

FINAL—Archaeological Monitoring Report for TMK: (1) 5-6-001:028 (por.), Mālaekahana Ahupua‘a, Ko‘olaupua District, Island of O‘ahu, Hawai‘i



Prepared For:

John D’Amato and Kristina Inn

May 2019



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May 2019



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MANAGEMENT SUMMARY

Archaeological monitoring was conducted for TMK: (1) 5-6-001:028 (por.) in Mālaekahana Ahupua‘a, Ko‘olaupia District, on the Island of O‘ahu. A new septic system was installed on the parcel. The project area consisted of three discontinuous zones totaling .066 ha (.163 ac.). Stratigraphy generally consisted of fill above natural marine sand. No historic material or deposits were found during monitoring.

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INTRODUCTION

At the request of John D'Amato and Kristina Inn (landowners), Keala Pono Archaeological Consulting conducted archaeological monitoring at TMK: (1) 5-6-001:028 (por.) in Mālaekahana Ahupua'a, Ko'olaupia District, on the island of O'ahu. A new septic system was installed on the parcel.

Field procedures were conducted in accordance with an archaeological monitoring plan (McElroy 2016b) accepted by the Hawai'i State Historic Preservation Division (SHPD) (Appendix). This report meets the requirements and standards of state historic preservation law. These include Chapter 6e of the Hawai'i Revised Statutes, and SHPD's *Rules Governing Standards for Archaeological Monitoring Studies and Reports* (§13–279).

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 presents methods used in the fieldwork, followed by the results of the archaeological monitoring. Project results are summarized and recommendations are made in the final section. Hawaiian words and technical terms are defined in a glossary at the end of the document.

Project Location and Environment

The project parcel is located in Mālaekahana Ahupua'a, Ko'olaupia District, on the island of O'ahu (Figure 1). Mālaekahana stretches from the ocean to the Ko'olau Mountain Range, and is bounded by Keana Ahupua'a to the north and Lā'ie to the south. The beach at Mālaekahana is a crescent-shaped bay, with Makahoa Point at the north end and Kalanai Point at the south. This southern point lies within Lā'ie Ahupua'a, which also encompasses most of the Mālaekahana State Recreation Area.

Due to the potential of encountering burials, the landowner proposed, and SHPD concurred, that the project area be limited to the three locations where ground disturbance will occur during implementation of the new septic system project. These three locations comprising the project area total 0.066 ha (.163 ac.) within TMK: (1) 5-6-001:028 (Figure 2). An archaeological inventory survey (AIS) was completed for the three project locations prior to the archaeological monitoring, and there were no findings (McElroy 2016a).

TMK: (1) 5-6-001:028 is a .4 ha (1 ac.) parcel owned by John D'Amato and Kristina Inn. This is a beachfront property, located approximately 200 m (.12 mi.) northwest of the Mālaekahana State Recreation Area. The property is bounded by the beach on the east, an unpaved road on the west, and private parcels on the north and south.

The closest stream to the parcel is Waiapuka, which is roughly 500 m (.31 mi.) to the southwest. Waiapuka is an intermittent stream, however, and the closest perennial stream is Kaukanala'au (also known as Mālaekahana Stream), which lies 1 km (.62 mi.) to the northwest of the project area. Rainfall averages 131 cm (51.5 in.) per year (Giambelluca et al. 2013). Vegetation within the area of study consists of landscaped grass.

Project area soils consist entirely of Jaucas sand, 0–15% slopes (JaC) (Figure 3). Jaucas series soils are “excessively drained, calcareous soils that occur as narrow strips on coastal plains, adjacent to the ocean” (Foote et al. 1972:48). This was a favored environment for human burial in traditional Hawai'i. Other soils nearby include Beaches (BS), Coral Outcrop (CR), and Lahaina silty clay 7–15% slopes (LaC) (Foote et al. 1972) (see Figure 3).

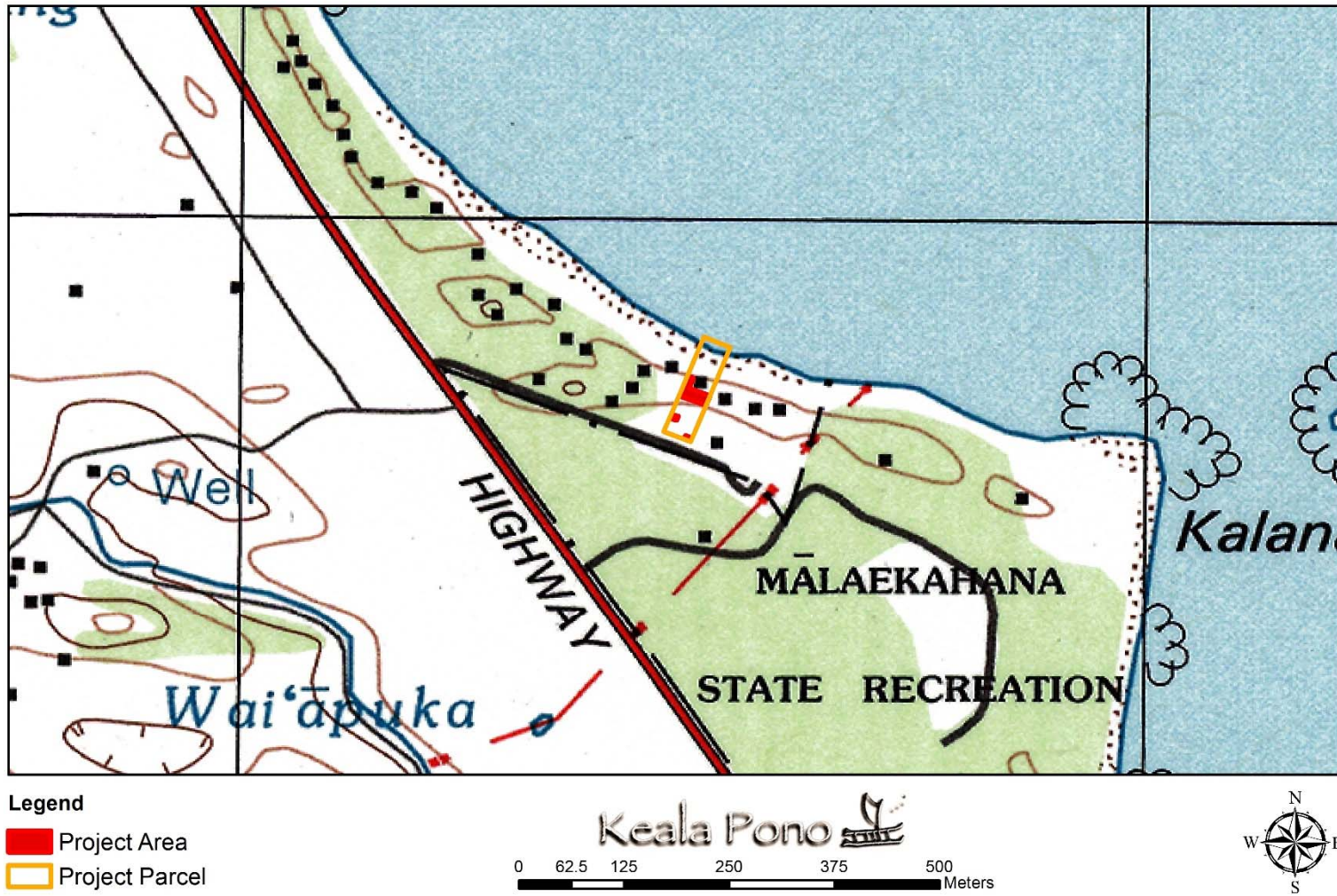


Figure 1. Project area on a 7.5 minute USGS 1998 Kahuku quadrangle map.

