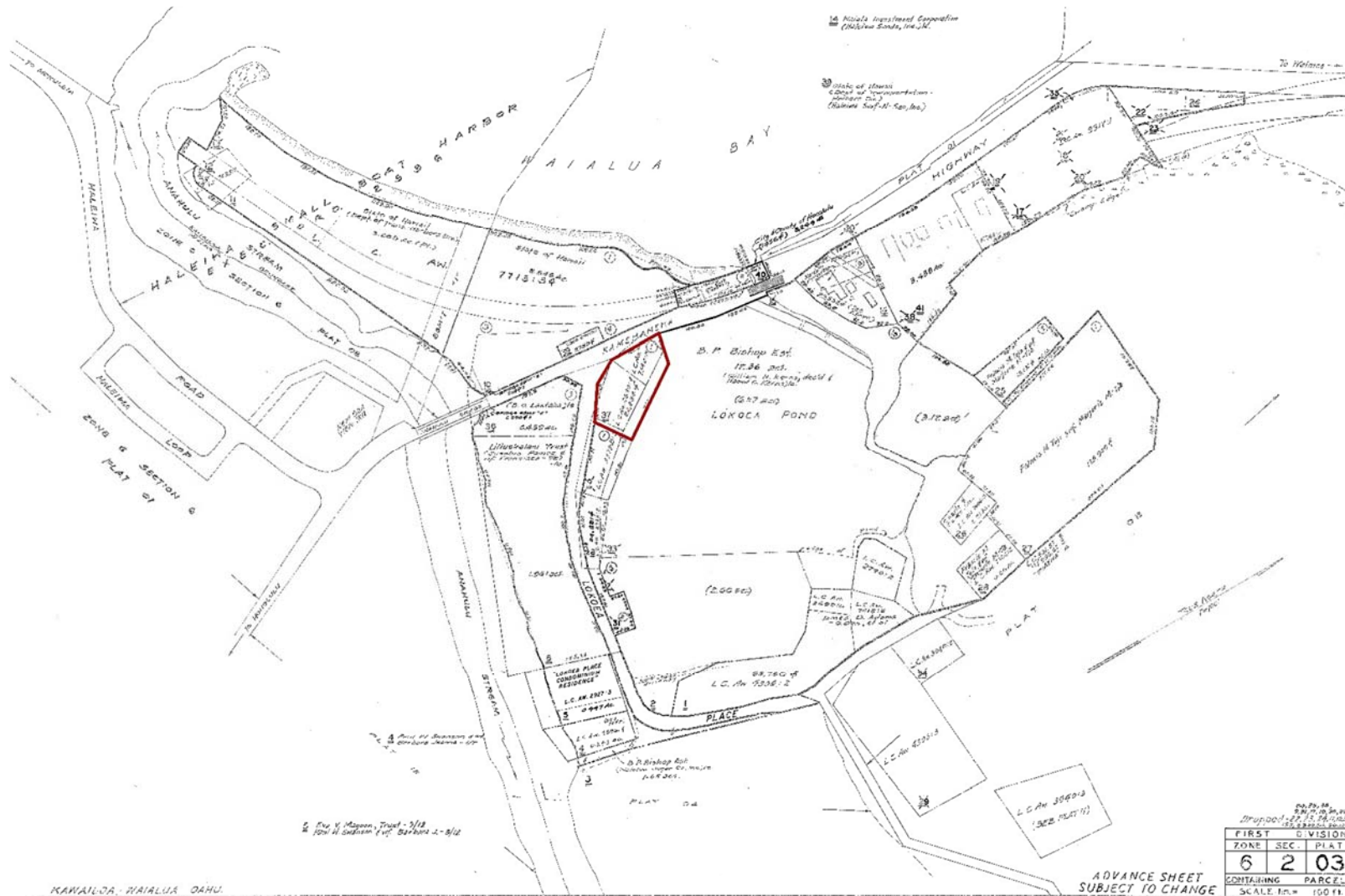


Figure 2. Project area (in red) on a 1933 TMK plat map.



Figure 3. Soils in the vicinity of the project area (data from Foote et al. 1972).

An archaeological monitoring plan for soil remediation on a portion of the lot provides further information on the parcel's history:

The lot is the former location of a gasoline service station and automobile repair facility built in the 1940s. By 1969, service station features included two cesspools, two hydraulic hoists, a 1,000-gallon used-oil underground storage tank (UST), and five gasoline USTs. The five USTs were removed in 1982 and replaced by three 10,000-gallon USTs. Station operations were converted from full service gasoline sales and automobile repair to self-service gasoline sales and a convenience store in 1988. The 1,000-gallon used-oil UST was removed on 15 January 15 1988. Chevron leases the service station parcel from the current landowner, Queen Liliuokalani Trust, under a renewed and current lease beginning September 30, 2008. Upon closure of the Chevron site in 2008, all remaining subsurface features were removed and aboveground structures razed. The parcel was also scarified to a depth of 0.9 m...

Site investigation in 1997 identified petroleum contaminated soil near the tank pit area and was excavated and hauled offsite. In 2007, hydrocarbon contaminated groundwater containing both diesel and residual range organics was identified adjacent to the cesspools. Additionally, automotive debris, arsenic, barium, cadmium, chromium, mercury, and lead-impacted soils were detected at 0.2 m to 1.5 m below ground surface along the northeast boundary of the main project parcel (TMK 1-6-2-003:037) and in the adjacent lot (TMK 1-6-2-003:002) owned by Kamehameha Schools. In 2013–2014, multi-incremental soil sampling investigations were conducted by ARCADIS to delineate areas of impacted soil on both land parcels. The soil boring data indicate that the subsurface is primarily fill material and contains pits used to dump service station debris. (Robins and Desilets 2014:1)

The Project

The Shops at Anahulu project will include the development of one building of approximately 5,200 sf. that will house small retail tenants. These tentatively include a coffee shop and surf/clothing store. The site will also provide outdoor seating fronting Kamehameha Highway and an open air parking lot at the rear of the building, adjacent to Lokoea Pond. The property is located in the Special Management Area (SMA), requiring approval from the City and County of Honolulu for a SMA Use Permit and Hale'iwa Special District Permit. In support of the SMA request, an Environmental Assessment (EA) is being completed to evaluate the subject use.

BACKGROUND

This section of the report presents background information as a means to provide a context through which one can examine the cultural and historical significance of the *ahupua'a* of Kawailoa. In the attempt to record and preserve both the tangible (e.g., traditional and historic archaeological sites) and intangible (e.g., *mo'olelo*, *'ōlelo no'eau*, place names) culture, this research assists in the discussion of anticipated finds. Research was conducted at the Hawai'i State Archives, Hawai'i State Library, the SHPD library, and online on the Papakilo database, Waihona 'Aina database, and the State of Hawai'i Department of Accounting and General Services (DAGS) website. Historical maps, archaeological reports, and historical reference books were among the materials examined.

Waialua and Kawailoa in the Pre-Contact Era

Information compiled for the pre-contact era includes data on place names, land use, and subsistence, as well as several *mo'olelo* and an *'ōlelo no'eau*. Together, they give us an idea of what life may have been like in this storied place.

Place Names

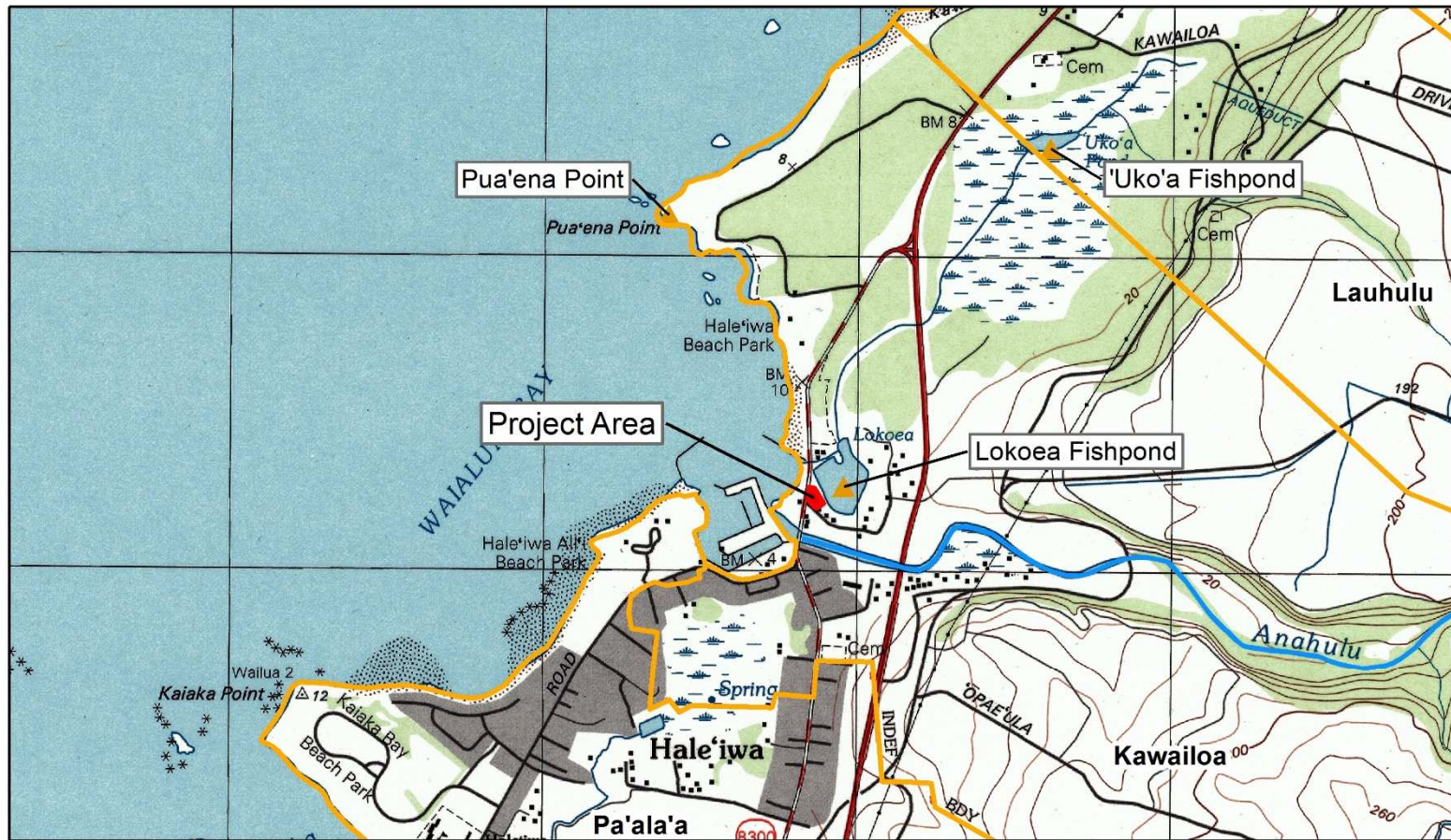
Place names often shed light on traditional views of an area and can provide important contextual information. Several conflicting accounts inform on the naming of Waialua District. Thrum (in Sterling and Summers 1978:88) states that “Waialua” translates to “two waters,” thus many believe that the name derived from Waialua’s two streams. However, he believes that the district was named after a taro patch, and a common saying was that if you traveled to Waialua and did not see this taro patch, then you did not really see Waialua. Pukui (in Sterling and Summers 1978:88) asserts that the district was named for the cruel chief Waia, grandson of Wākea. Waia carried out his evil deeds at Waialua, and there was so much suffering there that the district was named Waialua, or “doubly disgraceful.” Another source attributes the name to Waialua Pool at Kemo'o (Awai in Sterling and Summers 1978:88).

Kawailoa translates to “the long water,” which is adapted to the character of the *ahupua'a*, where the long watercourse, the Anahulu River flows (Pukui et al. 1976:98). In addition to the land division in Waialua, there is a place of the same name in east O'ahu, and there are bays named Kawailoa in Līhu'e, Kaua'i and in northwest Moloka'i. Anahulu River is a major watercourse near the project area, and its name translates to “ten days” (Pukui et al. 1976:12). Nearby is the town of Hale'iwa, or “house [of] frigate bird” (Pukui et al. 1976:37). The prominent fishpond next to the project area is Lokoea, which translates to “rising pond” (Pukui et al. 1976:133). These places are illustrated in Figure 4.

Land Use and Subsistence

The greater district of Waialua, of which Kawailoa is a part of, had been a district of royal lands and royal fishponds. Since the time of initial settlement, it had been a prime location due to its marine resources, its fresh water resources, and the abundance of its agricultural capabilities. Kawailoa was the *ahupua'a* in Waialua which contained both Lokoea and 'Uko'a fishponds. And the area of interest for our project, which is in Kawailoa, being located at the point where Lokoea and the mouth of Anahulu Stream and the coastline of Waialua bay all converge, would make it a particularly valuable piece of land throughout the centuries from the pre-historic to the historic era.

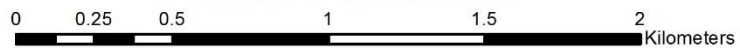
Terraced areas were located all along Anahulu River, in Anahulu Gulch, and in the swamps east of Pua'ena Point (Handy 1940). Handy provides more detail on the agricultural locales in Kawailoa:



Legend

- Project Area
- ▲ Archaeological Site
- Ahupua'a
- Anahulu River

Keala Pono



Credit: United States Geological Survey (USGS) Hale'iwa, HI 1999

Figure 4. Location of place names mentioned in the text.

In Anahulu Gulch small flats with old mango trees, indicating kuleana, were observed several miles inland, and I am told that small areas were cultivated far up the gulch. Wild taros were seen in the side gulch at least 5 miles inland. The dry gulches between Anahulu and Waimea Streams probably never watered taro. (Handy 1940:86)

Handy and Handy also note the agricultural abundance of the land:

Waialua, on its seaward slopes, was as generously endowed with water as any area on Oahu. Much of the gently sloping and level land was formerly covered with wet-taro terraces. And beyond there was a great spread of *kula* land with red soil which was ideal terrain for sweet potato planting. The Wai'anae range gave this area a rich hinterland. Waialua had a fine bay with a broad beach, and there were several fishponds...Altogether this was the most bounteously endowed area on the sunset coast.

Two large fishponds were among Waialua's greatest assets. Ukoa was a long, narrow fresh-water pond about a mile in length. Laniwai (Sky-water) was its *mo'o* guardian. With her lived her brother, Puhi-'ula (Red-eel). The pond was said to be connected with the ocean by a tunnel, through which the *mo'o* would go to bathe in the sea...Another pond named Lokoea is mentioned elsewhere...(Handy et al. 1972:465-6)

'Uko'a and Lokoea were prominent fishponds in Kawailoa, connected to one another and fed by springs. Both ponds were once used to raise fish such as *'anae* and *awa*. In a comprehensive study of the Anahulu Valley, Kirch and Sahlins emphasize the prominence of the region in traditional times and mention the two major ponds:

The presence of no less than eleven temples, several of *luakini* class and therefore associated with ruling chiefs, testifies to the importance of these lands to the Hawaiian chiefs. The political importance of the district, of course, was grounded in the system of agricultural and aquacultural production, notably the extensive taro irrigation complexes and 'Uko'a and Lokoea fishponds. (Kirch and Sahlins 1992:19)

A recent survey of Lokoea Fishpond describes it as a *pu'uone* (a pond near the coast) that consists of seven archaeological features, including rock walls, a central island, and caves (Monahan and Thurman 2015:57, 163). The historical importance of Lokoea and 'Uko'a is summarized as follows:

Oral-historical information about Lokoea and 'Uko'a describe their elevated status as royal fishponds. Kamakau (and other accounts including Hawaiian language newspapers) described these fishponds as the "long house" of its famous *mo'o* (supernatural water spirit), Laniwahine (Kamakau 1991:84), where she lived with her brother, Puhi-'ula. There is a fairly extensive record of *mo'olelo* about Laniwahine, who is variously described as a shark or a shark god, a *mo'o akua* and *kia'i* (guardian), and/or a woman. We believe the name of Lokoea and 'Uko'a's *ahupua'a*, *Ka-wai-loa*, literally "the long water," may refer to these two famous fishponds. 'I'i (1959:98) stated there were "many homes about . . . the ponds of Ukoa and Lokoea," and that the main coastal trail passed closely to the "sluice gate of Lokoea." (Monahan and Thurman 2015:163)

Mo'olelo

The *mo'o* Laniwahine of 'Uko'a Pond is a noted figure in *mo'olelo*. It is said that she would appear in human form, and her presence would signal the coming of a terrible event (Kamakau in Sterling and Summers 1978). Kamakau and Manu both tell of the *mo'o* and the strange fish within her pond:

Laniwahine was the guardian of Uko'a at Waialua, and Uko'a was regarded as the long house where she lived. She was a native of Uko'a and all her deeds centered about that place. The natives of Uko'a never failed to recognize her deeds, but few of her descendants are now left or perhaps none. Uko'a was a very strange fish pond in which lived

extraordinary fishes. A fish might be a kumu fish on one side and on the other side a mullet; or on one side weke pueo and on the other mullet; or one side might be silver white like a white cock; when scaled the skin might be striped and variegated inside. It was clear to all her descendants that these strange fish belonged to Laniwahine and it was not right to eat them. But the mullet of Uko‘a were full of fat, when as in all such ponds, the native guardian of the pond was remembered; (at other times) the fish had thin bodies and heads like wood or sometimes disappeared altogether. (Kamakau in Sterling and Summers 1978:120)

...Laniwahine was the royal lizard of Waialua and her residence was in the fresh water pond of Uko‘a. This was the lizard mentioned in the chant of Kamehameha V, “Exposed are the teeth of Laniwahine, when the upper jaw and lower jaw separates.” All kinds of strange mullet were seen swimming in the water, some red and some with one side differing from the other. The writer of this tale has seen it himself and perhaps the natives of the “land of sea sprays” will not deny it. Alamuki, Kamo‘oloa and Kamo‘o were lizards who served under Laniwahine. They lived where there were breezes. (Manu in Sterling and Summers 1978:10)

Another account identifies the home of Laniwahine as a hole at the head of the pond:

Ukoa—land and fish pond in Waialua, Oahu. The latter is believed to have subterranean communication with the sea, as its waters are very much disturbed during stormy weather. There are superstitions and beliefs in connection with this famous pond. One gives rise to the common saying, “Pupuhi ka i‘a o Ukoa”, “The fish of Ukoa is blown away or slipped off.” There is a large circular hole at the head of the pond commonly credited as the home of Laniwahine, the sister of Puihula, children of a goddess of ancient Hawaiian mythology. (Saturday Press in Sterling and Summers 1978:120)

In a conflicting account, Emerson states that Laniwahine was the name of a shark:

Niu-kala, a shark god who formerly lived at Loko Uko‘a in Waialua, Oahu, has left that place.