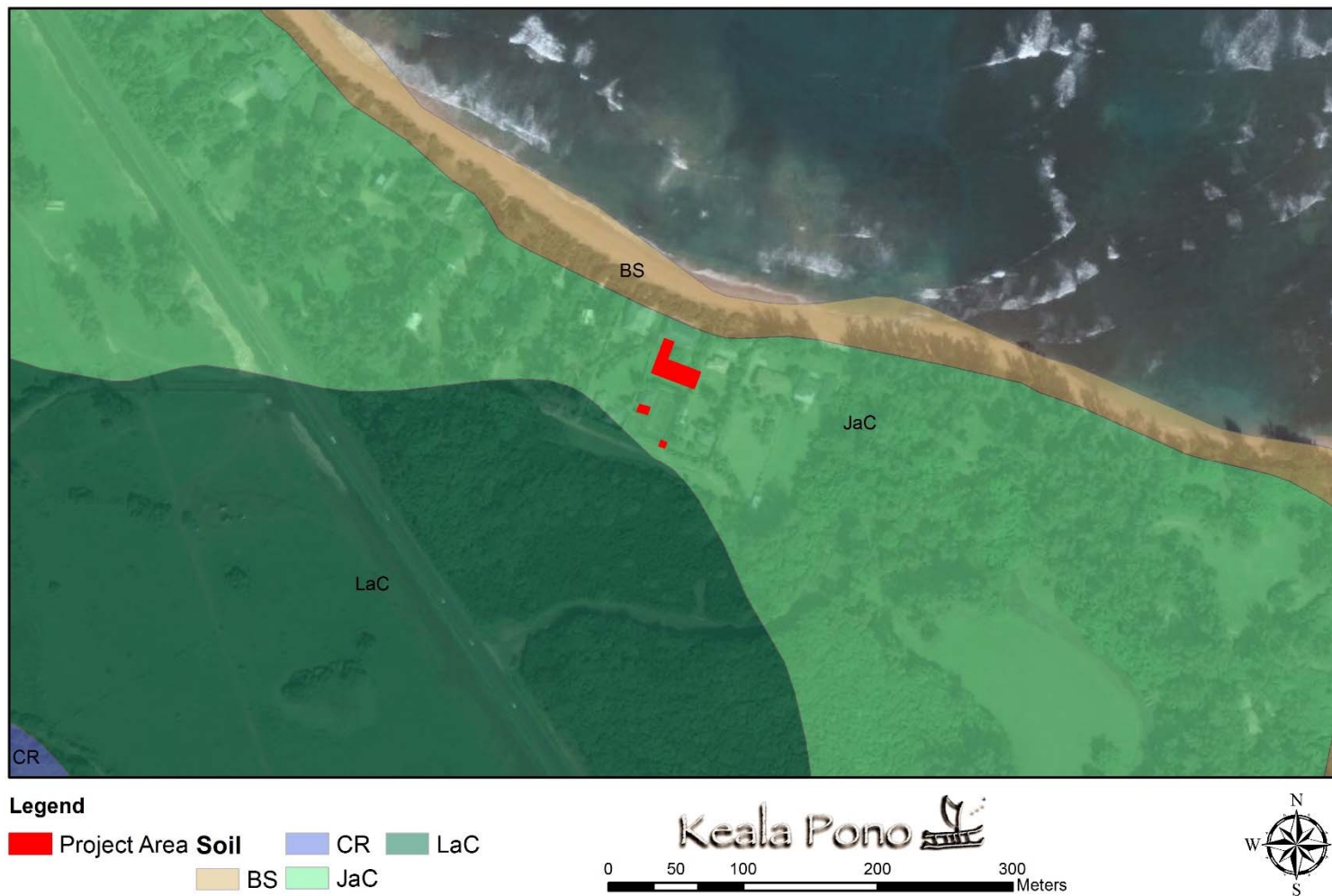


Figure 3. Soils in and near the project parcel.

The Project

Construction for the project consisted of installation of a new septic tank, leach field system, sewer drain line, and main service electric concrete masonry unit (CMU) outbuilding (Figure 4). The septic tank, leach field, and sewer drain excavations took place within the largest and northernmost of the three project areas. The CMU outbuilding construction was located in the smallest, southernmost project area, at the location of an existing CMU outbuilding. Replacement of another existing septic tank occurred within the central project area. All excavations were contained within the three discontinuous project areas.

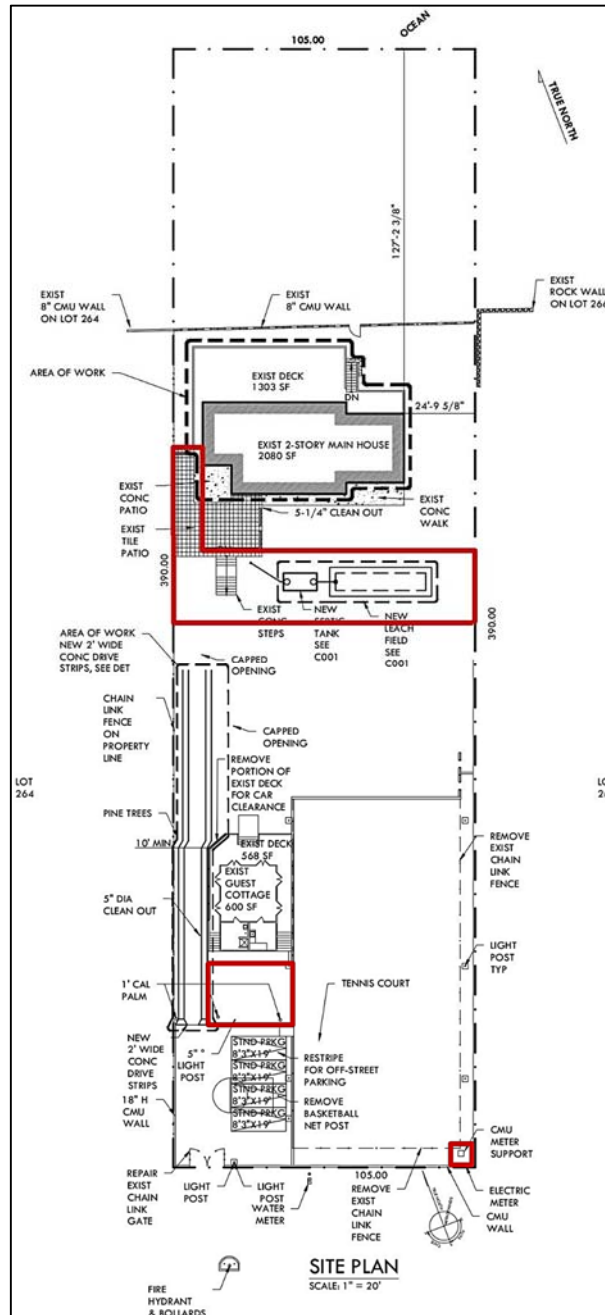


Figure 4. Construction plans with the three project locations outlined in red.

BACKGROUND

A brief historic review of Mālaekahana is provided below, to offer a better holistic understanding of the use and occupation of the project area. In the attempt to record and preserve both the tangible (i.e., traditional and historic archaeological sites) and intangible (i.e., mo‘olelo) culture, this research assists in the discussion of anticipated finds. Research was conducted at the Hawai‘i State Library, the SHPD library, and online on the Office of Hawaiian Affairs website and the Waihona Aina database. Archaeological reports and historical reference books were among the materials examined.

Place Names

The ahupua‘a of Mālaekahana may have been named after Lā‘ieikawai’s mother or the name of an image mentioned in the legend of Halemano (Pukui et al. 1976) (see Mo‘olelo Section). Handy et al. (1991:462) provide the translation of the ahupua‘a name as “Way-clear-for-work.” Moku‘auia is the largest of five islets off the coast of Mālaekahana. Its name translates to “island to one side” (Pukui et al. 1976). The other islets are Kīhewamoku or Kahiwamoku; Pulemoku, which means “broken prayer;” Kukuiho‘olua, which means “oven-baked candlenut;” and Mokuālai, or “island standing in the way” (Pukui et al. 1976). It is said that the islets were formed as Kana and Nīheu killed a mo‘o and threw pieces of its body into the ocean. Moku‘auia later got the name “Goat Island” for the goats that the Mormons moved there (Clark 1977:139). Makahoa is the prominent point on the Kahuku side of the ahupua‘a. It translates to “friendly point” (Pukui et al. 1976). Kalanai is the point on the Lā‘ie side of the ahupua‘a, although no translation is given by Pukui et al. (1976). This is also known as Cooke’s Point, referring to the family that lived there in the early 1900s.

Traditional Land Use

Not much has been written regarding traditional land use in Mālaekahana compared to the larger ahupua‘a in the vicinity such as Lā‘ie and Kahuku. Handy et al. (1991:460) write that the northern ahupua‘a of O‘ahu’s windward coast are less suitable for lo‘i cultivation than places such as Kahana and Punalu‘u, suggesting that wetland agriculture was not a major practice in Mālaekahana. Handy does note (in Sterling and Summers 1978:154) that “there were terraces in this ahupua‘a [Mālaekahana], irrigated by Kaukanalaau Stream,” indicating that lo‘i agriculture did occur there, though probably not on a large scale. He also states that “sweet potatoes were grown on the northwest coast from Keana to Laie” (Handy et al. 1940:75), and other dryland crops may have been cultivated in this environment as well. Handy et al. (1991:462) briefly describe Mālaekahana and the neighboring ahupua‘a of Keana:

These two small *ahupua‘a* intervening between La‘ie and Kahuku (the northernmost tip of Oahu) show much the same pattern, in miniature, of dune coasts, elevated coral, and broken level land seaward from the hills. Each has a small stream. There were formerly irrigated terraces in Malaekahana (Way-clear-for-work), but none in Keana (The-cave).

Ocean resources were plentiful in the ahupua‘a. There are two reefs off of Mālaekahana known as Kō and Hāli‘i, where moi and limu are found in abundance (Clark 1977:138–139). These reefs would have been a location for fishing and collecting limu in the past, and shellfish was likely harvested from nearshore areas. There was also a fishpond in Mālaekahana:

Formerly a fishpond was located near the point [Makahoa] and was known as Waipunaea. There are traditions about the mullet coming to this point from Pearl Harbor...To this day schools of mullet come around the island to this northern point of Malaekahana. They go no farther, and their apparent disappearance still mystifies the Hawaiians. (McAllister 1933:155)

From this scant information, it can be surmised that the small ahupua'a of Mālaekahana relied on both fishing and farming for subsistence in the pre-contact era (before the arrival of Westerners in 1778). There were lo'i for the cultivation of wetland taro, but the population relied on dryland farming as well. Ocean resources such as fish and limu were abundant, and there was a fishpond on Mālaekahana's shores.

Mo'olelo

The mo'olelo of Laniloa tells of the creation of the five islets off of Mālaekahana:

Laniloa is the name given to a point of land which extends into the ocean from Laie. In ancient times this point was a mo-o, standing upright, ready to kill the passerby.

After Kana and his brother had rescued their mother from Molokai and had taken her back to Hawaii, Kana set out on a journey around the islands to kill all the mo-o. In due time he reached Laie, where the mo-o was killing many people. Kana had no difficulty in destroying this monster. Taking its head, he cut it into five pieces and threw them into the sea, where they can be seen today as the five small islands lying off Malae-kahana: Malualai, Keauakaluapaaa, Pulemoku, Mokuaniwa and Kihewamoku.

At the spot where Kana severed the head of the mo-o is a deep hole which even to this day has never been fathomed. (Rice 1923:112)

The epic romance of Lā'ieikawai features a pool in Mālaekahana known as Wai'āpuka. Lā'ieikawai was a high chiefess, whose mother was named Mālaekahana. At the time of her birth Lā'ieikawai was hidden in a cave by Waka, her mo'o guardian. The subterranean cave could only be accessed by diving through the waters of Wai'āpuka Pool. While Lā'ieikawai was kept in the cave, her twin sister Lā'ielohelohe was taken to Kūkaniloko in Wahiawā. They were sequestered because the father of the twins had vowed to kill any baby girls that were born before a male heir. Lā'ieikawai was later betrayed by her guardian Waka and married a high chief. She went to live in the heavens with her husband, who betrayed her as well and was banished from that realm. Lā'ieikawai, however was reunited with her sister and revered as a goddess (Beckwith 1918:60–64; 1970:526).

In addition to being the name of Lā'ieikawai's mother, Mālaekahana was also the name of a wooden image featured in the mo'olelo of Halemano (Fornander 1919:236–237). Halemano was from Wai'anae and he fell in love with Kamalalawalu from Puna. Halemano's sister was a sorceress and she advised him to build toys such as kites and carved figures for Kumukahi, the favorite brother of Kamalalawalu. The sorceress presented Kumukahi with the toys and in exchange, he persuaded Kamalalawalu to go with him to O'ahu. Their canoe landed at Hau'ula, where Kumukahi saw the image named Mālaekahana. He liked the image so much that he stayed in Hau'ula. Halemano ended up marrying Kamalalawalu and they lived in Waialua, while Kumukahi returned home.

Manuwahi was a kahuna that lived in Mālaekahana. He was the keeper of the god of the same name as the ahupua'a. It is unclear if this is the same image named Mālaekahana that Kumukahi saw in Hau'ula. McAllister (1933:156) offers further information on Manuwahi and the battles fought at Mālaekahana:

The Hawaiians are still proud that the district of Malaekahana was never conquered by Kamehameha I. This is not recorded in Hawaiian history so far as I know. It may have been considered too insignificant a matter, or, as Dr. C.M. Cooke, Jr., suggests, an earlier *moi* [mō'i] of Oahu may have been unable to wrest Malaekahana from Manuwahi, and he may at present be confused with Kamehameha. The legend collected by Rice (70, p. 113) tells the story of Kamehameha's sending out Kahalau, who was unable to subdue Manuwahi because this powerful kahuna was aided in battle by the gods. After the battle, Kahalau joined forces with Manuwahi and is still spoken of by the older natives as the chief who

revolted against Kamehameha. Many skeletons were unearthed in plowing the cane fields of this region and in digging the foundations for the beach houses, indicative, some think, of many battles in the region.

Another mo‘olelo of the area tells of Mano-niho-kahi, or “Shark-with-one-tooth” (Rice 1923:111). He was a man that could transform into a shark, and he lived in Mālaekahana. The shark-man would go out to sea and bite and kill women that were fishing. In human form, Mano-niho-kahi still retained a shark’s mouth on his back, but he concealed it with a covering of kapa. To expose him, the chief of the area ordered everyone to gather together and remove their clothing. When Mano-niho-kahi refused, they pulled off his kapa and his shark’s mouth was revealed. He was killed and the women of Mālaekahana were now safe.

The Early Historic Period

Several of the early historic expeditions to Hawai‘i passed by O‘ahu’s north shore, beginning with the HMS *Resolution* in 1779. This early voyage described a landscape rich with vegetation, fertile valleys, and large villages (Beaglehole 1967). By 1794, however, the area was said to be sparsely inhabited and not flourishing (Vancouver 1798). Whereas Mālaekahana was not specifically mentioned, this ahupua‘a was likely in a similar state as the surrounding area. Mālaekahana is cited by name in 1828, when the missionary Levi Chamberlain traveled there to inspect O‘ahu’s schools. Chamberlain (1956:35) was “pleased with the appearance of the scholars.”

Māhele Land Tenure

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 parcels 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.

Most of Mālaekahana Ahupua‘a was awarded to Analea Keohokālōle during the Māhele. A total of 3,280 ac. were given to Keohokālōle, who was the matriarch of a powerful line of ali‘i, including King Kalākaua and Queen Lili‘uokalani. Much of this land would later fall into the hands of the Campbell Estate. Only a few other small Land Commission Awards were made for Mālaekahana. They are less than 1 ac. each and none are near the project area. Testimony for these claims mention ‘uala, mai‘a, wauke, and house lots.

Historic Maps

Historic maps help to paint a picture of Mālaekahana in times past and illustrate the changes that have taken place in the region over the years. The earliest map found for this area is dated 1881 (Figure 5). The map shows the entire island of O‘ahu so it does not include much detail. “Laiekawai

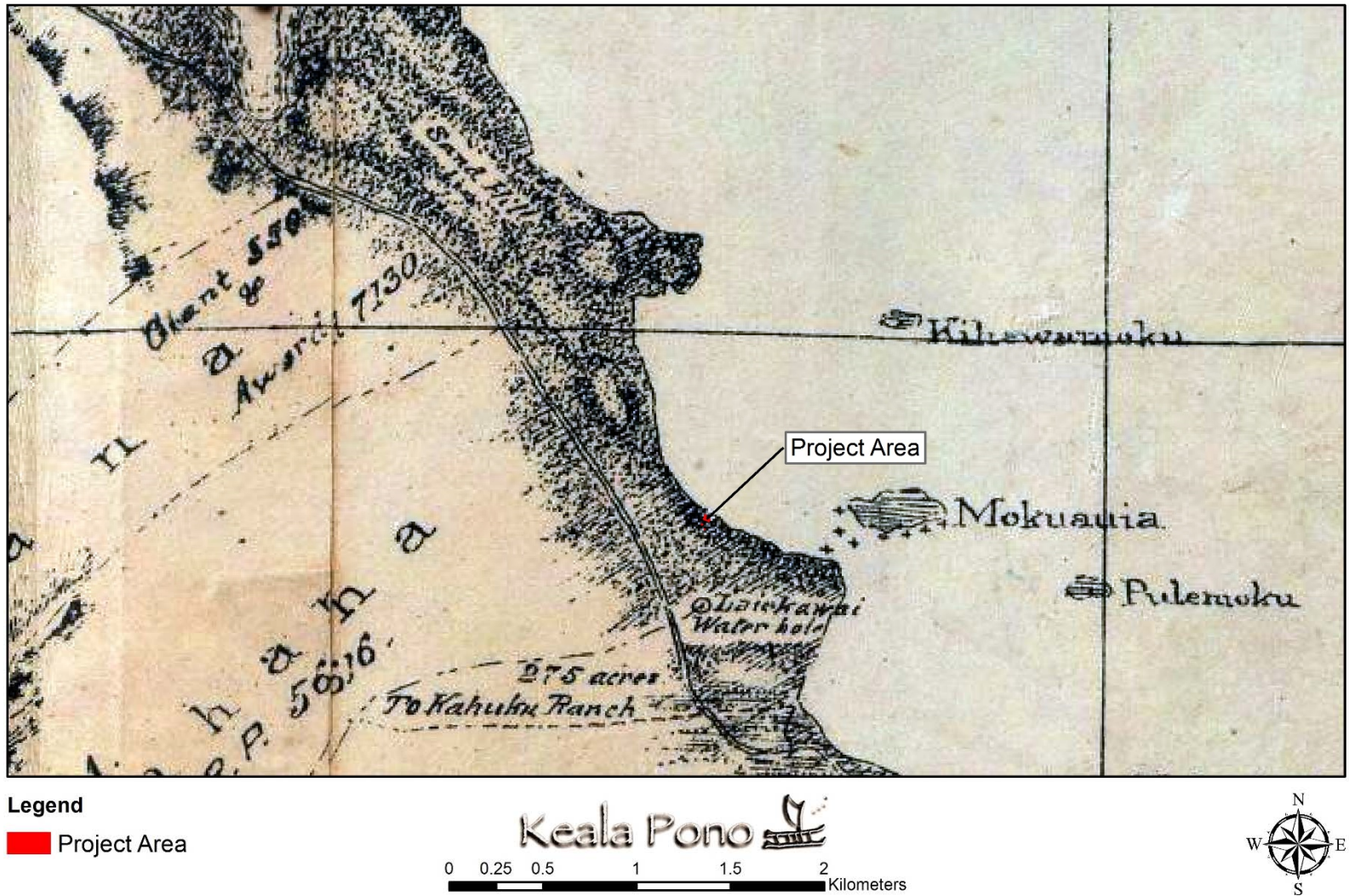


Figure 5. Portion of an 1881 map of O'ahu (Alexander et al. 1881).

Water hole” is labeled in Mālaekahana, and just mauka of that is “275 acres to Kahuku Ranch.” The islets off the coast are named, and the area around Lā‘ie Point reads “Dangerous Entrance.”

The next map is of the Lā‘ie Bay area and dates to 1884 (Figure 6). Again, the islets are named, and the area offshore is labeled “Dangerous rocky Bay Should never be approached.” Laieikawai is labeled, as well as the “Road to Kahuku.” Just mauka of the road, near the stream and nestled in hills are “Gentile Houses.” Mālaekahana is labeled as “Level grass land. Two boat houses are illustrated along the coast in Lā‘ie, although no structures are shown on Mālaekahana’s coast.

An aerial photo mosaic from 1928 shows that Mālaekahana is still very rural (Figure 7). The highway is in place, although there are no houses along the beach. Much of Mālaekahana appears to be open fields/pastures or in sugarcane cultivation.

A 1933 map shows the start of development in the project area (Figure 8). A boat house, bath house, and “green roof house” are pictured where Mālaekahana State Recreation area is today. Near the project area is a structure labeled “C.H. Cook green roof.” A little to the west is “end of fence” and “grass covered sand dunes.” Farther along Mālaekahana Bay is a 30 ft. water tank and several other structures. From south to north they are labeled as: “Jas. A. Kennedy black roof,” “14’ water tank,” “Henry C.A. Mead black roof,” “Burton Newcomb peaked roof,” and “E.L. Castle yellow house black roof.”