Lani-wahine (Her highness) and Puih-ula (Red eel), are two sharks associated together, and are now living at Uko‘a, Waialua, Oahu (1888).

...Lani-wahine (w) has been mentioned. Barenaba tells me it is the shark of Uko‘a, Waialua, and that the name of her kahu is Kukiha and that she has a heiau called ___? ___. (March 16, 1907). (Emerson in Sterling and Summers 1978:118)

Oral traditions also tell us that Waialua District was where the royal center of O‘ahu was located. Around AD 1490, the sacred chief Ma‘ilikūkahi was born at Kūkaniloko in Līhu‘e, which is located in the uplands of Waialua. Once his paramountship was installed at the *heiau* of Kapukapuakea in central Waialua, Ma‘ilikūkahi set up a land division and administration structure where O‘ahu was divided into the six *moku* of Kona, ‘Ewa, Wai‘anae, Waialua, Ko‘olauloa, and Ko‘olaupoko. These *moku* were further divided into 86 *ahupua‘a*. Ma‘ilikūkahi also shifted the royal center from Waialua to Waikīkī.

It is said that Pua‘ena Point was a place where the dead were laid to decompose. Specifically noted was Elani, an O‘ahu *ali‘i* who was killed during the invasion of Maui’s chief Kahekili in the 1700s:

At the death of Elani, who was greatly beloved by his people, his body was placed on a ledge of rocks near Puaena Point, where it was allowed to decompose. The place became known as Kahakakau Kanaka. As the odor came to the sands at Haleiwa they became known as Maeaea; the point on the other side became known as Kupava. Hookala tells me that at this same place, if there was no one to care for the body of a commoner after his

death, the corpse was placed on these rocks. The fluids from the decaying body would seep into the sea and attract sharks, which the people killed. (McAllister 1933:141–142)

Also slain during this time of upheaval was Hu‘eu, an *ali‘i* who served under Kahekili. Hu‘eu had been installed at Waialua and was living at Ka‘owakawaka in Kawailoa (Kamakau 1992). He was killed there at night while his guards were asleep.

‘Ōlelo No‘eau

A single *‘ōlelo no‘eau* was found referring to ‘Uko‘a Pond, and none were listed for Lokoea or Kawailoa. It provides further insight to traditional beliefs and practices of these lands.

Pupuhi ka i‘a Uko‘a.

The fish of Uko‘a is gone.

Uko‘a is a famous pond in Waialua, O‘ahu. Said of one who takes flight or of something quickly and secretly taken. (Pukui 1983:301)

Waialua and Kawailoa in the Historic Period

The Waialua District boundary has a complicated history (Sterling and Summers 1978:134). At the turn of the 20th century, Wahiawā Ahupua‘a fell within the Waialua District. By 1913, the community had grown apart from Waialua District, and the new district of Wahiawā was established. Thus, in 1913, the *ahupua‘a* of Wahiawā and Wai‘anae Uka were moved from Waialua District to the new district of Wahiawā. In 1925 the size of Waialua District was reduced, as large plots of land were transferred to Wahiawā. However, in 1932 the original 1913 land boundaries were reinstated, with some small parcels added to the Schofield Barracks Military Reservation.

The following data add to our knowledge of historic Waialua and Kawailoa. They include an early description by Captain Charles Clerke, several translated Hawaiian language newspaper articles, historic maps and aerial photos of the region, and Māhele data.

Early Descriptions of Kawailoa

One of the first written descriptions of O‘ahu’s North Shore comes from Captain Charles Clerke, who sailed to Waimea after the death of Captain James Cook in 1779. Clerke anchored in Waimea Bay and described his surroundings:

I stood into a Bay just to the Wt[est]ward of this point the Eastern Shore of which was by far the most beautifull Country we have yet seen among these Isles, here was a fine expanse of Low Land bounteously cloath’d with Verdure, on which were situate many large Villages and extensive plantations; at the Water side it terminated in a fine sloping, sand Beach. . . . This Bay, its Geographical situation consider’d is by no means a bad Roadsted, being sheltered from the NEbN SEterly to SWbW with a good depth of Water and a fine firm sandy Bottom; it lays on the NW side of this Island of Wouahoo . . . surrounded by a fine pleasant fertile Country. (Beaglehole 1967:569).

A multitude of Hawaiian Language newspaper articles were found that mention Kawailoa. The small collection of articles presented here provide interesting information and afford a rare glimpse of what life was like in historic-era Kawailoa. They speak of schools, problems with drunk and unruly residents, a Sunday school exhibition, a visit to Lokoea Fishpond by Queen Emma, the presence of spirits in the river, and the arrival of a fleet of canoes. The articles were translated by Keala Pono senior staff members Dietrix Duhaylonsod, BA, and Manuwai Peters, MA. They are presented in

chronological order. These articles are meant to complement the contents of a typical archaeological report which focus on previous archaeological studies, new archaeological findings, any recommendations, and a background narrative. There is only so much that material remains can reveal, and so the addition of first person accounts from Hawaiian language newspapers offers priceless insights into the land use and the lifestyle of the residents which would otherwise be missing in the textual summary of the project area.

Ka Nonanona: KA NONANONA. BUKE 1, PEPA 13, AOA 49. DEKEMABA 21, 1841. (21 December 1841): page 51

NA KULA MA WAIALUA.

Waialua, Nov. 3, 1841.

Aloha oe Ii.

Ua pau na hoike ma Waialua nei a ma Koolau i ka malamaia. A eia malalo iho nei na inoa o na kumu, ka nui o ka lakou mau haumana a me ko lakou ike a me ka uku pono i kuu manao e uku aku ia lakou no ka manawa i hala iho nei, a o ka uku hoi no ka manawa hou.

Kawailoa a me Paala, o Kaiaikawaha Kealohanui na kumu.

Na haumana a pau loa, 139

Keikikane, 91

Kaikamahine, 48

O ka nui ma ka hoohalike ana i na la, 113

Ma ka A, 35

Ka poe ike, 104

Ike palapala lima, 56

Ike i ka olelo honua, 32

Helu kamalii, 60

Helu naau, 34

Ake akamai, 36

O ka poe hou i ike i ka heluhelu, 12.

THE SCHOOLS AT WAIALUA

Waialua, Nov 3, 1841

Aloha to you Ii.

The [school] tests here in Waialua and Koolau are finished and have been tended to. Here below are the names of the teachers, the number of their students and their subject with the rightful tuition in my mind that they will pay for this past term and the tuition for the new term.

Kawailoa and Paala, Kaiaikawaha Kealohanui are the teachers.

The students' total, 139

Boys, 91

Girls, 48

The amount in comparing the days, 113

A grade, 35

Proficient students, 104

Writing, 56

Geography, 32

Beginner's math, 60

Upper-level math, 34

Science, 36

New people who have learned reading, 12

“Ua mau ka ea o ka Aina i ka pono.”

Ma ka ulu mahiehe o ko'u manao iloko o'u. He pono no au ke hai aku, i ike mai o'u hoa puni Nu Hou. Ma ka la 19 o Sepatemaba, aia he aha inu rama nui mauka o Kawailoa, ma kahi o Hinana, (ka mea i holo i Ulukaa mamua,) nui na mea i hele aku ilaila, malaila hoi kekahi mau kanaka o Kahalau a me Kaina, ua loohia lakou e ka ona, a ua kui ia ka maka o Kahalau e Kaina, a eha no, ua piha loa ia o Kahalau i ka huhu luaole imua ona ia la, a ua kui ia o Kaina, a ua hina, a ua hehi ia ma kona lemu, a ua pau i ka uao ia e na hoa inu rama a ua kaawale o Kaina mai ke alo aku o Kahalau, a mahope iho, ua hoea hou mai o Kaina, ka enemi lua ole o Kahalau ia la, ua hele aku oia a halawai me Kaina, (ua olelo ia ua aloha aku o Kahalau ia Kaina, a ua hoole mai o Kaina,) ia manawa, ua hehi ia o Kaina ma ka ai e Kahalau, a ua kui ia; Ia manawa, ua kaili ke aho o Kaina i kona wa o ka aneane e komo iloko o ka make hikiwawe iloko o kona lealea ana i ka ona o ka rama, ua oleleia, he nui ka ikaika o Kahalau ia wa, ua makau no ka lehulehu. Ia wa, aia o Kaina e waiho ana iloko o ka pilikia, aia hoi na mea a pau e loku ana iloko o ka ona o ka rama, ua holo koke o Kamokumaia, i kahi o ka

Lunakanawai e kii ia e hopu o Kahalau ka mea i pepehi ia Kaina, ia wa, ua hiki pu mai no o Kahalau ka mea i pepehi ia Kaina i kahi o ka Lunakanawai, aia ua hopu koke ia oia, ua hoounaia 3 makai e ike i ke kino eha o Kaina ka mea i pepehi ia e Kahalau, ma ka la 20 ae ua hoopii ia o Kahalau ka mea i pepehi ia Kaina imua o J. W. Keawehunahala ka Lunakanawai Apana no ka haki ana o Mokuna IX Pauku 6-8 o ke Kanawai hoopai "Karaima" ia Kahalau, na ka Ahahookolokolo e noonoo ma ka olelo ike a na hoike ka pili ana o na pauku i hoopii ia e ke 'Lii no Kahalau no ka hewa i hanaia eia. Aia ua hiki mai ke kino eha o Kaina ia la imua o ka aha hookolokolo i hoike no ka aoao o ke alii, elua hoi kanaka e ae ma ka aoao i hoopiiia. Ua waiho ia keia hihia na ke jure e hookolokolo hou.

Ma la 21, ua lawe ia o Kahalau ma ka lima o ka Ilamuku, e paa ai a hiki mai ke kau hookolokolo jure o Okatoba 7, 1861, ma ka la 22, ua hiki mai o J. H. Brown Esy ka Makai Nui me Dr Ford e nana i ke kino o Kaina i ka mea i eha i Kahalau.

Ma ka wanaao o ka la 23, ua make loa o Kaina, ua kii hou ia ka Makai Nui me Dr Kauka e hele mai, ma ka la 25, ua hiki mai o John H. Brown Esy me ke Kauka pu, ia wa, ua kahea koke ia ke Karonero e hele e noonoo i ke kumu o ko Kaina make ana. Eia na Karonero J. Hanalua, J. B. Makea, J. Amara, J. P. Kauwalu, J. A. Kawi, J. Hakuaulani, ma ka hora 10, A. M. ua hoomakaia ka niele ana i na hoike imua o J. W. Keawehunahala ke Karonero me na jure eono i hoikeia maluna, me ka Makai nui o ka Mokupuni Oahu, J. H. Brown Esy a ua pau i ka noonoo ia ka olelo a na hoike. O ke nui o ka lakou olelo hooholo, “Ua make o Kaina ia Kahalau i kona kui ana me kona hehi ana ma ka la 18 o Sepatemaba,” i olelo mua ia maluna, na ka Ahahookolokolo e noonoo.

Eia hoi, ua hoopaiia o Hianana ka mea i olelo mua ia maluna no kona hana ana i ka wai ona a haawi wale aku i na dala 100. No ka haki ana o ka Mokuna XLII Pau 1 o ke Kanawai hoopai i na hewa karaima o keia Aupuni, Ua maopopo, o ka ona ke kumu o keia make. J. P. KAUWALU.
Waialua, Oahu, Sepatemaba 26, 1861.

“The life of the Land is perpetuated in righteousness”

At the pleasing inspiration of my thoughts inside of me. It is necessary for me, the one who tells, that my friends who love news have known.

On September 19, what of the great alcohol drinking upland of Kawaioloa, instead of Hinana (the one who sailed to Ulukaa beforehand), many were those who went there, at that place were some people of Kahalau and Kaina, they were overwhelmed by drunkenness, and Kahalau's eye was punched by Kaina, and painful indeed, Kahalau was so filled with unmatched anger in front of him, and Kaina was hit, and he fell, and he was stomped upon at the buttocks, and it was finished by the interceding of the alcohol-drinking friends, and Kaina withdrew from the presence of Kahalau, and afterward, Kaina came back again, he was an unparalleled enemy of Kahalau, he went and met with Kaina (it is said that Kahalau loved Kaina, and Kaina rejected it), that time, Kaina was stomped upon at the neck by Kahalau, and he was hit. That time, the breath of Kaina gasped at his time of feebleness to enter into quick death inside of his pleasuring in the drunkenness of alcohol, it is said, great was the strength of Kahalau that time, the multitudes were scared indeed. That time, Kaina was the one being left in trouble, and indeed everyone was feeling great sorrow inside of the drunkenness of the alcohol, Kamokumaia quickly fled, to where the Judge was gotten, to arrest Kahalau, the one who beat up Kaina, that time, Kahalau, the one who beat Kaina also arrived, at the place of the Judge, and he was quickly arrested, three policemen were sent to see the bodily injuries of Kaina, the one who was beaten by Kahalau, on the 20th day, Kahalau, the one who beat Kaina was charged in front of JW Keawehunahala, District Judge, for the breaking of chapter 9 section 6-8 of the Law, "crime" penalty to Kahalau, it is the courthouse to consider the words of the witnesses [evidence] pertaining to sections charged by the officer against Kahalau by the offenses raised here. The bodily injuries of Kaina have appeared in front of the courthouse displayed for the side of the officer, two people will arise on prosecution. This lawsuit has been left for the jury to decide anew.

On day 21, Kahalau was taken by the hand of the Sheriff, to be secured until the placement of the court jury on October 7, 1861, on the 22nd day, Judge John H. Brown Esy together with the doctor arrived, and at that time, they quickly called the *karonero* [coroner?] to come to consider the reason for Kaina's death. Here are the coroners: J. Hanalua, J.B. Makea, J. Amara, J.P. Kauwalu, J.A. Kawi, J. Hakuaulani, at 10am the questioning the witnesses will begin in front of J.W. Kewahunahala the Karonero, with the displayed in front, with the police chief of O'ahu island, J.H. Brown Esy, until the examination of evidence was finished. The importance of their decision, "Kaina died from Kahalau due to his beating and stomping on September 18," was first spoken above, it was the court to consider.

Here also, Hianana was charged, the one who first spoke above, for his making the alcohol and fined \$100. For breaking chapter XLII section I of the Law, penalty in the wrongful crimes of the government, understand that drunkenness was the reason for this death. J.P. KAUWALU.
Waiialua, O'ahu, September 26, 1861.

Ke Alaula: KE ALAULA. Buke II, Helu 4, Aoao 13. Iulai 1867. (1 July 1867): page 15

KA HOIKE KULA SABATI O WAIALUA.

Ikea na maka olioli o na keiki e akoakoa ana ma ka puu maniania ma ka hale o ke kahu o Rev. M. Kuaea i ka hora 9 o ke kakahiaka o ka Poalima, Iune 21. Hooponoponoia ka huakai, a i ka hiki ana mai o ke kula kaikamahine mai ko lakou hale kula nui, ua haawiia na hae i kela kula a me keia kula, a i na papa a pau hoi o ke Kula Sabati o Kawaioloa. He umi papa o ke Kula o Kawaioloa, me ko lakou mau hae he umi. He hae okoa hoi ko Waimea, Waialee, Kamooloa, a me ko Mokuleia. He umi-kumamawalu ka nui o na hae i ka huakai hele. Hiehie ka nana'ku i ka hele ana o ka huakai o na keiki a me ka poe opio o na Kula Sabati me ko lakou mau hae e welo ana i ka makani, a me ke kani ana o na leo o na keiki

e hosana ana. A komo ka huakai i ka luakini, piha loa ka hale. Eia na haawina i hoike pono ia e kela kula keia kula:

Kula o Mokuleia--ua kulaia no ka aa ana o na laalau ma Horeba.

Kula o Waimea—ka haawii o ke kanawai ma Sinai.

Kula o Waialea—ka hoi ana mai o na kiu.

Kula o Kahuku—Ruta a me Naomi.

Kula o Kamooloa—no ka haawii o Samuela ia Eli.

Kula o Kawaioloa, papa o na kanaka ui--kulaia ma ka hoopaahaoia ana o Iesu. Papa o na wahine opio--ka moolelo o Iakoba. Papa o na makua--no Aarona a me kana mau keiki. Papa 4--Adamu laua o Ewa, a me Edena. Papa 5--Noa a me ke kaiakahinalii. Papa 6--no Aberahama. me kona pule no Sodoma. Papa 7—no ko Aberahama mohai ana ia Isaaka. Papa o na pokii—no Mose i kona wa liilii.

Ua kukulu pakahi ia keia mau kula a me na papa, a ninaninau pono ia no keia mau haawina a pau, a ua ikeia ka makaukau o na kula a me ka mikiala o na haumana. Olioli na makua o ka pono i ka ike ana i ka aoia o na keiki o keia hanauna o Waialua a makaukau ma ka Baibala.

He nui na malihini a me na makamaka o na apana a me na mokupuni e i launa mai a hauoli pu me na keiki i keia la nui o ka makahiki. Kamailio mai no kekahi o lakou, a hoolana i ka manao o na kumu a me na haumana

A pau ka hana o loko o ka luakini, ua kukulu hou ia ka huakai, a hele aku na kula malalo o na hae i kahi o ka lanai nui i hanaia e na makua i wahi e ahaaina ai. Ai pu na keiki, a me na makua, a me na malihini, a me na makamaka, a maona like i na mea momona i hoolakolakoia.

SUNDAY SCHOOL EXHIBITION OF WAIALUA

The rejoicing eyes of the children gathering are seen on Maniana Hill of the home of the minister Rev. M. Kuaea at 9am on Friday, June 21. The journey was arranged, and at the arrival of the girls' school from their great school house, the flags were given to every school, and to all the classes of the Sunday School of Kawaioloa. There are 10 classes of Kawaioloa, with their 10 flags. Waimea, Waialea, Kamooloa, and Mokuleia have a different flag. There were 18 flags total on this trip. The scene was festive at the going on the trip of the children and teens of the Sunday School with their flags fluttering in the wind, and the voices of the children sounding Hosana! And the journey entered into the church, the building was very full. Here are the assignments that were shown well by every school:

Mokuleia School--they were taught of the burning bush at Horeb.