Mid-to Late-Historic Land Use

By 1863, Englishman Charles Gordon Hopkins owned large tracts of land in Mālaekahana and the neighboring ahupua‘a. He established the Kahuku Ranch, and the area was soon overrun by sheep and cattle, which quickly destroyed the native vegetation. The ranch was later renamed Kahuku and Mālaekahana Ranch, and by 1876 it was in the hands of James Campbell. An article from this year details the transfer:

It includes 25,000 acres in fee simple, and large tracts of mountain land under long leases, with \$34,000 worth of livestock, including 3,000 head of cattle, with the choice band of merino sheep and horses now on it. It is unquestionably the best stock ranch of these islands, and it has been brought to a high state of perfection under the management of the late proprietors, who divided the plain into ten or twelve large paddocks, walled with heavy stone walls. It stretches from Laie to Waimea, a distance of thirteen miles, and those who have ever visited it must have admired its lovely green pastures of manienie grass so fattening to stock. It is the intention of Mr. Campbell to increase his band of sheep to 30,000 of the choicest breed. The price paid is a handsome one, securing to its present proprietor the most desirable ranch of the Islands, and to Mr. Richardson a comfortable fortune, the result in part of his industry and good management, and in part of the Reciprocity Treaty, the first fruit from which he has been so fortunate as to reap. (*Hawaiian Gazette* 1876:3:2)

In 1889, Campbell leased the ranch to B.F. Dillingham and it remained in business until the mid-1900s. At this time the Kahuku Sugar Company was established, and soon at least 150 acres of sugarcane fields extended into Mālaekahana. By 1899 the Oahu Railway extended its track to Kahuku, linking the sugar mill with Honolulu, via Ka‘ena Point. By 1903 the railway crossed through Mālaekahana and continued to Lā‘ie. This rail line would eventually be extended all the way to Kahana Bay. In 1916, some of the Kahuku sugarcane lands were leased for pineapple cultivation, although this was not a major enterprise. Sugarcane was grown in the area until 1968, and the railroad continued its Kahuku operations until 1972 (Wilcox 1975:37).

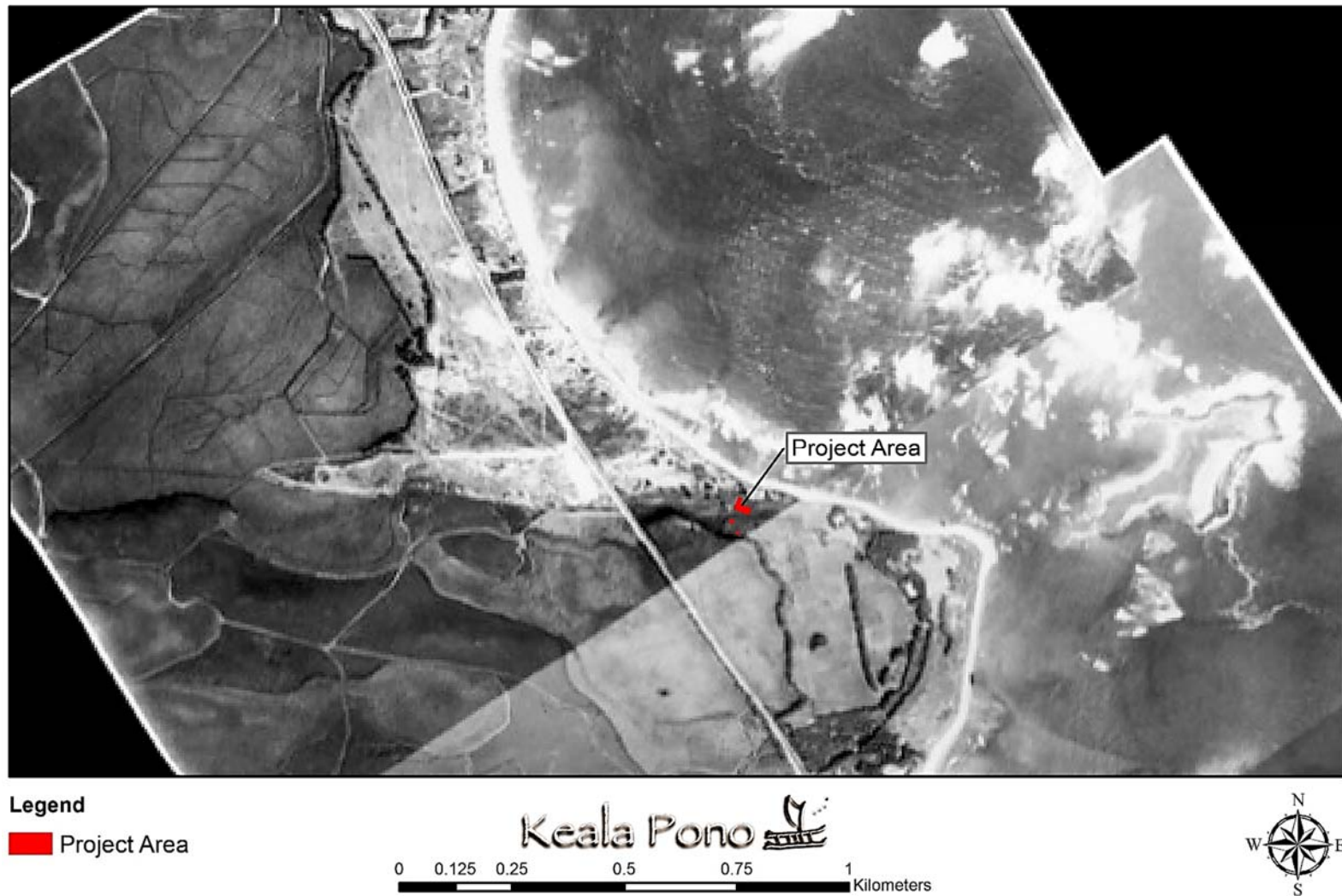
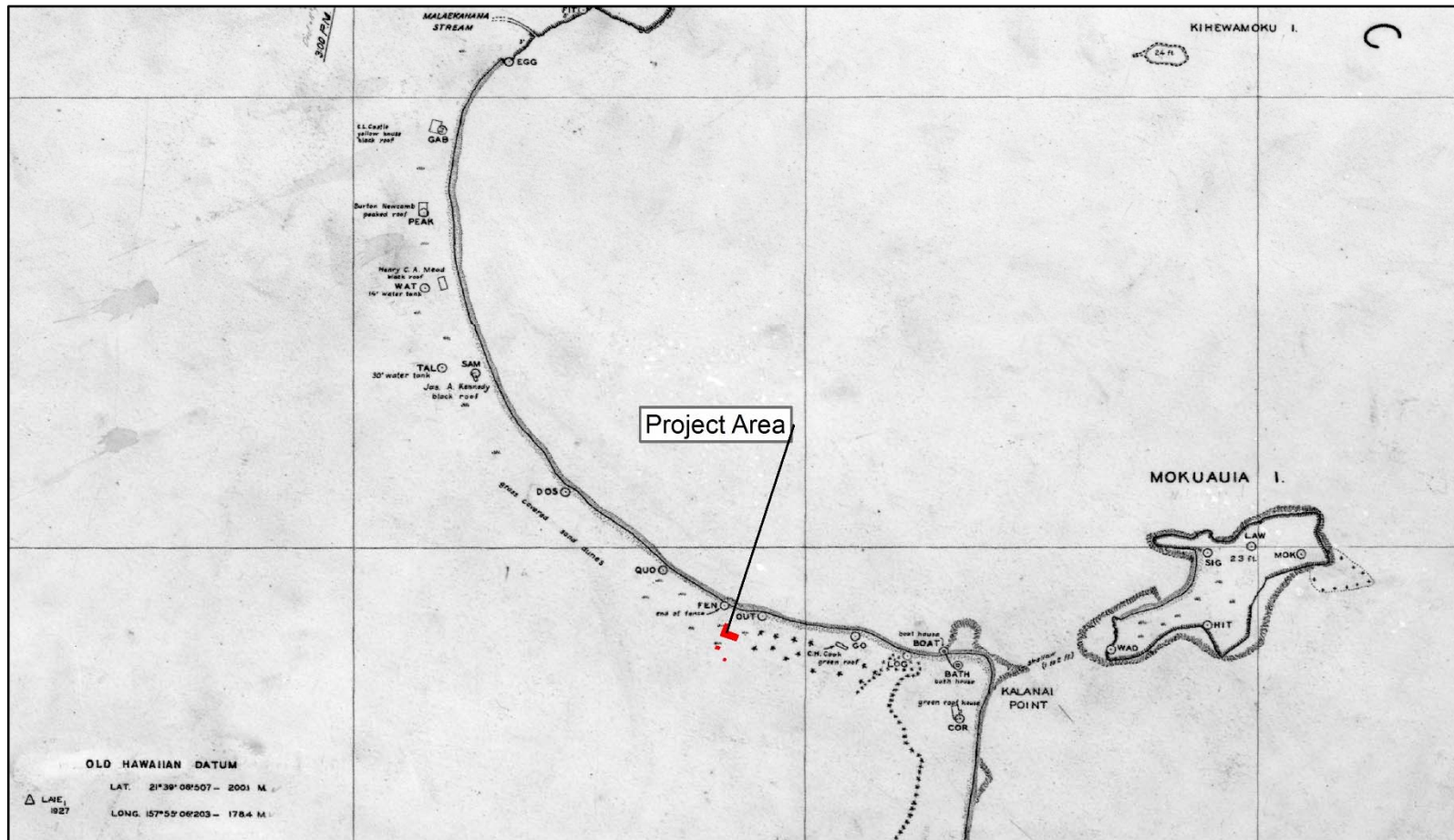


Figure 7. Portion of a 1928 aerial photo mosaic of Lā'ie (UH SOEST 1928).



Legend

Project Area



Figure 8. Portion of a 1933 map of Kahuku Point to Lā'ie (Paton 1933).

By 1954 Kamehameha Highway was already in place and scattered houses can be seen near the project area (Figure 9). At that time, the offshore islets are labeled as bird refuges, but the Mālaekahana State Recreation Area is not labeled, suggesting that it was not established yet. The roads leading into the recreation area are in place, however, and there are a few structures in the area. The plantation railroad can still be seen to the northwest of the project area. A 1965 map also shows the highway and bird refuges, but many more homes are now depicted near the project area (Figure 10). The plantation railroad is no longer illustrated on the 1965 map. The Mālaekahana State Recreation Area is not shown on maps until 1983 (USGS 1983).

Previous Archaeology

Several archaeological studies have been conducted in Mālaekahana. The following discussion provides information on archaeological investigations that have been carried out within approximately 1 km of the project area, based on reports found in the SHPD library in Kapolei, Hawai'i (Figure 11, Table 1). State Inventory of Historic Places (SIHP) site numbers are prefixed by 50-80-02 (Figure 12).

The earliest archaeological work in Mālaekahana comes from McAllister's (1933) island-wide survey. McAllister recorded four sites in the ahupua'a. Site 272 is a ko'a located at Makahoa Point. At the time of his study, only a few rocks remained of the site. McAllister notes that there was once a fishpond near this location, and mullet still return to the area (1933:155). Site 273 is the house foundation of the kahuna Manuwahi, who was the "keeper of the god at Mālaekahana" (McAllister 1933:155). It is located in the current Mālaekahana State Recreational Area. Again, only a few rocks remained of the site during the time of McAllister's study. Site 274 is a ko'a called Kalanai, in the Lā'ie portion of Mālaekahana State Recreation Area. Kala and enenu were the fish offered at Kalanai, and in addition to fish remains, McAllister noted a human burial .6 m (2 ft.) below the surface (1933:156). Site 275 is Wai'āpuka Pool, located inland from Kamehameha Highway, in what was a sugarcane field during McAllister's survey. The pool is a noted location in the mo'olelo of Lā'ieikawai, where Waka hid Lā'ieikawai until she was grown. Local residents informed McAllister that there was once an underwater entrance in the pool that led to a hidden chamber, but the pool had been silted in during the 25 or so years prior to McAllister's visit (1933:157).

Between 1977 and 1990, archaeological work was conducted at Mālaekahana State Recreation Area in a sand dune system. In 1977, a short report was generated for the soils analysis in which the stratigraphy of two cultural layers was delineated (Hammatt 1977). A later report provided more details on the work, and human burials and a ko'a were documented at Kalanai Point (Yent and Estioko-Griffin 1980). Site 2801 was designated to cover the entire area between Kamehameha Highway, the ocean, and Kahawainui Stream, and includes at least three cultural layers and the ko'a. The site was thought to have been occupied during three distinct periods that occurred between AD 1600 and 1780 (Yent and Estioko-Griffin 1980:xxii). Material remains included infilled postholes, firepits, midden, animal bone, as well as fishing gear and other subsistence-related artifacts. The human remains were a child and an infant that were found adjacent to the ko'a. Volcanic glass flakes from the site were dated to the mid-1600s (Olson 1979). Further work was conducted at one of the cultural layers with auger coring (Yent and Ota 1982). This layer was found mostly near the mouth of Mālaekahana Stream. Several years later, two more rounds of auger coring were conducted at the State Recreation Area. They yielded no findings (Griffin and Yent 1986; Smith 1990).

A reconnaissance survey was completed in 1984 for a well site in upland Mālaekahana (Barrera 1984). While no archaeological resources were found within the well site project area, a traditional agricultural complex was noted on the opposite side of Mālaekahana Stream. This consisted of a system of terraces, an 'auwai, and a substantial rock wall. A concrete structure was also observed.

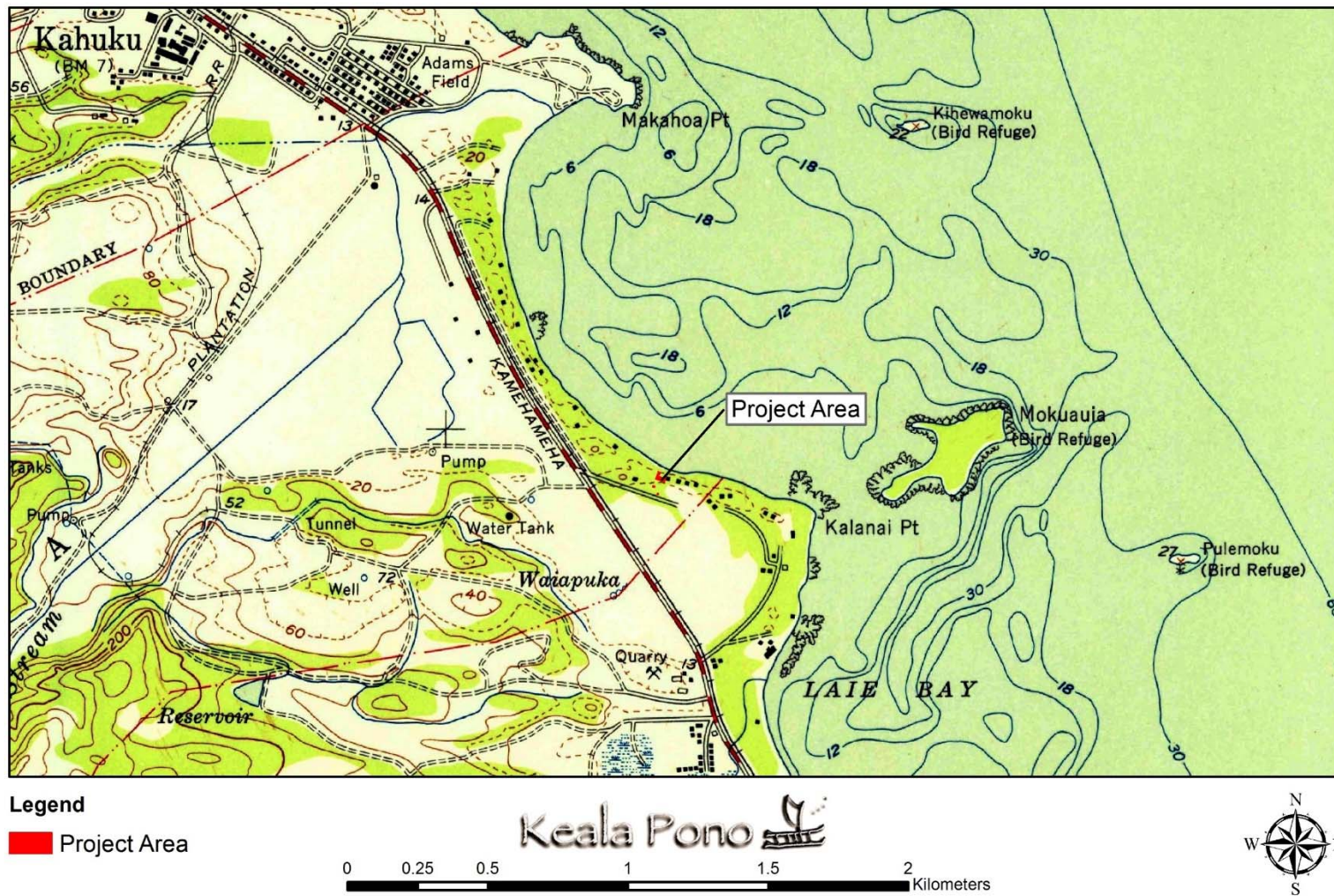


Figure 9. Portion of a 1954 USGS Kahuku quadrangle (USGS 1954).