Waimea School--they were given the law at Sinai.

Waialea School--the return of the Jews. Kahuku School--Ruth and Naomi.

Kamooloa School--the giving of Samuel to Eli.

Kawaioloa School, class of the beautiful people--they were taught the imprisonment of Jesus.

Class of teenage girls--the story of Jacob.

Class of adults--Aaron and his children.

Class 4--Adam & Eve and Eden.

Class 5--Noah and the great flood.

Class 6--Abraham and his prayer for Sodom.

Class 7--Abraham's sacrificing Isaac.

Class of the little ones--Moses in his childhood years.

These schools and classes were each built up, and were questioned well concerning all of these assignments, and the readiness of the schools and the alertness of the students were

seen. The adults rejoiced in the goodness in seeing the surety of the children of this generation of Waialua competent in the Bible.

Many were the visitors and the friends of the districts and islands to meet happily with the children on this great day of the year. Each of them conversed, and cheered up the thoughts of the teachers and the students. And when the work inside the church was done, the journey was set up again, and the schools below their flags went to the place of the great *lanai* that was made by the parents to a place that they would feast. The children ate together with the parents and the visitors and the friends, until they were all filled with the sweet things that had been provided.

Ka Nupepa Kuokoa: Vol. 6, No. 42 (19 October 1867): page 2

NA MEA HOU O KEEHUKAI.—Ma ka lokomaikai o Natanaela, ua loa mai keia mau mea hou: Ma Waialua ke Alii Emma Kaleleonalani, i kela pule ae nei, Poalima, a ua ike iho nei i na kaiaulu o ua aina Ehukai nei olalo—Ua kokua ia mai no e na kamaaina, a ma ka Poaono ae, holo aku la oia e makaikai ia Ukoa, i ka lua o na kupueu oia Loko, oia hoi ka lua o Laniwahine, a no ke ahiahi loa, ike pono ole ia ka lua—Ma ka Poakahi ae la 7, holo i Waianae ma ka lae o Kaena ae ka hele ana, ua lohe mai makou, ua kokua maikai ia e na kamaaina o Waianae —hoi mai oia ma ka puali o Kolekole ma ka la 9 ae Poakolu, a hiki hou ma Waialua. Poaha ae holo hou no e makaikai hou i na lua o ua Laniwahine nei i ike maopopo ia ai hoi, no ka mea, wahi a kamaaina, o ka wa kakahikanui ka wa e ike pono ia ai. A i kona wa nae e makaikai ana, ua lawaia kamokoi aholehole oia i kekahi mau minute, ai ia no nae e ke aholehole. Ma ke ahiahi no o ia la, holo aku la i na Pali hauliuli, o Koolauloa, moe ma kahi o J. Kaluhi Esq., ka Lunakanawai oia mau Apana. Ao ae Poalima, holo loa i Kaliuwaa, i kahi a Kamapuaa i noho ai, a malaila aku moe i Kahana, Poaono ae hoi loa mai i Honolulu, o ka pau no ia o kona moolelo.

Ua pau o Lokoea i ka hana ia a me ka auwai o Ukoa, oia hoi na loko ia nui o ke Ehukai nei, e ke Konohiki hou o ua mau loko nei. Ua lohe mai nei makou mai a Kapena Pae mai o ke kiakahi Waialele i kona hoes ana ae ma ka lae o Kaena i ka la Sabati nei, ua ike oia ma ka moana i ka piha loa i na akaakai i waele ia ai o ua Lokoea nei, a hala loa ae ma ka moana mawaho ae o Waialua pono. He 3 wale no la i waele ia ai e na keiki kupa o Waialua nei, na kane, na wahine, na keiki he mau haneri paha ka nui—Ua ike paka iho ke Alii Wahine.

This article talks about several news tidbits regarding Keehukai. Most of the news centers around a visit by Ali'i Emma Kaleleonalani, the wife of Kamehameha IV, who by the time of this article's writing, had already passed away. According to this article, Queen Emma visited the “villages of the lands of Ehukai.” Her visit to Uko‘a is specifically mentioned, where she went to see the dwelling place of Laniwahine. From there she traveled around Ka‘ena to visit Wai‘anae, then came back to Waialua via Kolekole. When she came back to Waialua, she once again went to visit the dwelling place of Laniwahine at the fishpond, where she also went pole fishing for ‘*aholehole*’ this time. After that, she went to the district of Ko‘olauloa, and then finally returned to Honolulu.

The second bit of news mentions that work on Lokoea and the waterway of Uko‘a had been finished. It calls these two “the great fishponds of Ehukai.” The work was carried out under the direction of the new *konohiki* of the ponds. To what extent was this work a construction of something new, and to what extent was this work the maintenance of how it already was, is not clear. But what is clear is that for three days, several hundred men, women, and children of Waialua helped to clear Lokoea of its ‘*aka‘akai*, or bulrush marsh plants, and the ocean outside of Waialua was filled with the multitude of these dead plants. At the end of this portion of the article, it says the the queen was also there looking on and advising.

Ka Nupepa Kuokoa: Vol. 6, No. 48 (30 November 1867): page 2

UNIHIPILI.—He umi ka nui o na akua unihipili ma ke kahawai holookoa o Kawaihoa. He keu ka o Kawaihoa o kahi nui o ka unihipili, ke pau la ka umi ilaila. Hookekee paha kekahi akua, hooninipo hoi kekahi, hoopunini mai paha kahi akua no ka malama ole ia o kekahi, a lilo i kekahi e malama ai.

SPIRIT OF THE DEAD.—The number of dead spirits at the entire river of Kawaihoa is 10. Kawaihoa is extreme for its many places of the spirits of the dead, it is all the 10 there. Maybe some of these spirits are crooked, some also are drowsy, some spirits are drifting due to no care of some of them, and some are overcome by care.

Ka Nupepa Kuokoa: Vol. 7, No. 35 (29 August 1868): page 1

KA HIKI ANA MAI O KA AU-WAA O HOOMAILEANUE MAWAHO PONO O WAIALUA, A PAE IUKA.

I ka wanao pulehulehu o kekahi la ae, ua ike aku la na kanaka ala kakahiaka nui i keia mea uliuli, a hauwalaau, a wawa, e hoonakeke ai mawaho iho, eia ka o ka auwaa o ua hunona nei a ua o Kaukanapokii; o ka hoala ia aku la no ia o na kanaka a pau, a hoa mai la i ka imu o ka puua, mai ka Lae o Kahuku a ka Lae o Kaena ka a o ua mea he imu puua, ka ilio, ke koelepalau, ka maia kulolo, a me ka ulu, ke kalo kulolo, ahiawela ua mea he ahi, o ka a mai la no hoi mai uka o Kawaihoa a hiki i kai o na alii, hele a malamalama o uka, hele no hoi a malamalama o kai, a koku ike ole ia no ke awa e hookomo mai ai ka auwaa. A no ka manao no kekahi o ka poe malihini o ke ao ae no ia, noho no lakou i waho a no loa ae. I lawa no i ke ao ana, halakika ana kahi waa kialoa o ua mau wahi luna elele nei a Hoomaileanue, a pae i kaha-one, he mea manawa ole ia, o ka waa o ua mau wahi kanaka nei, he mea ole ia i na kamaaina, hiki ana i kahi kau-waa, a hele e auau, a wehe ka malo wai, aahu ke kapa maloo, a hele aku la i hahi o Kaukanapokii, a hai aku la i na olelo a pau, a kii ia aku la ka auwaa e hookomo mai. A ua pae mai la na poe a pau iuka, a ua hookipa ia ae la kela a me keia ma kauhale kamaaina, mai Waimea a hiki i Mokuleia ka paa i na kauhale a me na kanaka, a o kekahi poe no, noho oiuhauwaa iho la no. A ua hookipa ia ae la o Hoomaileanue ma kekahi hale nui a nani, a maikai loa, me ka ike oleia mai e na poe e ae, o Kaukanapokii wale no, a me na Kahu o ua keiki la o Kukululu o Kahiki, a pela i hana ia ai na mea e pili ana ia ia, a hiki i ka wa i hoohalawai ai laua me ka moopuna kua-lua a Hawea o lumi o Kaala, kela kuahiwi a ka nani i noho ai.

THE ARRIVAL OF THE CANOE FLEET OF HOOMAILEANUE DIRECTLY OUTSIDE WAIALUA, AND ITS COMING ASHORE

In the twilight dawn one day, the people rising in the dark in the early morning saw, and chattered, and rumored, that outside was the rattling, here was the canoe fleet of the in-law of Kaukanapokii, when all the people had awakened, and the *imu* of the pig had been lit, from Kahuku Pt. to Kaena Pt., the lighting of the aforementioned *imu* of the pig, the dog, breadfruit-*poi*, the banana pudding, the breadfruit, the taro pudding, hot was the fire, a fire, burning indeed from the uplands of Kawaihoa to the sea of the chiefs, the uplands became bright, and then toward the sea became bright as well, and it was not seen similarly for the harbor that the canoe fleet entered. And for the thoughts for some of the visitors for the day, they stayed outside a long time. And when they had enough of being wary, one of the smaller swift canoes of the high messenger of Hoomaileanue above passed forcefully and landed on the sand. it wasn't a short time, the canoe of the people, it was nothing to the natives, arriving to the place of the canoe, and went to swim, opening the soaked *malo*, putting on the dried *kapa*, and went to *hahi* [?] of Kaukanapokii, and told all the speeches, and the canoe fleet was fetched to enter. All of the people came ashore, and everyone was welcomed in the village, from Waimea to Mokuleia the firmness in the homes and the people, and of some people, sat at the canoe fleet. And Hoomaileanue was greeted at a

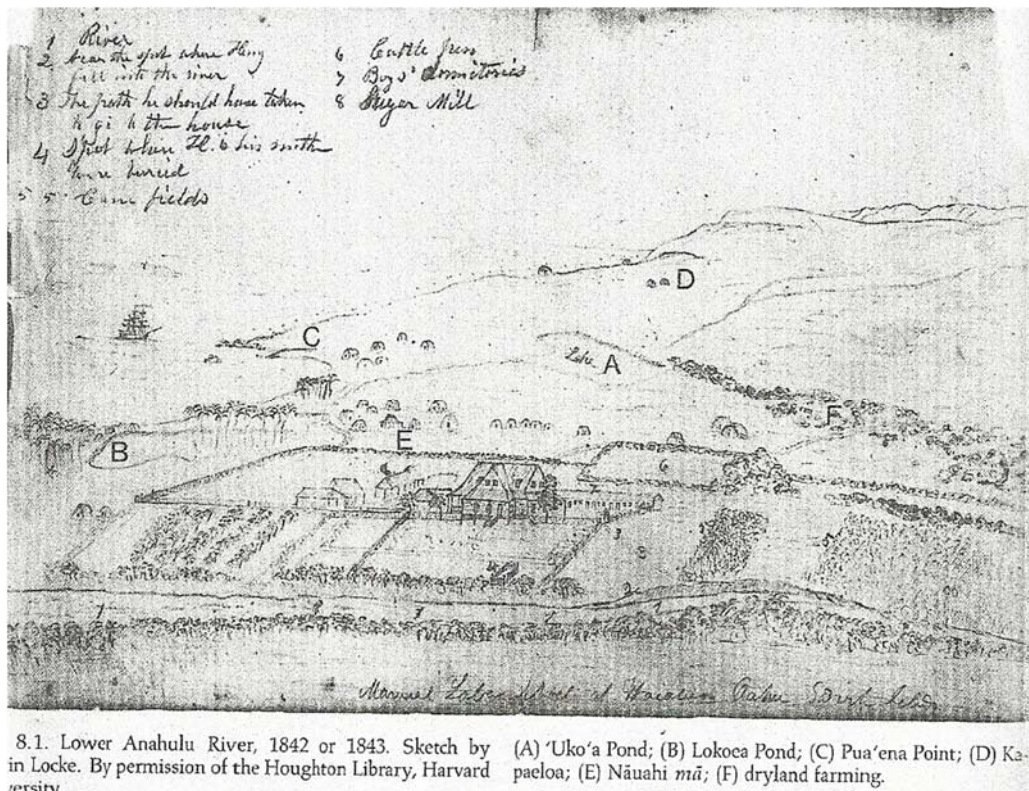
great house of beauty, and very well, not being seen by other people, only Kaukanapokii, and the caretakers of the child Kukuluokahiki, and like that everything was done concerning this, until the time that they met with the great-grandchild of Haweaolumi of Kaala, that upland of beauty that was lived in.

Historic Maps and Illustrations

Historic maps, drawings, and photos help to paint a picture of Kawaihoa in years past and illustrate the many changes that have taken place in the region. The earliest depiction of the project area is an 1842 or 1843 sketch by Edwin Locke (Figure 5). The sketch shows Lokoea Pond flanked with coconut trees, and several structures nearby. The Anahulu River is in the foreground, and a foreign sailing ship can be seen in the distance. Several *lo'i* and stone walls are visible near Lokoea.

The earliest map found for the region, drawn in 1876, shows the project area but with little detail (Figure 6). A few place names and topographic features are illustrated, and a cluster of structures is depicted near Waialua Bay. Lokoea Pond and the Anahulu River can also be seen.

The next map depicts Waialua Bay in 1884 (Figure 7). The coastline is shown, along with what is now Kamehameha Highway. In the vicinity of the project area, Lokoea is depicted, along with several structures, one of which is labeled in barely readable text, “Gov. Dominis House.” The ‘Uko’a Pond area is labeled as “Swampy Land.” The Anahulu River is illustrated, with a footbridge at its mouth and the Emerson house along its banks.



8.1. Lower Anahulu River, 1842 or 1843. Sketch by Edwin Locke. By permission of the Houghton Library, Harvard University. (A) ‘Uko’a Pond; (B) Lokoea Pond; (C) Pua’ena Point; (D) Kapaepaeloa; (E) Nāuahi mā; (F) dryland farming.

Figure 5. An 1842 or 1843 sketch of the Lower Anahulu River by Edwin Locke (adopted from Kirch and Sahlins 1992:174).

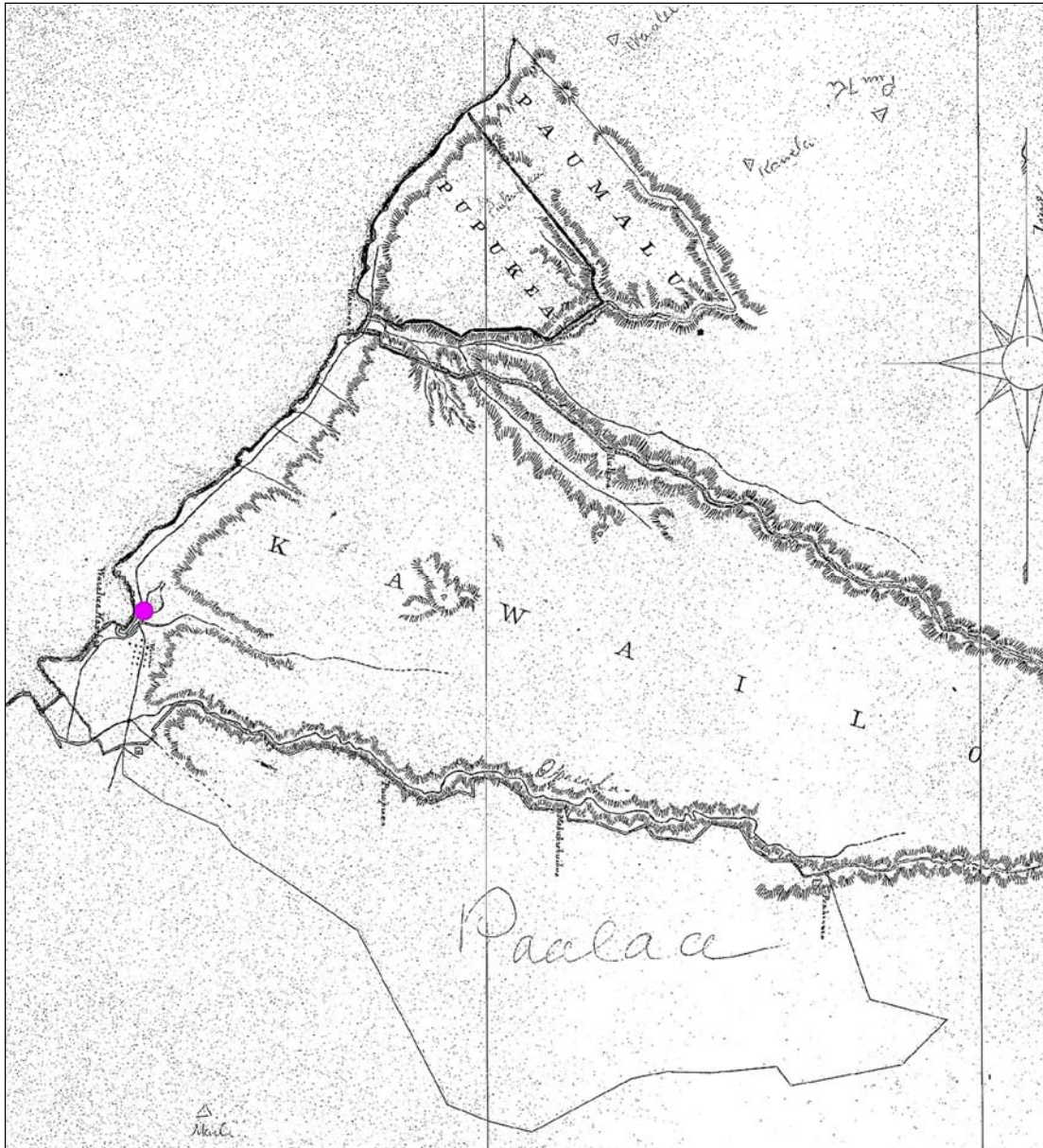


Figure 6. Portion of a historic map of Kawaihoa (Monsarrat 1876). The approximate project location is indicated in purple.

A 1901 Waiialua Agricultural Co. map shows Land Claim Award (LCA) numbers and (Figure 8). Lokoea is labeled as “Fish Pond,” and rice paddies and swamps are illustrated in the ‘Uko‘a Pond region.

Topographic maps from 1929 (Figure 9) and 1956 (Figure 10) show an increasingly urbanized landscape. Several features that appear to be *lo‘i* complexes are visible in the 1929 map but are replaced by houses by 1956. Roads and structures are much more common in these later maps. These are also clearly visible in aerial photographs from 1965 (Figure 11) and 1977 (Figure 12).