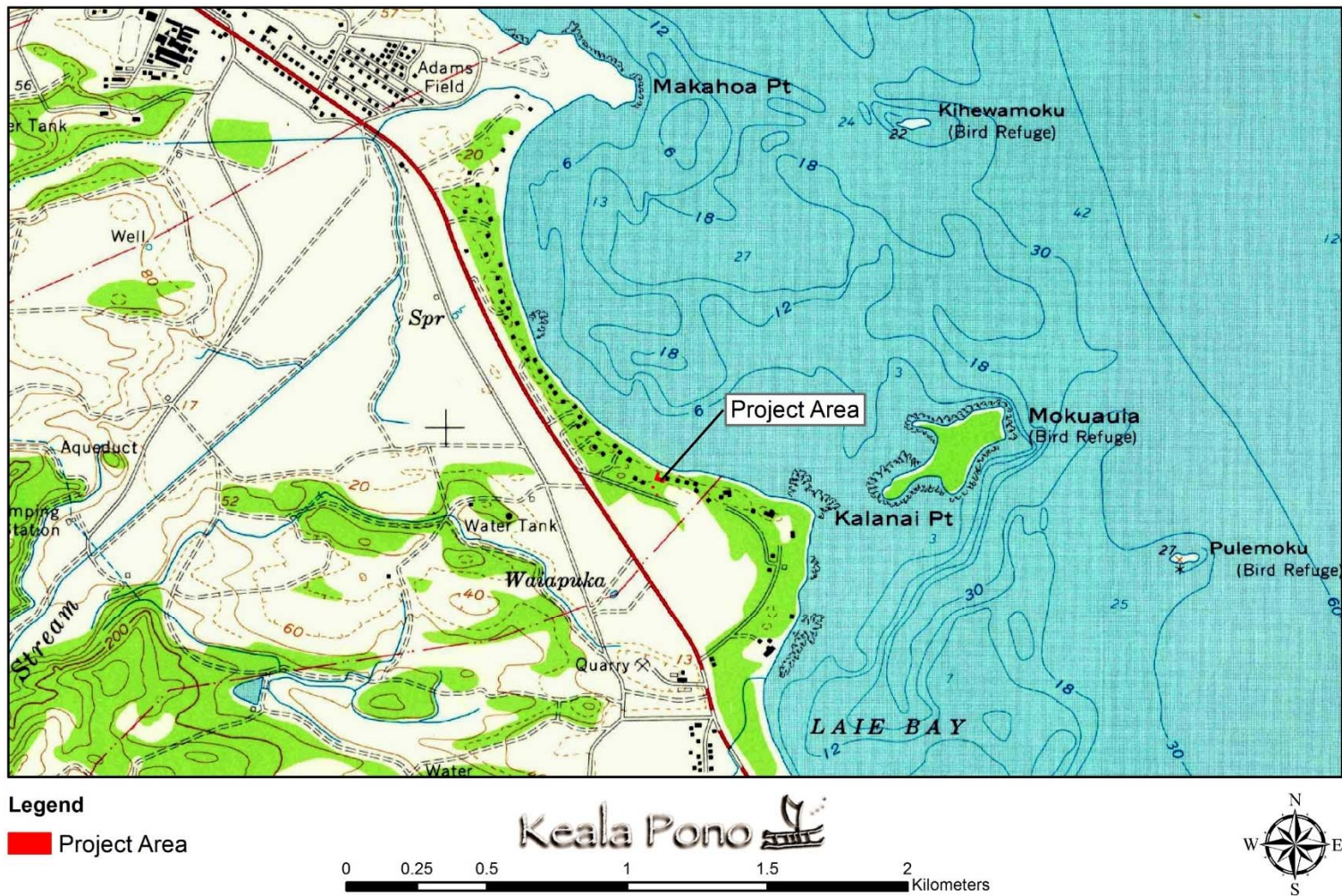


Figure 10. Portion of a 1965 USGS Kahuku quadrangle (USGS 1965).

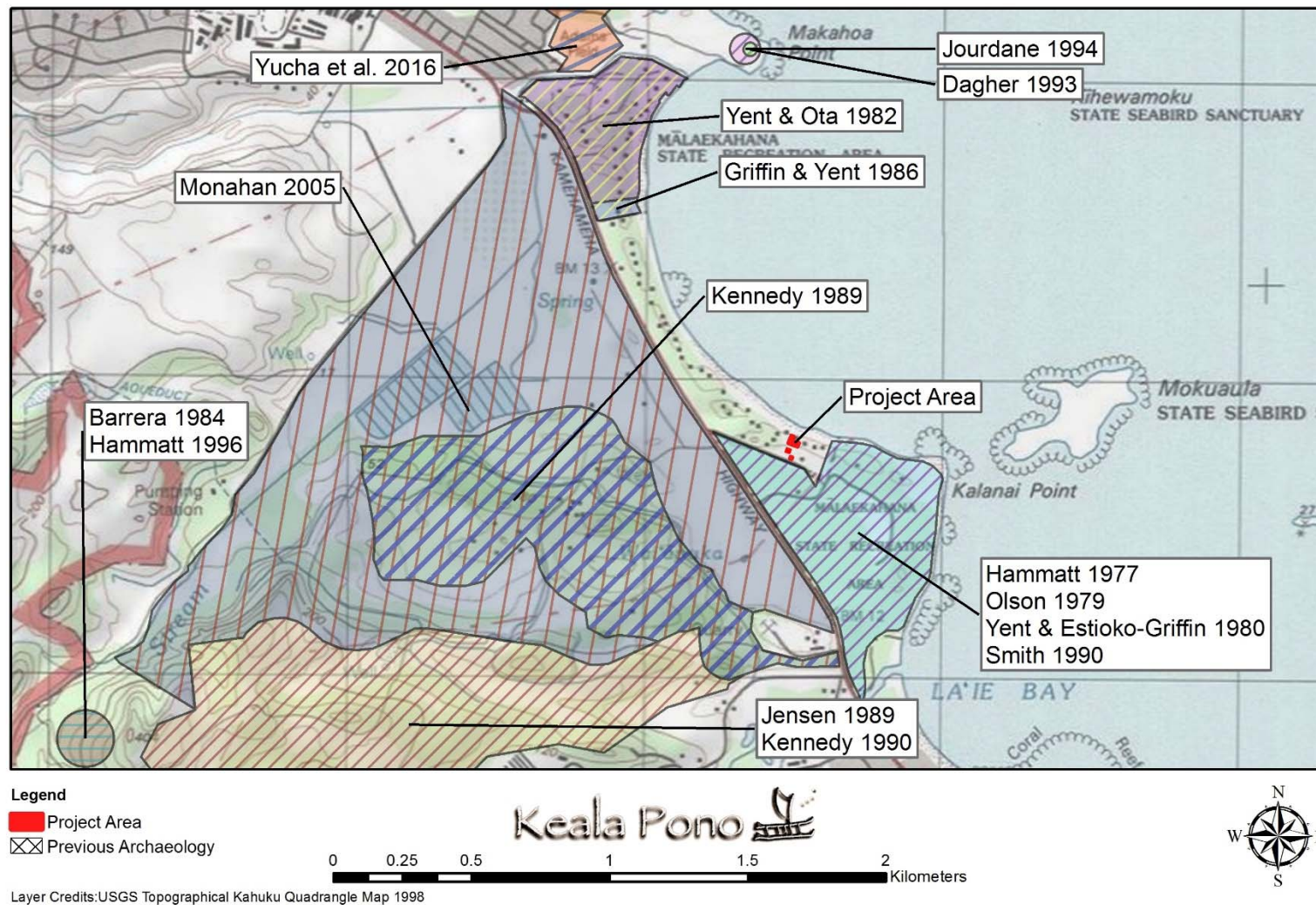


Figure 11. Location of previous archaeological studies in the vicinity of the project area.

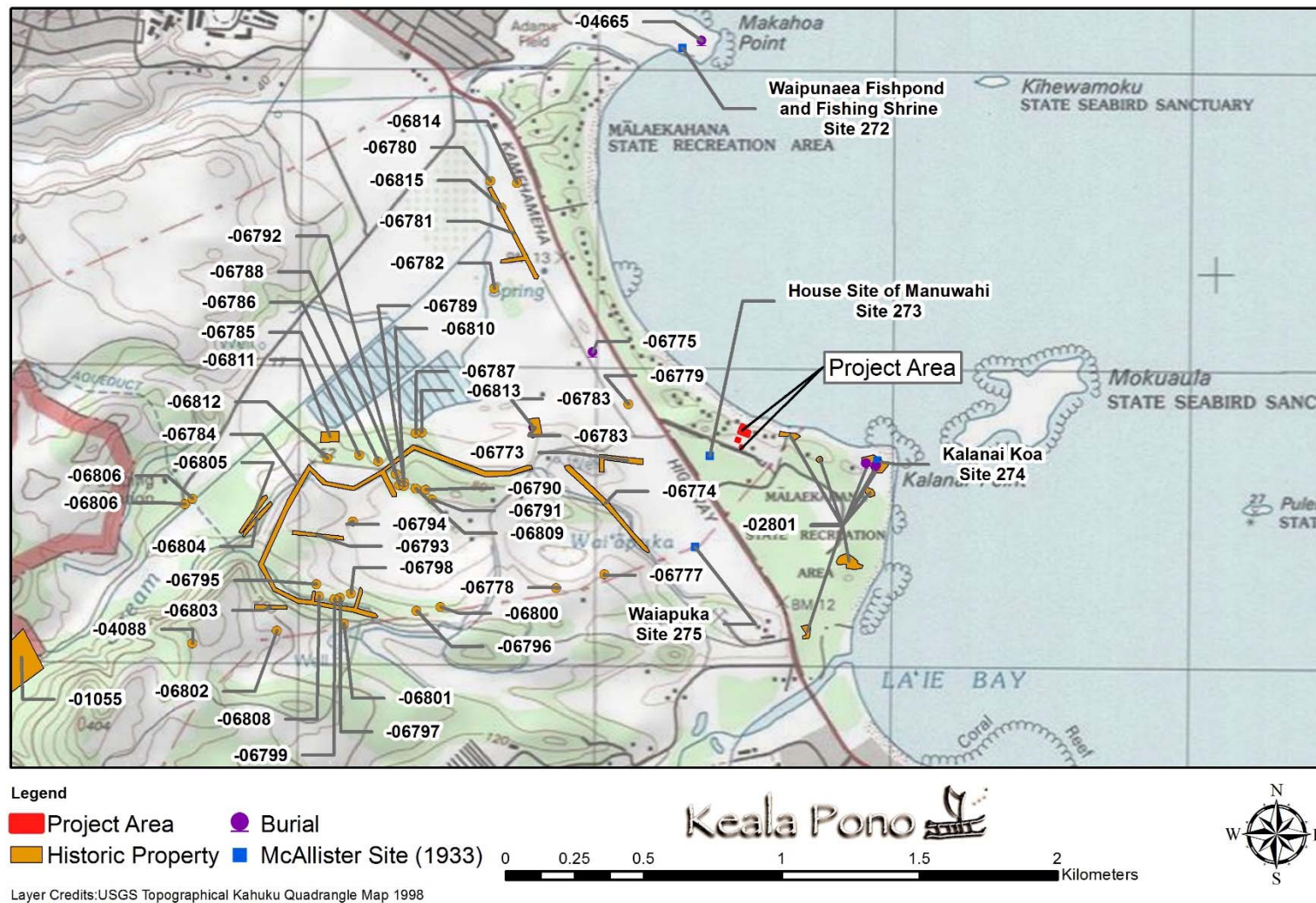


Figure 12. Location of recorded archaeological sites in the vicinity of the project area.