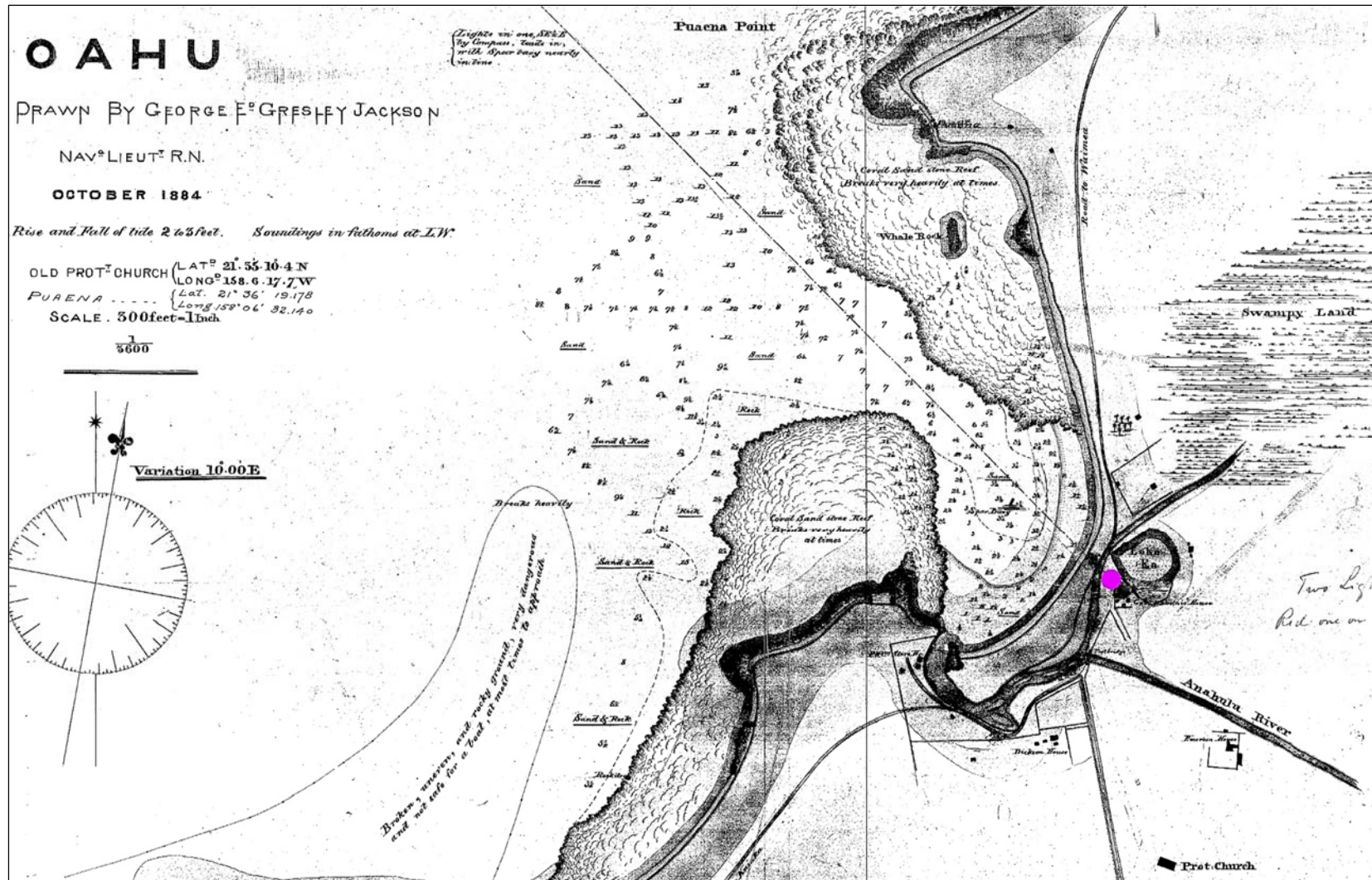


Figure 7. Portion of an historic map of Waialua Bay (Jackson 1884). The approximate project location is indicated in purple.

Māhele Land Tenure and Ownership of Kawaioloa

The change in the traditional land tenure system in Hawai‘i began with the appointment of the Board of Commissioners to Quiet Land Titles by Kamehameha III in 1845. The Great Māhele took place during the first few months of 1848 when Kamehameha III and more than 240 of his chiefs worked out their interests in the lands of the Kingdom. This division of land was recorded in the Māhele Book. The King retained roughly a million acres as his own as Crown Lands, while approximately a million and a half acres were designated as Government Lands. The Konohiki Awards amounted to about a million and a half acres, however title was not awarded until the *konohiki* presented the claim before the Land Commission.

In the fall of 1850 legislation was passed allowing citizens to present claims before the Land Commission for lands that they were cultivating within the Crown, Government, or Konohiki lands. By 1855 the Land Commission had made visits to all of the islands and had received testimony for about 12,000 land claims. This testimony is recorded in 50 volumes that have since been rendered on microfilm. Ultimately between 9,000 and 11,000 *kuleana* land claims were awarded to *kama‘āina* totaling only about 30,000 acres and recorded in ten large volumes.

In the time preceding the Māhele, Kahekili Ke‘eumoku, brother of Kuhina Nui Ka‘ahumanu, served as the chief of Waialua District. Upon his death in 1824, the Waialua lands were passed to Ke‘eumoku’s sister Lydia Kekuapi‘ia Nāmāhana. When Nāmāhana died five years later, Ka‘ahumanu inherited the land, and upon her death in 1832, they were passed to her niece Kīna‘u. After Kīna‘u’s 1839 death, the land belonged to Victoria Kamāmalu.

During the Māhele of 1848, Kamāmalu ceded the lands from Kamananui to Ka‘ena, and they became government lands. She did not cede the *ahupua‘a* of Kawaioloa, however, and it remained in her possession, along with the adjacent *ahupua‘a* of Pa‘ala‘a. In 1850 *kuleana* awards for parcels within Kawaioloa were granted to individual tenants. A total of 93 *kuleana* claims were made for Kawaioloa Ahupua‘a and 79 were awarded (Waihona ‘Aina 2014). ‘Āpana 4 of Claim 2699, and ‘Āpana 8 of Claim 7342 were made for the project parcel, and there were several other LCAs nearby (see Figure 2). The data found for the LCAs within the project area is presented below.

Claim 2699 by Wewehi was for seven ‘*āpana*. These included 48 *lo‘i*, a house lot, *wauke*, ‘*uala*, and gourd lands, as well as fish, shrimp, *limu*, and fishing rights. ‘Āpana 4 is specifically for the project area, and it appears to have contained only one *lo‘i*. It is unclear exactly where the other ‘*āpana* were located; testimony for all ‘*āpana* of Claim 2699 is as follows:

**No. 2699, Wewehi, Waialua, January 5, 1848
N.R. 596-597v3**

I, Wewehi, hereby explain my claims for land, which were held from the time of Kamehameha I, a claim for land and a claim for a lot, and a pond.

The first is Nuukauila, where there are 34 *lo‘i*, and the kula; it is surrounded by pali and the stream.

The second is Kanekuakua, Kawaioloa waena, where there are 13 *lo‘i*; it is surrounded by Kuokoa ma’s, and the pali, and Kahuna’s land.

The third is Lokoea, where there is one *lo‘i*. On the north is Kolikoli’s, on the east is Ukaaha’s, on the south is pali, on the west is Kahuna’s.

The fourth is Ulupanainai where there is one *lo‘i* which is surrounded by the *lo‘is* of Kawiwi ma.

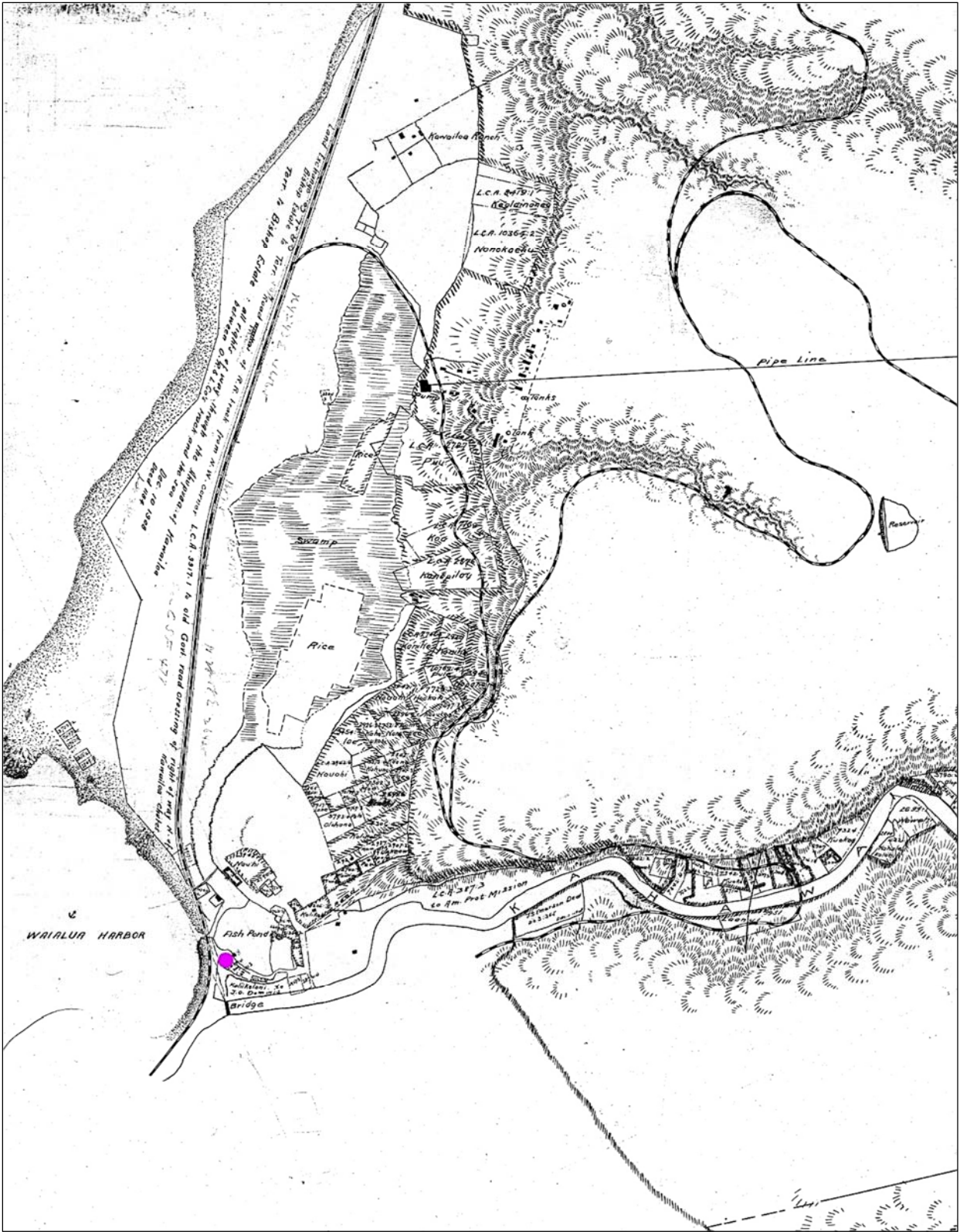


Figure 8. Portion of a Wailua Agricultural Company map (Wall 1901). The approximate project location is indicated in purple.

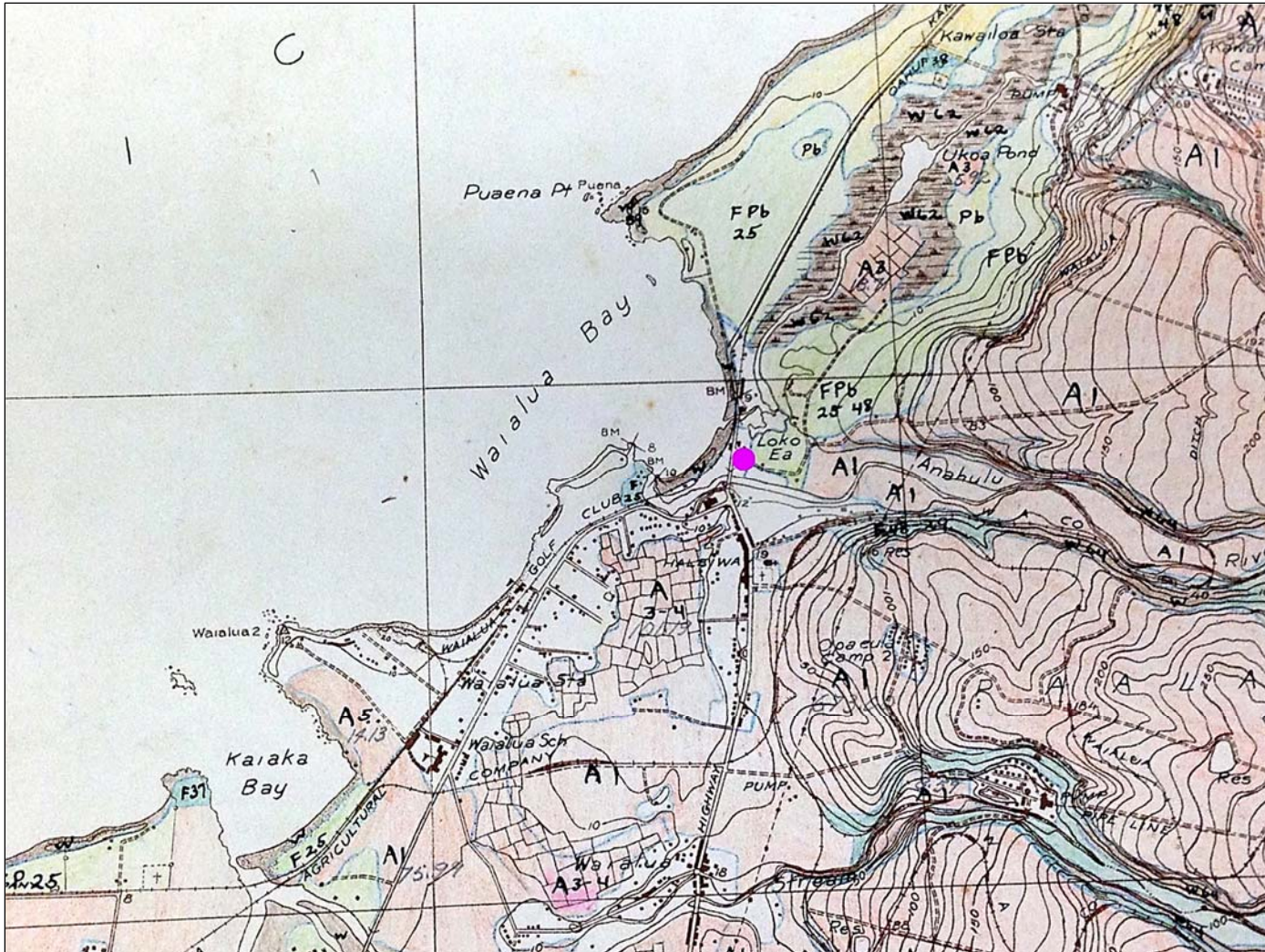


Figure 9. Portion of a USGS (1929) Haleiwa Quadrangle. The approximate project location is indicated in purple.

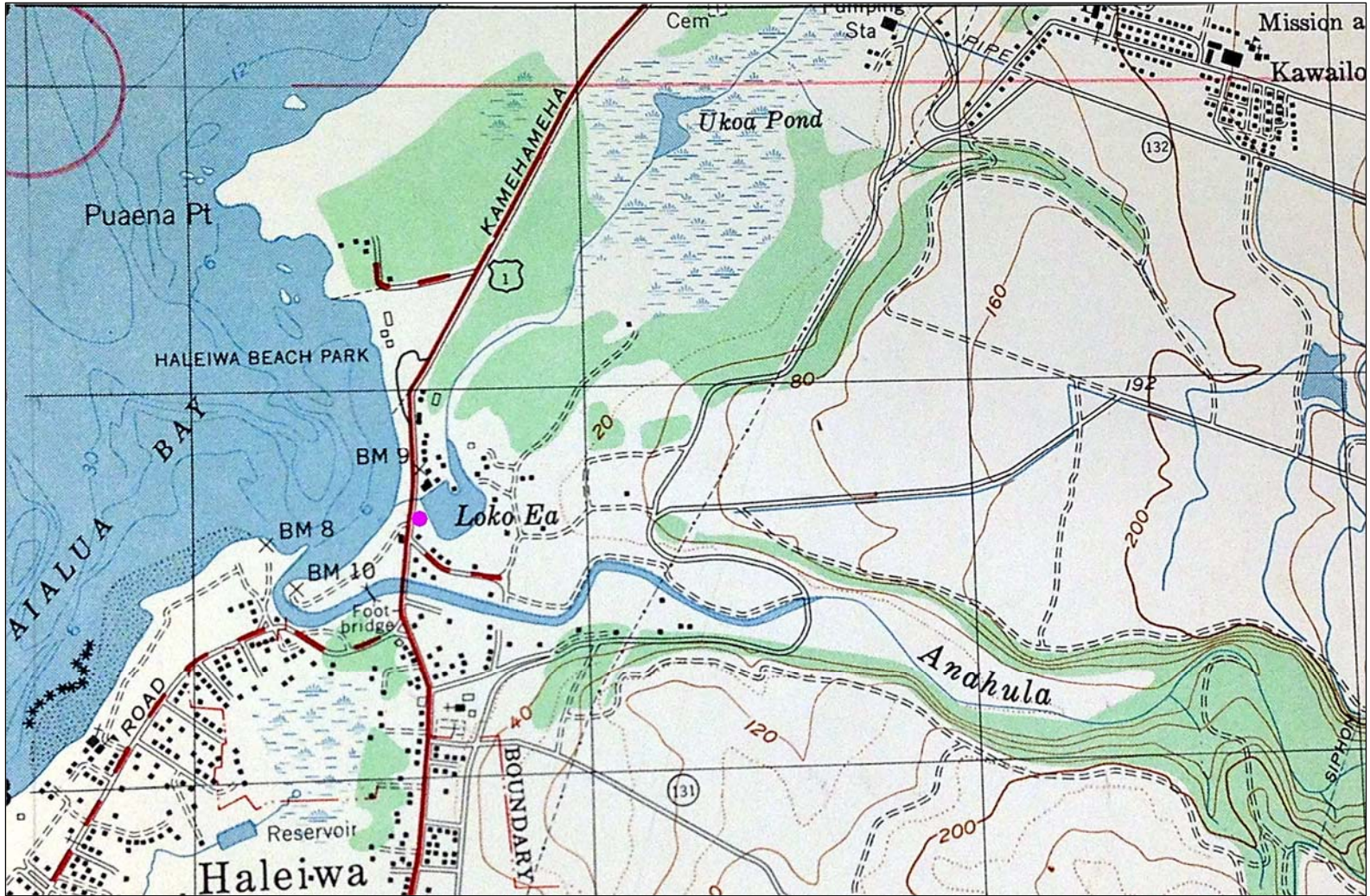


Figure 10. Portion of an Army Corps of Engineers (1956) map. The approximate project location is indicated in purple.



Figure 11. Portion of a 1965 aerial photo (USDA 1965).



Figure 12. Portion of a 1977 aerial photo (USGS 1977).

The fifth is Kawaipuolo, where there is a portion of a lo'i, surrounded by those of Paku ma and the pali, and Kuokoa ma. My pond is also at Lokoea. It is surrounded by the house lot and the coconut grove and the ponds.

The sixth is Pahui Ukoa where there is one gourd garden, surrounded by those of Kolikoli and Nana and Kuahana. Also there is a sweet potato patch surrounded by fence and Nauahi ma's.

The seventh is my house lot, surrounded by the pond and Kahuna's lot and the road.

I also have the right to fishes, gobey fish, fresh water shrimps, and limu kala.

There is a daily right to take fish; the right to take the anae is only in the windy times, that is when they can be caught. There is also a claim for pasture; my makuas had a right there. There is also a kula wauke at Makaleka and I also have a pali wauke at Kakaoloa. Those are my claim; it only remains to secure the award document.

WEWEHI X, his mark

F.T. 453-454v11

No. 2699, Wewehi, Waialua, 17 January 1850

Kolikoli, Hoohikiia, Ua ike au Ikana aina ma ka ili o Nukauila ma Kawailoa ma Waialua. Eono mau apana ana.

Apana 1. 34 loi kala.

Apana 2. 13 loi kala ma Kanekuakua.

Apana 3. 1 loi kala ma Kanekuakua.

Apana 4. 1 loko ma Kealapahuiki.

Apana 5. Pahale ma Loloea.

Apana 6. Kuleana pa uala.

Apana 7. Kuleana pa holoholona.

Apana 1: Mauka, muliwai o Anahulu

Waianae, pali Makai, kahawai Koolaupoko, kahawai.

Apana 2: Mauka, aina o Kahuna Waianae, kahawai Makai, loi paahao Koolaupoko, pali.

Apana 3: Mauka, loi o Kahiwai

Waianae, pali Makai, Kahuna aina Koolaupoko, ko'u aina.

Apana 4: Mauka, pahale no Koaiawa

Waianae, loko o Kolikoli Kealapahunui

Makai, poalima Uluniu

Koolaupoko, Lokoea.

Apana 5: Mauka, Lokoea Waianae, alanui hele Makai, pa o Kahuna Koolaupoko, Lokoea.

Apana 6: He kuleana malu uala e like me ko Koiniho & Kolikoli & Peku.

Apana 7: He kuleana pa hanai holoholona no lakou he nui wale, 60 lakou.

Mai knoa mau makua mai ka apana I Ika wa o Kamehamcha I. Aole mea keakea. Apana 2, 3, 4 mai a Kuokoa mai Ika wa mamua aku o ko Emesona noho ana mai rna Waialua nei.

Aole mea keakea. Apana 5 nona no Ika wa mamua aku o ko Emesona noho ana. Aole mea keakea.

Kahoeka, Hoohikiia, Ua like pu ko maua ike me ko Kolikoli ike.

Claim 7342 by Kuokoa consisted of 13 *āpana*. These included 41 *lo'i*, two house lots, and a pond. *Āpana* 8 is specifically for the project area. It appears to have contained ten *lo'i*. Testimony for all *āpana* of Claim 7342 is as follows:

**No. 7342, Kuokoa
N.R. 317-318v5**

To the Honorable Land Commissioners: I, L. Kuokoa, am a claimant of land at Waialua on Oahu. From the death of Keeaumoku, this Ahupua'a of Kawaioloa was held by Laanui from the upland to the sea. From that time I have had my two 'Ili at Kawaioloa, Puaena and Lahuimoho, under G.L. When the war on Kauai was over, we returned. I again got Honohikilua and an 'Ili of Kamananui named Kalaopa. I had four 'Ili at this time under G. Laanui.

When Kikala died, I again got Lokoea from G.L. and after this, we stayed until the people went to scoop salt at Aliapaakai. Then again, Kamahu, at Kamananui became mine, making a total at this time of six 'Ili. At the time when taxes were given to the tax collectors, that was the time lihi were returned, Kupalu and Kawaipuolo and the Anahulus, being the 'ilis at Kawaioloa, Kalehunui and Kamahu, became mine. Two are at Kamananui, together all these 'Ilis of mine total twelve.

These 'Ilis of mine which I have occupied from then until now are from G.L. That is my claim of occupancy at Waialua. My two house lots are at Lokoea and at Anahulu. These are my claims which are stated to you, the Land Commissioners, to award to me by a document.

In the year of our Lord 1846, M. Kekuanaoa gave me Kealia to care for, under him, from the upland to the sea, from that side to this side. Those are my claims which are stated to you.

L. KUOKOA

**F.T. 382v3
No. 7342, L. Kuokoa**

Sent C. Kamaio, one of the clerks of the Land Commission, together with the claimant, to show the surveys of his claims to M. Kekuanaoa, the konohiki of the land, who approved of the claim and survey.

**F.T. 465-46711
7342 & 8883, L. Kuokoa, Waialua, January 18, 1859**

Olopana, hoohikiia, Ua ike au i kana mau aina ma keia mau iii malalo nei ma Waialua.

Apana 1. Aina kala 2 loi ma Lahuimoho

Apana 2. Aina kala 2 loi ma Lahuui uka

Apana 3. 1 loi o Kaa mauka o Puaena

Apana 4. 1 loi o Kahou mawaina o Puaena.

Apana 5. 1 loko Aalaiki ma.

Apana 6. 2 loi ma ka iii o Kupalu.

Apana 7. 2 loi ma ka iii o Kaiaulaula.

Apana 8. 10 loi moo Kawailaumaia iii Kawaipuolo
Apana 9. 6 loi moo konohikilau & kula
Apana 10. 7 loi moo Kuaipaiki Anahulu iii.
Apana 11. Pahale Ainaiki Anahulu.
Apana 12. Pahale ma Lokoea.
Apana 13. 10 loi ma Kealia o keia apana nae, Aole e hanaia ma ke ana kuleana, aka; me ke kuai maoli me Emeson me ka uka haahaa, hoe na
Apana he 12 i kuleana nona.

Apana 1: Mauka, moo o Keonae Waianae, kahawai o Anahulu Makai, aina o Kaniho Koolaupoko, aina Kahu.

Apana 2: Mauka, aina o Kauaole moo nona
Waianae, aina o Hulupue Makai, loi paahao Koolaupoko, pali.

Apana 3: Mauka, ko Laea
Waianae, Loi paahao Kaleiokane
Makai, poalima
Koolaupoko, ko Iaea.

Apana 4: Mauka, ko Kaukai Waianae, moo Konohikilau Makai, loi Ulupanainai Koolaupoko, ko Nana aina.

Apana 5: Mauka, kula waiho wale no na mea a pau loa
Waianae, Makai, Koolaupoko, ua like.

Apana 6: Mauka, moo o Kaiaulaula
Waianae, kahawai Makai, moo o Kawiwi Koolaupoko, aina Kaalohanui.

Apana 7: Mauka, aina o Kaeawa Waianae, aina o Kaeawa Makai, apana 6 Koolaupoko, moo o Kaeawa.

Apana 8: Mauka, Loi paahao Kanekuakua
Waianae, aina o Huki Makai, aina o Kaukai Koolaupoko, pali.

Apana 9: Mauka, Mooiki Waianae, pali Makai, aina o Paku Koolaupoko, aina o Kaholokai.

Apana 10: Mauka, aina o Kamahale Waianae, Kaalu loi Makai, moo Kaoao Koolaupoko, Muliwai o Anahulu.

Apana 11: Mauka, Pa o Emesona Waianae, Alanui aupuni Makai, Loi Kanenelu Koolaupoko, loi Kaaleo.

Apana 12: Mauka, Lokoea Waianae, Pa o Kuoehi Makai, muliwai Koolaupoko, Lokoea.

Mai a G. Laanui mai i ka wa o Kaahumanu I. Aole mea keakea. Kanahelaumoku (wahine) hohikiia, Ua like pu ko maua ike me ko Olopana.

An interesting find in the Māhele data was the establishment of collective enclosures at Ukoa and Lokoea. These units were created to protect field plots from destruction caused by cattle. The

enclosures were vast, as historic sources state that more than two miles of fencing was put up in Ukoa, with 60 farmers sharing the land (Linnekin 1983).

Post-Māhele Land Use

Ranching began in Kawailoa shortly after the Māhele. Land grants were given to Native Hawaiians and unclaimed plots were made available for lease and eventual ownership. At this time, much of the privately owned land was used for cattle ranching, and to a lesser degree, agriculture. In most cases, extensive logging efforts preceded ranch operations in order to expand pastureland and provide wood for fences.

Sugarcane agriculture intensified after 1882, when wells were established. Frank Dillingham acquired land from Gaspar Silva and James Gay to establish a 7,000 acre property, primarily for sugarcane (Yardley 1981:191–199). Dillingham, who owned the O‘ahu Railway and Land Co. (OR&L) railroad, extended the previously existing track around Ka‘ena Point to service the Halstead Plantation’s sugar mill in Waialua. The railroad followed the same corridor as the current Farrington Highway from Ka‘ena Point to Waialua, and the track extended through Kawailoa. The Halstead Plantation was later bought by the Waialua Agricultural Company, Ltd.

By the early 1900s, land in Kawailoa was being used to grow taro, rice, and sugarcane, with some cattle ranching still taking place as well. Traditional cultivation of taro using perennial streams and coastal springs continued in the area into the 1930s (Handy et al. 1972). In 1921, the concrete “Rainbow Bridge” was built to replace an earlier wooden version. The bridge, which allows Kamehameha Highway to cross the Anahulu River, has become an icon as the entryway to Hale‘iwa Town. The distinctive double arched bridge lies just south of the project area.

The latter half of the 20th century has seen increased construction activities in the vicinity of the study area with projects such as the development of the Hale‘iwa Small Boat Harbor and the modifications to the Hale‘iwa Ali‘i Beach Park. The boat harbor was authorized in 1960 and completed in 1966 (Hammatt et al 2005) while the activities at Ali‘i Beach Park has continued into recent years. No cultural resources had been encountered in the most recent archaeological monitoring for work at the park in 2008 (Hammatt 2008). Both the harbor and the park, while relatively near to the project area, are not adjacent to, but rather, physically removed from the project site.

Previous Archaeology

A wealth of archaeological studies have been conducted in Kawailoa. The following discussion provides information on archaeological investigations that have been performed within the vicinity of the project area (Figure 13). Table 1 lists previous archaeological projects and their results for the larger region of Kawailoa and neighboring Pa‘ala‘a, which includes Hale‘iwa.

One of the earliest island-wide archaeological studies was conducted in the 1930s by J.G. McAllister (1933). In his study of O‘ahu, he recorded numerous sites located in Kawailoa. The sites closest to the project area are Site 230, *mo‘o* stones and Site 233, Lokoea (Figure 14). McAllister describes the sites as follows:

Site 230. Two stones known as *moo*, on either side of the Anahulu Stream above the old Haleiwa Seminary. One was named Poo o Moo and the other was known as Wawae o Moo. They are in no way different from ordinary stones, and can not be distinguished from other stones in the vicinity unless pointed out by one of the Hawaiians.

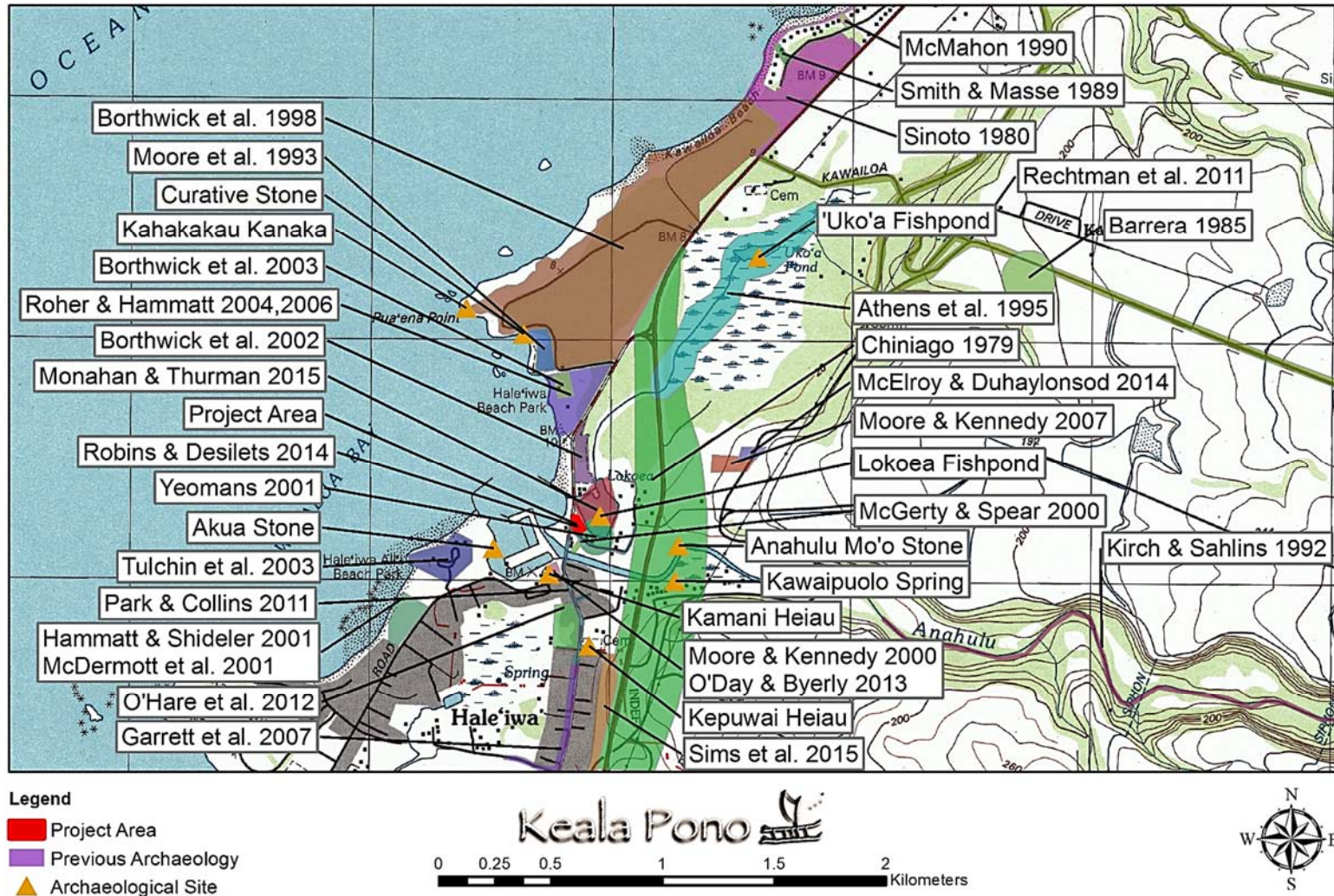


Figure 13. Previous archaeological studies in the vicinity of the project area.

Table 1. Previous Archaeology in Kawaiiloa

Author and Year	Location	Work Completed	Findings
McAllister 1933	Island of O‘ahu	Archaeological Survey	McAllister recorded and examined 384 archaeological sites on O‘ahu, 13 of which are within Kawaiiloa. Sites near the project area include <i>mo‘o</i> stones, Lokoea Pond, and ‘Uko‘a Fishpond.
Chiniago 1979	Hale‘iwa Bypass Road	Cultural Resources Survey	Recorded Site 1439, an historic artifact scatter; 1440, a wall remnant; 1441, an agricultural complex; 1442, the Emerson homestead; and 1443, an old church.
Sinoto 1980	Coastal Hale‘iwa	Reconnaissance Survey	No significant findings.
Barrera 1985	<i>Mauka</i> of Uko‘a Fishpond	Reconnaissance Survey	No significant findings.
Smith and Masse 1989	TMK: (1) 6-1-004:093	Burial Disinterment	Human remains were removed from 61-795 Papailoa Rd. They were designated as Site 3956.
McMahon 1990	TMK: (1) 6-1-004:081	Burial Disinterment	Human remains were recovered from another coastal parcel on Papailoa Rd. They were designated as Site 4240.
Kirch and Sahllins 1992	Anahulu Valley	Academic Research	Two volumes published presenting research on the history of Kawaiiloa, ethnography, and settlement models.
Moore et al. 1993	Hale‘iwa Beach Park Extension	Archaeological Inventory Survey	Recorded Site 4589, a multi-component habitation area; Sites 4593–4595, burials; Site 4590, fire pits; Site 4600, a pit and posthole; Site 4601, a posthole and charcoal lens; and Site 235, the healing stone previously documented by McAllister (1933).
Athens et al. 1995	‘Uko‘a Pond	Paleoenvironmental Research	Coring provided a record of sediments spanning 8,000 years. Lowland forests rapidly declined around AD 950.
Borthwick et al. 1998	TMK: (1) 6-1-004:023, :058, and (1) 6-2-001:1, and :010	Archaeological Inventory Survey	Identified Sites 5641 and 5643, WWII remains; 5495, a human burial; 5644, an historic trash dump; 5661, a cultural layer; and 564, the Pua‘ena Stone.