Table 1. Previous Archaeology in Mālaekahana

Author and Year	Location	Type of Study	Findings
McAllister 1933	Mālaekahana	Survey	Recorded four sites: two ko'a, a house foundation, and a pool.
Hammatt 1977	Mālaekahana State Recreation Area	Soil Analysis	Documented two cultural layers.
Olson 1979	Mālaekahana State Recreation Area	Volcanic Glass Analysis	Volcanic glass flakes dated to the mid-17 th century.
Yent and Estioko-Griffin 1980	Mālaekahana State Recreation Area	Mapping and Excavation	Recorded Site 2801, which includes the two previously recorded cultural layers, a ko'a, and two human burials.
Yent and Ota 1982	Mālaekahana State Recreation Area	Subsurface Testing	Further documented the Site 2801 cultural layer.
Barrera 1984	Upland Mālaekahana	Reconnaissance	Noted an agricultural complex outside of the project area.
Griffin and Yent 1986	Mālaekahana State Recreation Area	Subsurface Testing	None.
Jensen 1989	Upland Mālaekahana and Punamanō	Reconnaissance	Identified six sites in Mālaekahana: 4088–4093, consisting of habitation, agricultural, and a possible burial site.
Kennedy 1989	Upland Mālaekahana	Inventory Survey	Recorded 19 sites including traditional habitation and agricultural sites, and a historic gun emplacement and railroad bed.
Kennedy 1990	Upland Mālaekahana	Assessment	Reevaluated the sites recorded by Jensen (1989).
Smith 1990	Mālaekahana State Recreation Area	Subsurface Testing	None.
Dagher 1993	Makahoa Point	Report of Human Remains	Documented Site 4665, a human burial.
Jourdane 1994	Makahoa Point	Report of Human Remains	Recorded Site 4821, a human burial.
Hammatt 1996	Upland Mālaekahana	Reconnaissance	None.
Monahan 2005	Mauka of Kamehameha Hwy.	Inventory Survey	Documented 44 sites in Mālaekahana, the majority of which are historic sites relating to the sugarcane industry.
Yucha et al. 2016	Near Makahoa Point to Kahuku	Inventory Survey	No findings in Mālaekahana.
McElroy 2016a	Current Project Area	Inventory Survey	None.
McElroy 2016b	Current Project Area	Archaeological Monitoring Plan	Recommended monitoring for all ground disturbance.

A reconnaissance of upland Mālaekahana identified six sites, while another 20 sites were recorded in Punamanō (Jensen 1989). Punamanō is a swamp and spring located to the northwest of Kahuku; as this is far away from the project area, the Punamanō findings will not be discussed further. The Mālaekahana sites were assigned numbers 4088–4093. Three of these are overhang habitations, two are cave habitations, one is an agricultural ditch and tunnel, and one is a platform that may be a human burial. The sites were later reevaluated by Kennedy (1990), although there were no significant new findings in Mālaekahana.

Another upland survey of Mālaekahana recorded an additional 19 sites (Kennedy 1989). The sites consisted of traditional habitation and agricultural areas, as well as a historic gun emplacement and railroad bed. SIHP numbers were not assigned at that time. The sites were later examined during a 2005 archaeological inventory survey and site numbers were designated, although the sites found in 2005 could not be positively correlated with those identified in 1989 (Monahan 2005:24, see discussion below).

A human burial was found in 1993 at Makahoa Point (Dagher 1993). The burial was designated as Site 4665. It was exposed during high surf and was in poor condition. One unidentified metal historic artifact was possibly associated with the remains.

Another human burial was encountered at Makahoa Point the following year (Jourdane 1994). The remains were partially exposed in the sand and were thought to represent a single individual. They were designated as Site 4821.

A reconnaissance survey was conducted for a proposed well site in upland Mālaekahana (Hammatt 1996). There were no archaeological findings, as the area showed evidence of disturbance by bulldozing.

An archaeological inventory survey in 2005 recorded 43 sites in Mālaekahana (Monahan 2005). The sites are located mauka of Kamehameha Highway and mostly consist of historic-era remains of the sugarcane industry. They were designated as SIHP 6673–6815. Traditional sites include rockshelters, habitation or agricultural sites, a cultural layer, and Wai‘āpuka Pool. Two human burials were also recorded. Radiocarbon dates ranged from the 14th century AD to the 17th century (Monahan 2005:ii). Some of the sites are thought to have been previously identified by Kennedy (1989), although this could not be conclusively determined:

For a variety of reasons—including the fact that this previous work [Kennedy 1989] was conducted over 15 years ago, it was not possible to confidently associate features and sites identified in the field with written descriptions in Kennedy (1989)...Without belaboring the point, in short, Kennedy’s (1989) report served as a guide for expected sites in the current project area, but it could not be used to locate, in a meaningful, one-to-one way, any given site. (Monahan 2005:24)

A recent archaeological inventory survey spanned from near Makahoa Point to Kahuku (Yucha et al. 2016). There were no findings in Mālaekahana.

An archaeological inventory survey was conducted for the current project (McElroy 2016a). Excavation of four test trenches did not yield any evidence of historic archaeological deposits or features. The only findings were a few glass, metal, and plastic items, as well as charcoal, all of which are likely modern. Despite the lack of findings, an archaeological monitoring plan for the project recommended monitoring for all ground disturbance because the parcel soils were identified as Jaucas sand, which have a high potential for containing human burials (McElroy 2016b).

Summary and Settlement Patterns

Archival records and previous archaeological research indicate that the earliest settlement at Mālaekahana was probably “on or behind the dune system which places them at least 30 meters (100 feet) back from the shoreline” (Yent and Estioko-Griffin 1980:416). Early habitation of the area was likely based on marine subsistence, as Mālaekahana is teeming with marine resources such as fish, shellfish, and limu. Taro was grown along the streams, and sweet potato and other crops were cultivated in the drier areas. Domestic animals may have been kept as well. The Mālaekahana coast was also used for human burial, and for ritual, as evidenced by ko‘a.

Later in time there was a greater reliance on agriculture and domestic animals, however marine resources continued to be utilized. It is likely that settlement and agriculture expanded inland, as this was the case in other parts of O‘ahu.

Mālaekahana grew into a ranching district in the historic era, with sugarcane and pineapple fields also a new feature of the landscape. The precursor of Kamehameha Highway was in place to transport people and goods around the island, and a railroad was also constructed to haul sugarcane from the north shore mills to Honolulu. Today, Mālaekahana is still used for ranching, and it is also known for the State Recreation Area on the south side of the bay.

METHODS

Archaeological monitoring was conducted on October 3, 2016 by Jeffrey Lapinad, on October 4, 2016 by Kaipō Dabin, MS, and on October 14, 2016 by Windy McElroy, PhD, for a total of three work days. McElroy served as Principal Investigator, overseeing all aspects of the project. Archaeological monitoring was guided by a SHPD-accepted monitoring plan (see Appendix), which called for full time archaeological monitoring for all ground disturbance (McElroy 2016b). There were no deviations from the plan.

On the first day of work, the archaeological monitor spoke with the construction team to ensure that they understood the purpose of the monitoring and that the monitor has the authority to halt construction activity. Excavation for the septic system was conducted with a backhoe (Figure 13), while excavation for the CMU outbuilding was accomplished by hand, with a shovel.

Representative profiles were drawn and photographed. Profile locations were recorded with a 3 m-accurate Garmin 62st unit. Digital photos were taken of various stages of the work and also where profiles were drawn. Sediments were described using Munsell Soil Color Charts (Munsell 2010), a sediment texture flow chart (Thien 1979), and the U.S. Department of Agriculture soil manual (Schoeneberger et al. 2012).

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. 2012:2–45). No material was collected and no laboratory analyses were conducted.



Figure 13. Excavation with a backhoe.

RESULTS

Archaeological monitoring was conducted on October 3, 4, and 14, 2016. Excavations were conducted in three areas: north of the tennis court for the installation of the leach field, west of the tennis court for removal of the old septic tank and installation of the new septic tank, and south of the tennis court at the CMU outbuilding (Figure 14). Profiles were drawn in each of these locations. Stratigraphy generally consisted of fill atop natural sand (Table 2). No historic cultural material or deposits were encountered.

Stratigraphy

Profile 1 was recorded on the north side of the tennis court (see Figure 14). The excavation here was larger than expected, due to cave-ins. A roughly L-shaped trench was excavated, approximately 11.2 m long, 3.2 m wide, and extending to 57 cmbs (cm below surface). Stratigraphy consisted of a very dark grayish brown fill with sparse modern debris at the surface and very pale brown marine sand below (Figure 15; see Table 2). No cultural material or deposits were observed.

Profile 2 was drawn on the west side of the tennis court (see Figure 14). The excavation was 4.3 m long, 3.6 m wide and extended as deep as 241 cmbs. An existing septic tank was removed from this location (Figure 16). Stratigraphy consisted of the same fill at the surface with the same sand deposit below. Between these layers, was a thin layer of gravel that surrounded the existing septic tank. It was visible in the south and east walls of the trench (Figure 17; see Table 2).

Profile 3 was recorded on the south side of the tennis court (see Figure 14). The excavation was 1.1 m long, .9 m wide and extended to 54 cmbs. Stratigraphy consisted of three layers of fill, a modern A-horizon, and a natural sand deposit disturbed by existing utility lines (Figure 18; see Table 2). Charcoal flecking was observed within the A-horizon, although there were no pieces large enough for collection. This A-horizon was documented in other parts of the property during an archaeological inventory survey (McElroy 2016a). It is not considered a historic cultural layer because of the presence of modern debris. The A-horizon may be an old beach surface, where charcoal was blown or washed in from beach bonfires nearby.