Table 1. (Continued)

Author and Year	Location	Work Completed	Findings
McGerty and Spear 2000	TMK: (1) 6-2-003 por. :006 and :009	Archaeological Inventory Survey	Recorded Site 5795, charcoal deposits; and 5839, a boulder wall.
Moore and Kennedy 2000	Hale'iwa Joe's	Inadvertent Discovery Report	Reported on the inadvertent discovery of human remains consisting of one adult and one child. The remains were designated as Site 5838.
Hammatt and Shideler 2001	Hale'iwa Beach Park	Burial Reinterment	Reentered a human burial in its original location. The burial, Site 5850, was identified in an earlier archaeological inventory survey (McDermott et al. 2001).
McDermott et al. 2001	Hale'iwa Beach Park	Archaeological Inventory Survey	Recorded Site 5791, the O.R.&L. railroad and Site 5850, a human burial and subsurface cultural layer.
Yeomans 2001	TMK: (1) 6-2-003 por. :006 and :009	Data Recovery	Excavated portions of Site 5795, previously identified charcoal deposits. Identified a historic cultural layer above a traditional cultural layer. Dated four features, three ranging from 1210–1510 calAD, and one dating to 1430–1670 calAD.
Borthwick et al. 2002	North Shore Skateboard Park	Archaeological Inventory Survey	Identified Site 5791, O.R.&L. railroad right of way; 5915, a water tank foundation; and 5916, a cultural layer.
Borthwick et al. 2003	Hale'iwa Beach Park	Archaeological Inventory Survey	No significant finds.
Tulchin et al. 2003	Hale'iwa Beach Park	Archaeological Assessment	No significant finds.
Roher and Hammatt 2004	Hale'iwa Beach Park	Archaeological Monitoring	No significant finds.
Roher and Hammatt 2006	Hale'iwa Beach Park	Archaeological Monitoring	Found additional human remains that are part of Site 5850, a previously recorded human burial and cultural layer.
Garrett et al. 2007	Hale'iwa Town	Archaeological Monitoring	No significant finds.
Moore & Kennedy 2007	<i>Mauka</i> Hale'iwa	Archaeological Inventory Survey	Identified Site 6867, a raised roadway/ driveway associated with concrete troughs and the remains of a mortared brick structure, Site 6868, a c-shaped alignment with an upright stone, and Site 6869, modified agricultural outcrops.

Table 1. (Continued)

Author and Year	Location	Work Completed	Findings
Park and Collins 2011	Kamehameha Hwy., Lokoea Pl., and Anahulu Pl.	Archaeological Monitoring	No significant finds.
O'Hare et al. 2012	Hale'iwa Town	Archaeological Inventory Survey	Recorded Site 7152, concrete features and an agricultural deposit.
O'Day and Byerly 2013	Hale'iwa Joe's	Archaeological Monitoring	Recorded Site 7561, several sets of human remains, and a historic alignment thought to be part of the old Hale'iwa Hotel landscaping.
McElroy and Duhaylonsod 2014	<i>Mauka</i> Hale'iwa	Archaeological Inventory Survey	Identified Site 7604, a historic road.
Robins and Desilets 2014	Current Project Area	Archaeological Monitoring Plan	Drafted a plan for monitoring of soil remediation excavations that overlap with parts of the current project area.
Monahan and Thurman 2015	Lokoea Fishpond	Archaeological Inventory Survey	Identified episodes of rebuilding at Lokoea Fishpond (Site 233). Seven features were associated with the fishpond, consisting of three walls, a pond, a central island, and two caves.
Sims et al. 2015	<i>Mauka</i> of Uko'a Fishpond	Archaeological Inventory Survey	Recorded a portion of the previously identified historic road, Site 704, as well as several historic artifacts.

Note: Site numbers prefaced by 50-80-04.

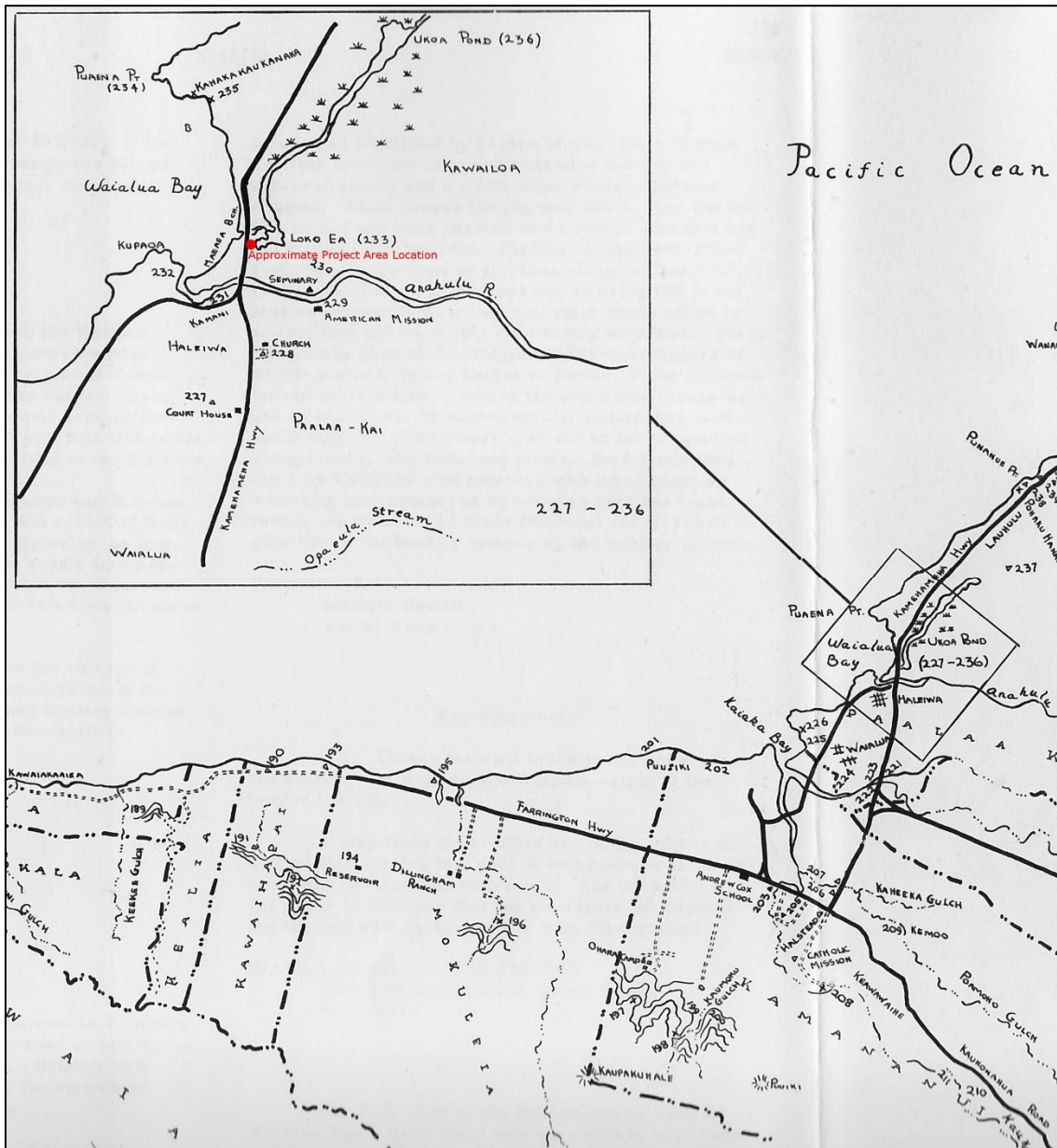


Figure 14. Archaeological sites in Kawaihoa (adopted from Sterling and Summers 1978).

Site 233. A small fresh-water pond covering 2.5 acres, still in use. The present pond is divided from a small stream, into which its outlets (*makaha*), open by a stone and earth embankment. Its other sides are formed by the natural contours of the land. (McAllister 1933:141–142)

McAllister (1933) recorded several other important sites farther away from the project area, including Site 231, Anahulu Heiau; Site 232, an *akua* stone; Site 234, Pua‘ena Point; Site 235, a stone with healing powers; Site 236, ‘Uko‘a Fishpond; and Site 237, Ili‘ilikea Heiau. The two *heiau* and the *akua* stone were reported as destroyed (McAllister 1933:141–142).

Site 231, Anahulu Heiau once stood at the location of the Haleiwa Hotel and was destroyed when the hotel was built. It was described as a large, unpaved *heiau luakini* with walls made of limestone (Thrum in McAllister 1933:141). It is said that the Haleiwa Hotel failed because the *heiau* was destroyed.

Site 232, an *akua* stone, is a sacred stone that once blocked the Anahulu River entrance. The stone was situated just below the water level of the river and would be exposed periodically. It was moved to clear the way for boats, and “much anxiety was shown by the Hawaiians, for fear of evil effects” (McAllister 1933:141).

Site 234 is Pua‘ena Point, or Kahakakau Kanaka. This is the location where Elani was placed upon his death, for his body to decompose, and if a commoner had no one to care for his body after dying, it would be placed here (McAllister 1933:142). It is said that the fluids from the body would attract sharks, which were killed (McAllister 1933:142). Site 235 is a healing stone also found on the point (Figure 15). It is a smooth, oval stone, partially covered by sand, and represents a woman named Pua‘ena. The stone was known for its healing powers, and people from all over the island would place *limu* on the stone and lay the injured part of the body upon it.



Figure 15. The healing stone at Pua‘ena, as seen in 1935 (courtesy of Thomas Shirai; his great-grandmother is shown in the photo).

Site 236, 'Uko'a Fishpond was still in use at the time of McAllister's study (1933). It was described as approximately one mile long and overgrown with weeds. It is said that offerings were left for the *mo'o* of the pond, Laniwahine, on a stone near Waialua Agricultural Company's Pump 4. The stone is no longer there (McAlister 1933:142).

Site 237, Ili'ilikea Heiau, was destroyed in 1916 by the Waialua Agricultural Company (McAllister 1933:142). The *heiau* had two divisions, measured 75 by 267 feet, and exhibited well-defined walls. Thrum reported that the area was covered in sugarcane and only a few rocks of the *heiau* remained (in Sterling and Summers 1978:142).

Archaeological inventory survey for the Hale'iwa bypass highway included lands to the east of the current project area (Chiniago 1979). Of the eight sites recorded, five were newly identified. Site 1439 is an historic artifact scatter; Site 1440 is a stacked stone wall remnant; Site 1441 is a complex of agricultural terraces; Site 1442 is the homestead of missionary J.S. Emerson; and Site 1443 is an old church. The agricultural complex consists of terraces that resemble traditional *lo'i*, but were being utilized for lotus root cultivation in the 1970s. The three previously recorded sites include Site 229, Kawaiupuolo Spring; Site 233, Lokoea Pond; and Site 236, 'Uko'a Fishpond. Subsurface testing did not yield any traditional or historic deposits. The following was noted about ponds and their water sources:

The major drainages in the survey area are the Anahulu River, Opaepala and Helemano Streams [which converge to form Paukaula Stream immediately west of the survey area], and an unnamed stream that drains Ukoa Pond and feeds into Loko Ea (Chiniago 1979:5).

Paleoenvironmental studies were conducted at 'Uko'a Pond (Site 236) in association with the Hale'iwa bypass highway project (Athens et al. 1995). Core samples were analyzed for pollen, charcoal, and sediments, and provided a sequence of environmental change spanning approximately 8,000 years. The sequence was divided into four time periods, or zones, with the earliest exhibiting an abundance of arboreal species. Between 1000 and 500 years ago the forest began to decline, and was completely replaced by open scrub land in a matter of 300 years. The change in the pollen record occurs at roughly AD 950 and is thought to correlate with human settlement of the area (Athens et al. 1995:119).

An archaeological inventory survey was carried out on portions of TMK: (1) 6-2-003:006 and :009, just south of the area of study (McGerty and Spear 2000) Two sites were documented: Site 5795 consists of charcoal deposits, and Site 5839 is a boulder wall. A charcoal sample from Site 5795 produced a radiocarbon date of AD 1420–1530 (McGerty and Spear 2000:37). Data recovery was later conducted at Site 5795, which consisted of manual excavations and laboratory analyses (Yeomans 2001). This included radiocarbon dating to expand knowledge of the human chronology in the area. Site 5795 was no longer considered significant after the investigation was complete.

Human remains were identified at Hale'iwa Joe's restaurant (Moore and Kennedy 2000). The remains, designated as Site 5838, were identified as an adult and a child. Later archaeological monitoring recorded Site 7561, consisting of the remains of four adults and one child (O'Day and Byerly 2013). Some of the remains were found scattered in disturbed soil piles, while others were in situ. The in situ remains were identified at a depth from 50 cmbs (cm below surface) to 177 cmbs. Most of the remains were found in *Jaucus* sands while a portion of the remains, Feature B of Site 7561, was recovered in sandy clay. Although Hale'iwa Joe's is southwest of the current project site and across of Anahulu Stream, the remains found there are thought to possibly come from a larger pre-contact complex, and this complex may or may not cross the stream to the project site. Additionally, the *Jaucus* sand series in which the remains were identified is the same type of sand series on both sides of the mouth of the stream to include the area of the current project site. Besides

the human remains, a stone alignment thought to be part of the old Hale'iwa Hotel was also recorded (O'Day and Byerly 2013). The alignment was deemed not significant, and no site number was given.

An archaeological inventory survey was completed for the North Shore Skate Park, which lies to the north of the current project (Borthwick et al. 2002). The survey covered 3.4 acres and included subsurface testing in selected areas. Three sites were recorded, including an OR&L right of way (Site 5791), a water tank foundation (Site 5915), and a cultural layer (Site 5916). The cultural layer was described as “a poorly defined mixed strata containing modern to early 1900s trash with sparse charcoal flecking” (Borthwick et al. 2002:ii).

Archaeological monitoring was conducted for water main replacement along Kamehameha Highway, Lokoea Place, and Anahulu Place, to the south of the current area of study (Park and Collins 2011). No significant finds were reported, although the northern portion of the project area was not monitored due to miscommunication. The only finds were isolated historic artifacts, consisting of three ceramic sherds, two glass bottles, a nail, and a marble.

An archaeological monitoring plan was drafted for excavations associated with soil remediation on parts of the current property (Robins and Desilets 2014). The plan states the following:

Soil in the project area has been found to contain petroleum hydrocarbons and associated contaminants including diesel range organics, residual range organics, lead, cadmium, and polycyclic aromatic hydrocarbons.... The project background suggests ARCADIS' remediation work may encounter disturbed soil layers and possibly intermittent and truncated intact soil layers with pre-Contact and post-Contact features. Intact soil layers are anticipated closer to Lokoea with evidence of pond deposits characterized by fine wetland sediments or oxidized clays. (Robins and Desilets 2014:1)

Most recently, an archaeological inventory survey was conducted at Lokoea Fishpond (Monahan and Thurman 2015), which is just inland (east) of the current project area. It was reported that Lokoea is physically associated with 'Uko'a Fishpond, one mile away, via a stream channel that has probably been present for the duration of human habitation in the area (Monahan and Thurman 2015:165). Accordingly the two fishponds share a metaphysical and spiritual connection, as well as other commonalities like Laniwahine, a *mo'o* and their *kia'i*, or guardian, and the numerous *ali'i* who had utilized both fishponds (Monahan and Thurman 2015:165). It was also noted that Lokoea has undergone multiple phases of modification over time, many of which occurred in the 20th century (Monahan and Thurman 2015:50).

It was recommended that a preservation plan is developed for Lokoea and that the fishpond be preserved in accordance with HAR §13-284-8 (Monahan and Thurman 2015:165). Preservation was recommended based on Lokoea being historically significant under criteria b, c, d, and e. Criterion b applies because Lokoea was utilized by multiple *ali'i*, including King Kamehameha I, Queen Emma Kaleleonalani, and Queen Lili'uokalani. Criterion c applies because of the quality of the wall building at Lokoea and because of its engineering. Because of the potential to yield further archaeological information, Lokoea is significant under criterion d; and further, because the fishpond is still utilized by Native Hawaiian cultural fish-farmers, criterion e applies as well (Monahan and Thurman 2015:165). The preservation plan will identify areas of high, moderate, and low archaeological sensitivity and what types of activities may occur in these areas in an attempt to mitigate effects on the fishpond (Monahan and Thurman 2015:166).

Settlement Pattern

The settlement of Anahulu Valley in Kawaihoa has been studied extensively by Kirch and Sahlins (1992) and the discussion here is largely a summary of their work. Initial settlement of the Waiialua

region likely occurred early in time because of the abundance of natural resources, including fertile floodplains, fresh water, and marine life. Settlement was focused in coastal areas, near these abundant resources. By the 14th century AD, populations began to expand inland into upper Anahulu Valley, where rockshelters were used as temporary habitation sites. This inland expansion was also occurring in other areas of O‘ahu, as populations increased substantially, with the windward valleys being penetrated well before those on the leeward side of the island. In Kawailoa, the inland rockshelters were being used as a base to hunt birds and to make use of other stream and forest resources. The main population was still at the coast, however, as these rockshelters were not permanent habitation areas.

By the time of Kamehameha I in the late 1700s, land use intensified, with inland zones permanently settled, and animal husbandry taking place. Kamehameha’s occupation of the island in 1804 brought about significant social and economic changes in Kawailoa, as rockshelters were abandoned and people moved near irrigated terraces that produced large quantities of taro. This period of agricultural intensification was short-lived, however, and the upper Anahulu Valley was in decline as early as 1812. Possible causes of decline include a drop in population because of foreign disease epidemics, a new focus on obtaining sandalwood for foreign trade, and the abandonment of rural areas for growing urban centers, such as Honolulu.

After the collapse of the sandalwood trade ca. 1830, the Hawaiian economy shifted to catering to whaling vessels that would stop in the islands for provisions. Agricultural production was revived, as taro, yams, and sweet potatoes were cultivated for trade with whaling ships. Although the overall population of Waialua District decreased from out-migration as the whaling trade dwindled, it is clear that Kawailoa was well populated at the time of the Māhele, with 93 *kuleana* claims made for the *ahupua‘a*. Māhele data shows that a wide range of activities were taking place, from farming to fishing, and residential lots were interspersed among the farms and fishponds. The development of collective enclosures at ‘Uko‘a and Lokoea were found in the Māhele data. These enclosures were established as farmers joined together to keep their fields safe from the destruction caused by cattle. Furthermore, a good amount of Kawailoa’s taro patches were converted to rice fields since there was a growing demand for rice.

The end of the 19th century saw even more far-reaching agricultural changes as the large-scale cultivation of sugarcane took hold of Waialua District. This coincided with the extension of Benjamin Dillingham’s Oahu Railway and Land Company (OR&L) railroad system which came out of Wai‘anae, went around Ka‘ena, through Waialua, and to Kahuku. Dillingham conveniently built his Hale‘iwa Hotel at the shoreline of Waialua Bay near where his railroad’s Waialua terminal was located, and the hotel enjoyed a wealth of business until 1928 when it became a private club. During the years of the second world war it became an officer’s clubhouse, and in 1952, after the war, it was demolished (Hammatt et al 2005). The Hale‘iwa Hotel is the site of today’s Hale‘iwa Joe’s which is across the Anahulu Stream southwest of the current project site. The 20th century saw cattle ranching and sugarcane agriculture as the dominant activities in Waialua while taro and rice continued to be grown as well.

Summary and Anticipated Finds

The *mo‘olelo* and *‘ōlelo no‘eau* that perpetuate the memory of pre-contact Waialua and Kawailoa indicate the notable place they had in Hawaiian history. Kawailoa was and still is an *ahupua‘a* within the district of Waialua, and both of these place names rightfully suggest the abundance of water in the region, attested by such geographical features as ‘Uko‘a Fishpond, Lokoea Fishpond, and Anahulu Stream. Indeed, later historical records document extensive well-watered lands to include vast fresh water ponds, taro fields, and swamplands. The significance of Waialua brought about by its bounteous agricultural and aquacultural production appears to be consistent with the many

important *heiau* found throughout the district. This bounty gave rise to a substantial population dispersed among good-sized villages. Hawaiian language newspaper articles, old photos, and historic maps attest to the development of Waialua into the post-contact era with references to bustling communities, churches, and schools. While Kamāmalu kept the *ahupua‘a* of Kawailoa and Pa‘ala‘a, her crown lands from Kamananui to Ka‘ena were ceded to become government lands, and the totality of these crown, government, and individual *kuleana* lands would eventually support sugar plantations, cattle ranching, railroad, and military enterprises.

Due to its diversified history, Kawailoa Ahupua‘a might offer numerous types of archaeological materials. Archaeological work in the region might uncover anything from pre-contact ceremonial and/or agricultural remnants to historic-era artifacts representative of the various industries that left their footprint on the landscape. The specific project area was the location of two LCAs, where *lo‘i* were mentioned in Māhele testimony. Remains of these may be found on the parcel, and could include stone terraces, subsurface pondfield soils, and/or any portable artifacts related to agriculture. This is in line with other previous archaeological finds in the district and along the coast, and in addition to pre-contact agricultural features and habitation features which may or may not include human burials, the project site may also yield remnants of activities associated with the historic-era railroad system and the Hale‘iwa Hotel.

Research Questions

Research questions will broadly address the identification of the above archaeological resources and may become more narrowly focused based on the kinds of resources that are found. Initial research questions are as follows:

1. Is there any evidence of pre-contact use of the property and what is the nature of that use? The project area is located in a coastal environment, a context favored for human burial in traditional Hawai‘i. LCA records indicate that the parcel was used for *lo‘i* agriculture, but it is possible that burials were interred there before agriculture commenced. Other evidence of traditional Hawaiian use of the study area might include isolated artifacts, midden deposits, and/or buried cultural layers. As mentioned earlier, the project is located in proximity to the natural resources provided by Lokoea Fishpond, Anahulu Stream and the shore of Waialua Bay, making it a prime location for habitation in the pre-historic era.
2. Are there vestiges of historic use of the property? Remnants of historic-era land use would likely be related to the LCA claims for the parcel. Evidence of *lo‘i* agriculture, such as stone terraces or pondfield soils might be found beneath the surface.
3. What time periods are represented by the archaeological remains on the properties? If fire pits or other datable archaeological features are encountered, radiocarbon dating may inform on the period of use for the area. Wood taxa identification should be performed prior to dating, and only material suitable for dating should be submitted for analysis. Historic occupation may be dated by material remains such as bottles or ceramics.

Once these basic questions are answered, additional research questions may be developed in consultation with SHPD, tailored to the specific kinds of archaeological resources that were identified.

METHODS

Pedestrian survey and subsurface testing were conducted on July 31, 2015 by Windy McElroy, PhD and Jeffrey Lapinad. McElroy served as Principal Investigator, overseeing all aspects of the project.

For the pedestrian survey, the ground surface was visually inspected for surface archaeological remains, with transects conducted in a north-south direction. Of the .512-acre survey area, 100% was covered on foot. Vegetation was very light, consisting mostly of scattered patches of short grass that did not impair visibility of the ground surface (Figure 16). The spacing between archaeologists was approximately 5–8 m apart. Archaeological sites were identified visually, with any feature possibly made or used by humans and more than 50 years old considered a site, although none were found.

Test trenches (TR) were excavated in five locations on the property. The excavation strategy and trench locations were approved by SHPD beforehand via email. A mini excavator was used for digging of the trenches (see cover photo). Vertical provenience was measured from the surface, and trenches were excavated to water table or to as deep as safely possible, at the discretion of the mini excavator operator. One trench was abandoned early because of possible petroleum contamination. Profiles were drawn and photographed, and sediments were described using Munsell soil color charts, a sediment texture flowchart (Thien 1979), and the *Soil Survey Manual* (USDA 1993). Trench locations were recorded with a 3 m-accurate Garmin GPSmap 62st, and all trenches were backfilled after excavation.

The scale in all field photographs is marked in 10 cm increments. The north arrow on all maps points to magnetic north. Throughout this report rock sizes follow the conventions outlined in *Field Book for Describing and Sampling Soils*: Gravel <7 cm; Cobble 7–25 cm; Stone 25–60 cm; Boulder >60 cm (Schoeneberger et al. 2002:2–35). No material was collected, and no laboratory analyses were conducted.



Figure 16. Overview of the parcel, showing light vegetation. Orientation is to the northwest.

RESULTS

Pedestrian survey and subsurface testing were conducted in the .512-ac. project area. No historic properties were found. Excavation of five test trenches did not yield any evidence of subsurface archaeological deposits or features.

Community Consultation

Consultation was conducted with SHPD between April and July, 2015. The excavation strategy was agreed upon with the SHPD O'ahu Lead Archaeologist via email. In addition, a cultural impact assessment is currently being prepared for the project. As of the time of writing, four interviews with community members were completed in person by Keala Pono ethnographer, Dietrix Duhaylonsod, BA. The interviewees were Kamehameha Schools land manager, Kalani Fronda; *kupuna*, Betty Jenkins; cultural practitioner, Moki Labra; and the O'ahu Island Burial Council Waialua Representative, Thomas Shirai. The interviewees did not know of any archaeological sites directly on the property but noted the importance of Lokoea Fishpond, which is adjacent to the north, as well as a variety of other archaeological sites in the wider region.

Pedestrian Survey

The surface survey included 100% of the .512-ac. parcel. The property housed a gas station from the 1940s to 2008, and the surface and subsurface were extensively disturbed during its construction, modification, and demolition. No surface archaeological remains were observed on the property.

Subsurface Testing

Five trenches were excavated throughout the parcel (Table 2, Figure 17). Stratigraphy consisted of fill above one or two layers of alluvium. No cultural deposits or features were observed in any of the trenches.

TR 1 was located on the north end of the property (see Figure 17). The trench measured 4.70 m long and .56 m wide. It was excavated to 1.92 m, just to the water table (Figure 18). Stratigraphy consisted of an upper fill layer with sparse metal and plastic debris, with two alluvial layers below.

TR 2 was placed on the east side of the parcel (see Figure 17). The trench measured 6.15 m long, .56 m wide, and 1.90 m deep. Stratigraphy consisted of the same three layers observed in TR 1 (Figure 19).

TR 3 was located in the central portion of the property (see Figure 17). It measured 4.90 m long, .56 m wide, and 1.70 m deep. Excavation was halted when a petroleum smell was observed, and the trench was not excavated further. Stratigraphy was similar to that in TR 1, except that the upper fill layer contained more basalt gravel (Figure 20).

TR 4 was placed in the southeast corner of the lot (see Figure 17). It measured 5.02 m long, .56 m wide, and 1.83 m deep. Stratigraphy consisted of an upper fill layer above alluvium (Figure 21). A concrete fragment was observed in the fill, probably the remnants of a modern post or sign foundation. Small amounts of lead contamination were detected in this trench after it had been excavated.

TR 5 was located between TR 3 and 4 (see Figure 17). The trench measured 4.05 m long, .56 m wide, and 1.80 m deep. Stratigraphy was the same as in TR 3, with a rubber hose fragment and pvc coupling among the modern debris observed in the upper fill layer (Figure 22).

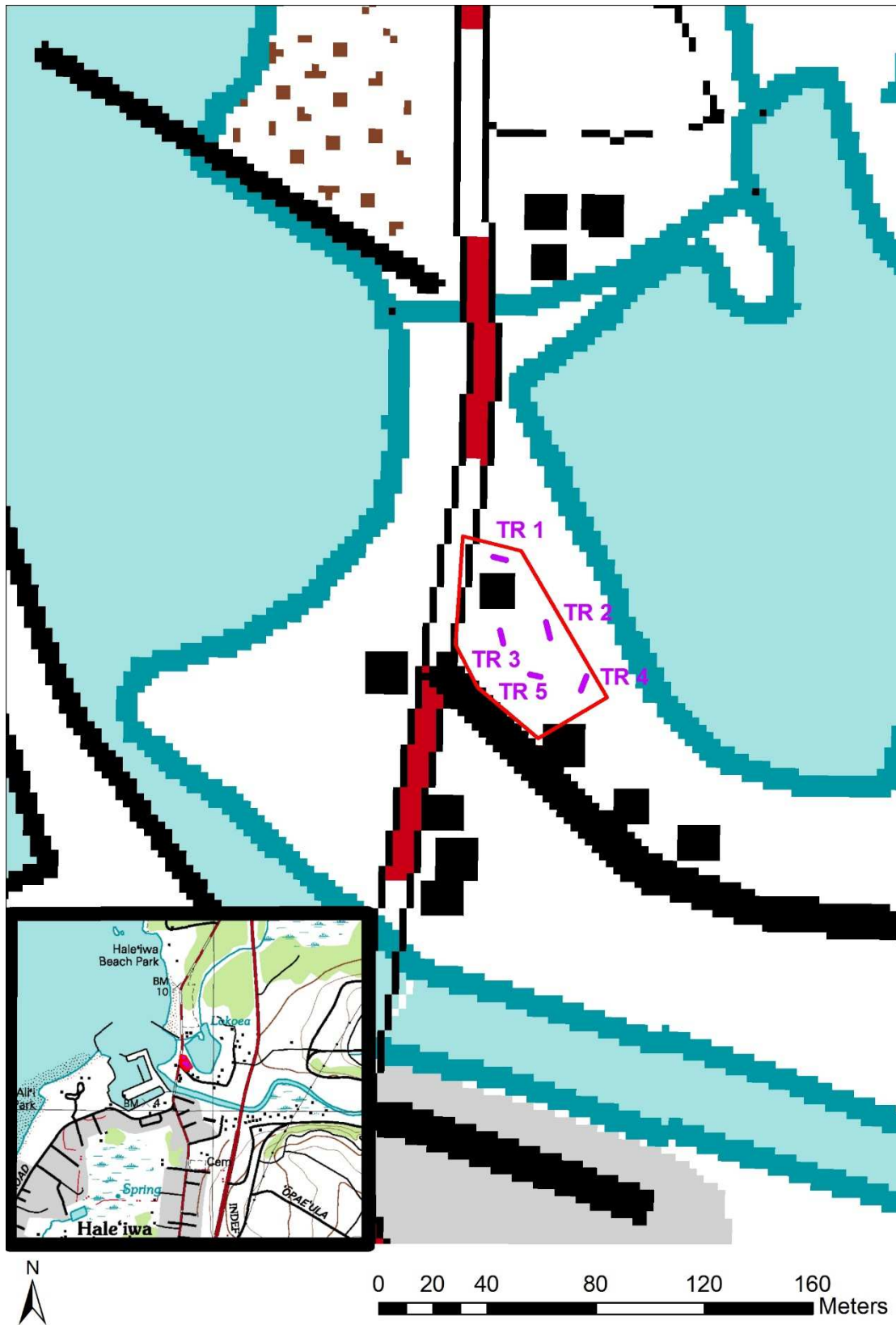


Figure 17. Location of trenches on USGS Haleiwa quadrangle. The project area is shown in red.

Table 2. Sediment Descriptions

Location	Layer	Depth (cmbs)	Color	Description	Interpretation
TR 1	I	0-40	10YR 4/3	Sandy loam; 1% fine roots; 10% basalt cobbles and gravel; modern debris; smooth, gradual boundary.	Fill
	II	40-180	7.5YR 3/3	Silty clay; 1% basalt cobbles and gravel; smooth, abrupt boundary.	Alluvial Deposit
	III	180-192+	10YR 3/1	Silty clay, moist; 5% basalt cobbles and gravel; base of excavation.	Alluvial Deposit
TR 2	I	0-58	10YR 4/3	Sandy loam; 1% fine roots; 10% basalt cobbles and gravel; modern debris; smooth, gradual boundary.	Fill
	II	58-156	7.5YR 3/3	Silty clay; 1% basalt cobbles and gravel; smooth, abrupt boundary.	Alluvial Deposit
	III	156-190+	10YR 3/1	Silty clay, moist; 5% basalt cobbles and gravel; base of excavation.	Alluvial Deposit
TR 3	I	0-22	10YR 4/3	Sandy loam; 1% fine roots; 30% basalt cobbles and gravel; modern debris; smooth, gradual boundary.	Fill
	II	22-166	7.5YR 3/3	Silty clay; 1% basalt cobbles and gravel; smooth, abrupt boundary.	Alluvial Deposit
	III	166-170+	10YR 3/1	Silty clay, moist; 5% basalt cobbles and gravel; base of excavation.	Alluvial Deposit
TR 4	I	0-171	10YR 4/3	Sandy loam; 2% fine roots; 2% basalt cobbles and gravel; modern debris; smooth, gradual boundary.	Fill
	II	171-183+	10YR 3/1	Silty clay, moist; 5% basalt cobbles and gravel; base of excavation.	Alluvial Deposit
TR 5	I	0-81	10YR 4/3	Sandy loam; 2% fine roots; 30% basalt cobbles and gravel; modern debris; smooth, gradual boundary.	Fill
	II	81-166	7.5YR 3/3	Silty clay; 1% basalt cobbles and gravel; smooth, abrupt boundary.	Alluvial Deposit
	III	166-180+	10YR 3/1	Silty clay, moist; 5% basalt cobbles and gravel; base of excavation.	Alluvial Deposit

Summary of Findings

Pedestrian survey and subsurface testing were conducted at TMK: (1) 6-2-003:037. No cultural material or deposits were identified. The surface and subsurface were extensively disturbed by previous use of the parcel as a gas station for approximately 60 years. Stratigraphy consisted of fill atop one or two layers of alluvium.

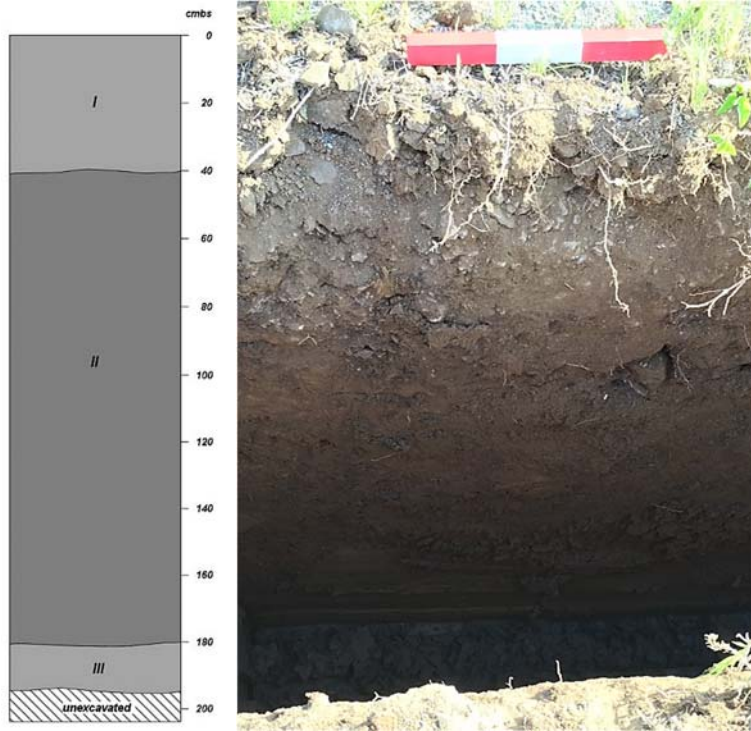


Figure 18. TR 1 north face profile drawing (left) and photo (right).

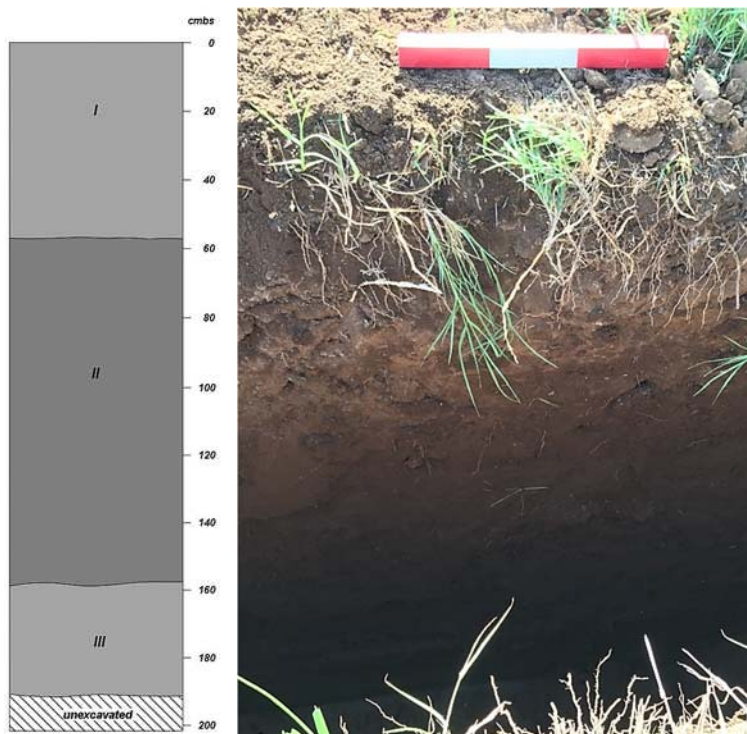


Figure 19. TR 2 east face profile drawing (left) and photo (right).



Figure 20. TR 3 east face profile drawing (left) and photo (right).



Figure 21. TR 4 southeast face profile drawing (left) and photo (right).



Figure 22. TR 5 north face profile drawing (left) and photo (right).

SUMMARY AND RECOMMENDATIONS

An archaeological inventory survey was conducted for TMK: (1) 6-2-003:037 in Kawaihoa Ahupua'a, Waialua District, on the Island of O'ahu. This was done in preparation for ground disturbance associated with a small commercial redevelopment called The Shops at Anahulu. The archaeological inventory survey included pedestrian survey that covered 100% of the .512-acre property, as well as test excavations consisting of five trenches.

No surface archaeological remains were found during pedestrian survey of the parcel. The property has been disturbed by a former gas station that was in operation from the 1940s to 2008. Likewise, subsurface testing did not yield any evidence of subsurface archaeological material or deposits. Stratigraphy consisted of fill atop alluvial deposits.

In sum, an archaeological inventory survey was conducted on TMK: (1) 6-2-003:037 in Kawaihoa, and no archaeological remains were found. Construction there will have no effect on historic properties because no historic properties occur on the parcel. Nevertheless, archaeological monitoring is recommended because of the proximity to the beach, an environment favored for human burials in traditional times, as well as proximity to Lokoea Fishpond, an important cultural resource on the neighboring property. It is possible that human remains may be discovered during construction activities, even though no such evidence was found during the survey. It has already been established that the project site is located at a place of significant environmental resources and in a region that has sustained a bustling population since the pre-contact era. Particularly, human remains have been identified in the same types of soils on the other side of the Anahulu Stream just across from and near to the project site, and it is believed that those human remains may come from a larger complex which may include the current project area. Should human burial remains be discovered during construction activities, work in the vicinity of the remains should cease and the SHPD should be contacted.

GLOSSARY

<i>‘āholehole</i>	Young stage of the Hawaiian flagtail fish.
<i>ahupua‘a</i>	Traditional Hawaiian land division usually extending from the uplands to the sea.
<i>aka‘akai</i>	The bullrush <i>Scirpus validus</i> found in brackish or fresh water marshes. These plants were traditionally used in house thatching or woven into mats for beds.
<i>ali‘i</i>	Chief, chiefess, monarch.
<i>‘anae</i>	Full-sized <i>‘ama‘ama</i> mullet fish.
<i>‘āpana</i>	Piece, slice, section, part, land segment, lot, district.
<i>awa</i>	The milkfish, or <i>Chanos chanos</i> , often raised in fishponds in ancient times.
boulder	Rock 60 cm and greater.
cobble	Rock fragment ranging from 7 cm to less than 25 cm.
gravel	Rock fragment less than 7 cm.
<i>heiau</i>	Place of worship and ritual in traditional Hawai‘i.
<i>hui</i>	A club, association, society, company, or partnership; to join, or combine.
<i>‘ili</i>	Traditional land division, usually a subdivision of an <i>ahupua‘a</i> .
<i>kia‘i</i>	Guard, caretaker; to watch or guard; to overlook, as a bluff.
<i>koa haole</i>	The small tree <i>Leucaena glauca</i> , historically-introduced to Hawai‘i.
<i>kula</i>	Dry land, often used for sweet potato cultivation.
<i>kuleana</i>	Right, title, property, portion, responsibility, jurisdiction, authority, interest, claim, ownership.
<i>limu</i>	Refers to all sea plants, such as algae and edible seaweed.
<i>lo‘i, lo‘i kalo</i>	An irrigated terrace or set of terraces for the cultivation of taro.
<i>luakini</i>	Large <i>heiau</i> of human sacrifice.
Māhele	The 1848 division of land.
<i>makai</i>	Toward the sea.
<i>mauka</i>	Inland, upland, toward the mountain.
<i>mo‘o</i>	Lizard, dragon, water spirit.
<i>mo‘olelo</i>	A story, myth, history, tradition, legend, or record.
<i>‘ōlelo no‘eau</i>	Proverb, wise saying, traditional saying.
<i>oli</i>	Chant.
<i>pu‘uone</i>	Pond near the seashore, as at the end of a stream.
stone	Rock fragment ranging from 25 cm to less than 60 cm.
<i>‘uala</i>	The sweet potato, or <i>Ipomoea batatas</i> , a Polynesian introduction.
<i>wauke</i>	The paper mulberry, or <i>Broussonetia papyrifera</i> , which was made into tapa cloth in traditional Hawai‘i.

REFERENCES

Army Corps of Engineers

1956 *Haleiwa*. Scale 1:25,000. Land Study Bureau maps nos. O-12-1.4a & 1.4b. Sheet 5321 II SE, Series W833, Edition 1-AMS. Prepared by the Army Map Service, Corps of Engineers, Washington, D.C. Copied in 1956 from Hawaii, 1:24,000, U.S. Geological Survey, Haleiwa, 1953. Original map compiled by U.S.G.S.

Athens, J.S., J.V. Ward, D.W. Blinn, and M. Tomonari-Tuggle

1995 *Paleoenvironmental Investigations at 'Uko'a Pond, Kawailoa Ahupua'a, O'ahu, Hawai'i*. International Archaeological Research Institute, Inc., Honolulu, Hawai'i.

Barrera, W.

1985 *Ukoa, Oahu: Archaeological Survey at Proposed Well Location*. Chiniago Inc. Honolulu.

Beaglehole, J.C.

1967 *The Journals of Captain James Cook on his Voyages of Discovery. Vol. III, Part I*. Cambridge University Press, Cambridge, Massachusetts.

Borthwick, D.F., A. Bush, J. Yorck, and H.H. Hammatt

2003 *Archaeological Inventory Survey Report for the Proposed Wastewater Improvements to the Hale'iwa Beach Park, Kawailoa, Waialua, O'ahu, Hawai'i* (TMK:6-2-01: Por. 2). Cultural Surveys Hawai'i Inc., Kailua, Hawai'i.

Borthwick, D.F., B.L. Colin, R. Chiogioji, and H.H. Hammatt

1998 *Archaeological Inventory Survey and Subsurface Testing Report of a 140-acre parcel within Kawailoa Ahupua'a, Waialua District, Island of O'ahu* (TMK 6-1-4:23, 58 and 6-2-1:1,10). Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Borthwick, D.F., D. Perzinski, and H.H. Hammatt

2002 *Archaeological Inventory Survey Report for the Proposed North Shore Skateboard Park, Kawailoa, Waialua, O'ahu, Hawai'i* (TMK:6-2-3:17, 19, 20, 22, and 38). Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Chiniago, Inc.

1979 *Cultural Resources Survey of Kamehameha Highway Realignment (Hale'iwa, O'ahu)*. Chiniago Inc., Hale'iwa, Hawai'i.

Garrett, Bradley L., M. Carney, and H.H. Hammatt

2007 *Archaeological Monitoring Report for Hale'iwa Town Water Main Replacement, Ahupua'a of Pa'ala'a, Waialua District, O'ahu Island Portions of TMKs: (1) 6-02-005, 6-02-004, 6-06-009 & 6-06-010*. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

Foote, D., E. Hill, S. Nakamura, and F. Stephens

1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*. United States Department of Agriculture, Soil Conservation Service. Published in cooperation with the University of Hawaii Agricultural Experiment Station, Washington, D.C.

Hammatt, H.H.

2008 *Archaeological Monitoring report for the proposed Wastewater System Improvements of Haleiwa Ali'i Beach Park, Pa'ala'a Ahupua'a, Waialua District, O'ahu Island, TMK:[1]66-02: por. 01*. Cultural Surveys Hawai'i, Kailua.

- Hammatt, H.H. and D.W. Shideler
 2001 *Burial Treatment and Preservation Plan for Site 50-80-04-5850 at Hale'iwa Ali'i Beach Park, Ahupua'a of Pa'ala'a, Waialua District, O'ahu Island (TMK 6-6-02: Por. 01)*. Cultural Surveys Hawai'i Inc., Kailua, Hawai'i.
- Hammatt, H.H., K.E. Souza, and D.W. Shideler
 2005 *Literature Review, Field Check And Cultural Impact Evaluation For A Parcel At Hale'iwa Town, Kawaioloa Ahupua'a, Waialua District, O'ahu TMK (1)-6-6-001:33*. Cultural Surveys Hawai'i, Kailua.
- Handy, E.S.C.
 1940 *The Hawaiian Planter: His Plants, Methods and Areas of Cultivation*. Bishop Museum Bulletin, 161. Bishop Museum, Honolulu.
- Handy, E.S., E.G. Handy, and M.K. Pukui
 1972 *Native Planters in Old Hawaii; Their Life, Lore, and Environment*. Bernice P. Bishop Museum Bulletin 23, Bishop Museum Press, Honolulu.
- Jackson, G.E.G.
 1884 *Waialua Bay, Oahu*. Scale 1 in. = 300 ft. Hawaiian Government Survey. Register Map No. 1346.
- Juvik, S.P. and J.O. Juvik, eds.
 1998 *Atlas of Hawai'i*. University of Hawai'i Press, Honolulu.
- Kamakau, S.
 1992 *Ka Poe Kahiko: The People of Old*. Translated from the newspaper Ke Au 'Oko'a by Mary Kawena Pukui; arranged and edited by Dorothy B. Barrère; illustrated by Joseph Feher. Paperback ed. 1992. Bishop Museum Press, Honolulu.
- Kirch, P.V., and M. Sahlins
 1992 *Anahulu: The Anthropology of History in the Kingdom of Hawai'i*. 2 vols. *Volume 1. Historical Ethnography* by Marshall Sahlins, *Volume 2. The Archaeology of History*, by Patrick V. Kirch, University of Chicago Press, Chicago, Illinois.
- Linnekin, J.
 1983 "The hui lands of Keanae: Hawaiian land tenure and the great mahele." *The Journal of the Polynesian Society*, Volume 92, No. 2, p 176-177.
- McAllister, J.G.
 1933 *Archaeology of O'ahu*. Bishop Museum Bulletin 104. Bernice P. Bishop Museum, Honolulu.
- McDermott, M., S.T. Kikiloi, V. Creed, D. Shideler, and H.H. Hammatt
 2001 *Archaeological Inventory Survey of a 5-Acre Portion of Haleiwa Ali'i Beach Park, Pa'ala'a Ahupua'a, Waialua District, O'ahu Island, TMK:6-6-02: por. 01*. Cultural Surveys Hawai'i Inc., Kailua, Hawai'i.
- McElroy, W.K. and D. Duhaylonsod
 2014 *Archaeological Inventory Survey of TMK: (1) 6-2-002:042 (formerly [1] 6-2-002:004), Kawaioloa Ahupua'a, Waialua District, Island of O'ahu, Hawai'i*. Keala Pono Archaeological Consulting, Kāne'ohe, Hawai'i.

- McGerty, L., and R.L. Spear
2000 *An Archaeological Inventory Survey in the Ahupua'a of Kawaihoa, Waialua District, Island of O'ahu (TMK: 6-2-03: Por. 6 and 9)*. Scientific Consultant Services, Inc., Honolulu, Hawai'i.
- McMahon, N.
1990 *Burial Recovery, Hale'iwa, O'ahu. Site No. 50-80-04-4240. TMK: 6-1-04:81. Hale'iwa, Waialua, O'ahu*. State Historic Preservation Division, Kapolei, Hawai'i.
- Monahan, C.M. and D.W. Thurman
2015 *Continuity and Change at Pu'uone Fishpond: Archaeological Inventory Survey Lokoea Fishpond Kawaihoa Ahupua'a, Waialua District, O'ahu Island, Hawai'i TMK (1) 6-2-003:002. TCP Hawai'i, LLC, Kailua, Hawai'i*.
- Monsarrat, M.D.
1876 *Reduction of Kawaihoa from Gay's Map. Scale 1 in. = 500 ft. Hawaiian Government Survey. Register No. 320*.
- Moore, J.R. and J. Kennedy
2000 *A Report Concerning the Inadvertent Discovery of Human Remains at Hale'iwa Joes Bar and Seafood Grill, Located at TMK: 6-6-01:34 in Pa'ala'a Ahupua'a, Waialua District, Island of O'ahu*. Archaeological Consultants of the Pacific, Inc., Hale'iwa, Hawai'i.
2007 *An Archaeological Inventory Survey Report for a Property Located at TMKL (1) 6-2-002:007 in Kawaihoa Ahupua'a, Waialua District, Island of O'ahu*. Archaeological Consultants of the Pacific, Inc., Hale'iwa, Hawai'i.
- Moore, J.R., J. Kennedy, and L. Brennan
1993 *Archaeological Inventory Survey with Subsurface Testing Report for the Haleiwa Beach Park Extension located at TMK: 6-2-01:4, 6 and 8, in Kawaihoa Ahupua'a, Waialua District, Island of Oahu*. Archaeological Consultants Hawai'i, Inc., Hale'iwa, Hawai'i.
- National Park Service
1990 (rev. 1997) *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin 15. U.S. Department of the Interior, National Park Service, Cultural Resources.
- Nellis, Daniel
2014 Personal communication by telephone with Daniel Nellis, Operations Manager of Dole Food Company, Hawai'i. May 9, 2014.
- O'Day, P. and D. Byerly
2013 *Archaeological Monitoring of Leach Field Repairs, Septic System/Grease Trap Upgrades, and Retaining Wall Construction at Haleiwa Joe's Restaurant, Kawaihoa Ahupua'a, Waialua District, Hale'iwa, Island of Oahu, Hawai'i*. Garcia and Associates, Kailua, Hawai'i.
- O'Hare, C.R., R.R. Runyon, D. Borthwick, D.W. Shideler, and H.H. Hammatt
2012 *Archaeological Inventory Survey, Hale'iwa Redevelopment Entitlements Project, Kawaihoa Ahupua'a, Waialua District, O'ahu TMK: [1] 6-6-004:013-019, 027, 028, and 032*. Cultural Surveys Hawai'i Inc., Kailua, Hawai'i.
- Park, V. and S. Collins
2011 *Archaeological Monitoring Report in Support of the Board of Water Supply's Water Mains Replacement Project Along Portions of Kamehameha Highway, Lokoea Place, and*

- Anahulu Place in Hale'iwa, Kawaioloa & Pa'ala'a Ahupua'a, Waialua District, Island of O'ahu, State of Hawai'i.* Pacific Consulting Services, Inc., Honolulu.
- Pukui, M.K.
1983 *Ōlelo No'eau : Hawaiian Proverbs and Poetical Sayings.* Bishop Museum Press, Honolulu.
- Pukui, M.K., S.H. Elbert, and E.T. Mookini.
1976 *Place Names of Hawaii.* University Press of Hawaii, Honolulu.
- Pukui, M.K. and A.L. Korn
1973 *The Echo of Our Song: Chants & Poems of the Hawaiians.* Translated and Edited by Mary Kawena Pukui and Alfons L. Korn, University of Hawai'i Press, Honolulu, Hawai'i.
- Robins, J. and M. Desilets
2014 *Archaeological Monitoring Plan for Remediation Work at Former Chevron Service Station, Hale'iwa, Kawaioloa Ahupua'a, Waialua District, O'ahu Island, Hawai'i.* Garcia and Associates, Kailua, Hawai'i.
- Schoeneberger, P.J., D.A. Wysocki, E.C. Benham, and W.D. Broderson (editors)
2002 *Field Book for Describing and Sampling Soils, Version 2.0.* Natural Resources Conservation Service, National Soil Survey Center, Lincoln, Nebraska.
- Rohrer, S. and H.H. Hammatt
2004 *Monitoring Report for Proposed Wastewater Improvements to Hale'iwa Beach Park Kawaioloa, Waialua, O'ahu Island, Hawai'i.* Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.
2006 *Archaeological Monitoring Report for Haleiwa Ali'i Beach Park, Pa'ala'a Ahupua'a, Waialua District, O'ahu Island, TMK:6-6-002:01.* Cultural Surveys Hawai'i Inc., Kailua, Hawai'i.
- Sims, A., J. Liston, and D. Byerly
2015 *Archaeological Inventory Survey of 7.5 Acre Parcel in Hale'iwa, Pa'ala'a and Kawaioloa Ahupua'a, Waialua District, O'ahu Island, Hawai'i.* Garcia and Associates, Kailua, Hawai'i.
- Sinoto, A.
1980 *Archaeological Reconnaissance Survey of the Haleiwa Residential Subdivision, Waialua, Oahu.* Bernice P. Bishop Museum, Honolulu.
- Smith, M. and B. Masse
1989 *Burial Removal at 61-795 Papailoa Road, Kawaioloa, Waialua, O'ahu Island.* State Historic Preservation Division, Kapolei, Hawai'i.
- Sterling, E.P. and C.C. Summers
1978 *Sites of Oahu.* Bishop Museum Press, Honolulu.
- Thien, S.
1979 A Flow Diagram for Teaching Texture-By-Feel Analysis. *Journal of Agronomic Education* 8:54–55.
- Tulchin, J., D. Borthwick, and H.H. Hammatt
2003 *Archaeological Assessment for the Proposed Wastewater System Improvements of Hale'iwa Ali'i Beach Park, Pa'ala'a Ahupua'a, Waialua District, O'ahu Island (TMK 6-6-02 por. 01).* Cultural Surveys Hawai'i Inc., Kailua, Hawai'i.
- USDA (United States Department of Agriculture)
1965 Aerial Photograph, February 15, 1965. Flight Line 046, Frame 15.

- 1993 *Soil Survey Manual*. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.
- USGS (United States Geological Survey)
1929 *Haleiwa Quadrangle*. Scale 1:20,000. Contour interval 10 ft. and 50 ft.
1977 Aerial Photograph, December 13, 1977. Flight Line 020, Frame 16.
- Waihona 'Aina
2014 Waihona 'Aina online database <www.waihona.com> accessed February 4, 2014.
- Wall, W.E.
1901 *Map Showing Lands of the Waialua Agrl Co. Ltd. Kawaioloa Section*. Scale 1 in. = 500 ft. Register No. 2054B.
- Yardley, P.T.
1981 *Millstones and Milestones. The Career of B. F. Dillingham 1844–1918*. University Press of Hawai'i, Honolulu, Hawai'i.
- Yeomans, S.K.
2001 *Archaeological Data Recovery at Site 50-80-01-5795, Located in the Ahupua'a of Kawaioloa, Waialua District, Island of O'ahu TMK: 6-2-03: Por. 6 and 9*. Scientific Consultant Services, Inc., Honolulu.