Summary of Results

In sum, septic system excavations were monitored at TMK: (1) 5-6-001:028 (por.), a coastal property in Mālaekahana. Stratigraphy generally consisted of fill above natural marine sand. A modern A-horizon was also observed in one of the excavation. No historic cultural material or deposits were found.



Figure 14. Subject parcel, project areas, and profile locations.

Table 2. Soil and Sediment Descriptions

Location	Layer	Depth (cmbs)	Color	Description	Interpretation
Profile 1	I	0–10	10YR 3/2	Silty clay loam; 20% fine roots; sparse modern debris; smooth, very abrupt boundary.	Fill
	II	10–57+	10YR 8/3	Fine sand; 2% fine to medium roots; existing utilities in upper 10 cm; base of excavation.	Natural Marine Sand
Profile 2	I	0–15	10YR 3/2	Silty clay loam; 30% medium roots; sparse modern debris; smooth, very abrupt boundary.	Fill
	II	15–38	N/A	Fine basalt gravel; existing septic tank; smooth, very abrupt boundary.	Fill
	III	38–150+	10YR 8/3	Fine sand; existing septic tank in upper 150 cm; 2% fine to medium roots; base of excavation.	Natural Marine Sand
Profile 3	I	0–8	N/A	Medium basalt gravel; 10% fine roots; modern debris; smooth, very abrupt boundary.	Fill
	II	8–16	10YR 3/6	Sandy clay loam; 5% fine to medium roots; smooth, very abrupt boundary.	Fill
	III	16–36	10YR 6/3	Fine sand; smooth, very abrupt boundary.	Fill
	IV	36–47	10YR 4/4– 10YR 3/2 mottled	Fine sand; sparse modern debris; charcoal flecking; smooth, very abrupt boundary.	Modern A-horizon
	V	47–54+	10YR 8/2	Fine sand; utilities at 50 cmbs; base of excavation.	Disturbed Natural Marine Sand

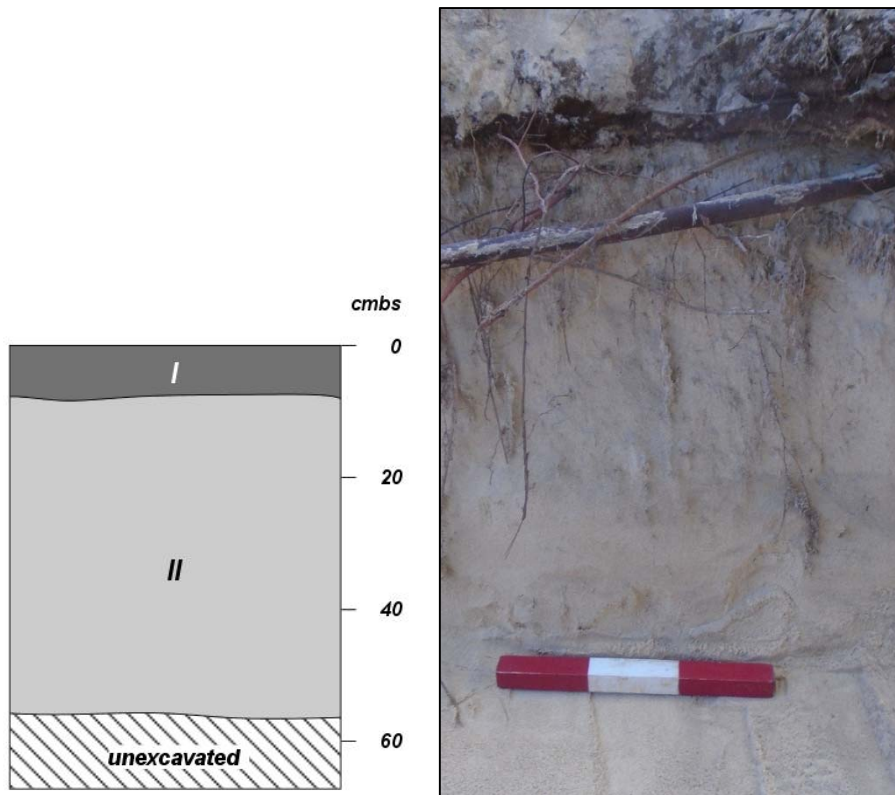


Figure 15. Profile 1, south face profile drawing and photo.



Figure 16. Removal of existing septic tank at Profile 2 location. Orientation is to the southwest.

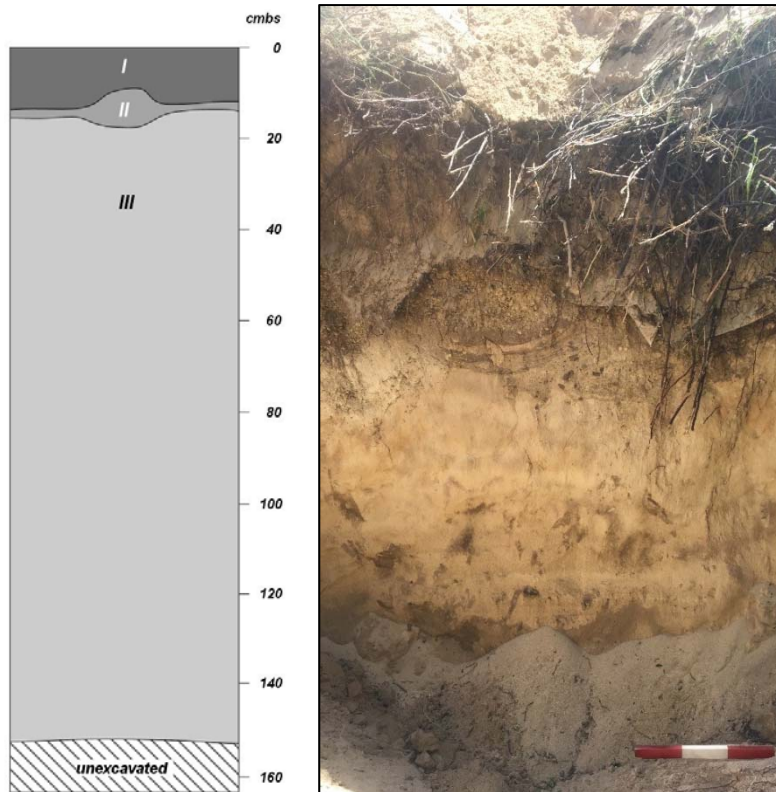


Figure 17. Profile 2, south face profile drawing and photo.

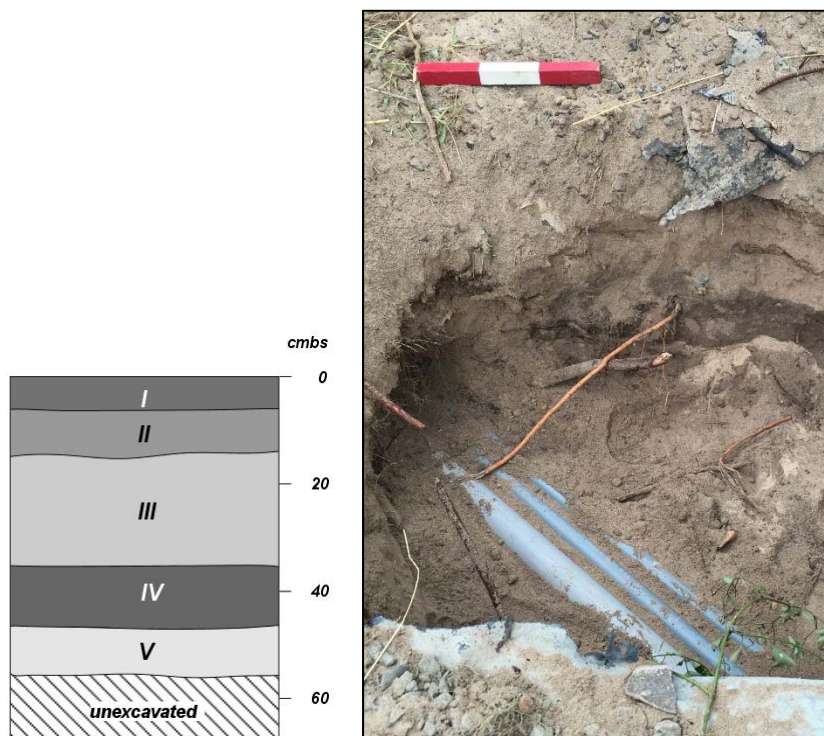


Figure 18. Profile 3, north face profile drawing and photo.

SUMMARY AND CONCLUSION

In summary, septic system improvements took place at TMK: (1) 5-6-001:028 (por.) in Mālaekahana Ahupua‘a, Ko‘olaupia District, on the Island of O‘ahu. The project area consisted of three discontinuous zones totaling .066 ha (.163 ac.). Archaeological monitoring was conducted for all ground disturbance, including excavations to remove an existing septic tank and to install a new septic tank and leach field, as well as construction of a CMU outbuilding. No historic cultural material or deposits were encountered during monitoring. Because of the occurrence of Jaucas sand on the property, where human burials commonly occur, it is recommended that archaeological monitoring is conducted for any future work in the vicinity.

GLOSSARY

A-horizon	The surface layer in the soil containing humus, an eluvial layer from which minerals etc. are leached.
ahupua‘a	Traditional Hawaiian land division usually extending from the uplands to the sea.
ali‘i	Chief, chiefess, monarch.
‘auwai	Ditch, often for irrigated agriculture.
enenue	Var. of nenuē, the chub, rudder, or pilot fish (<i>Kyphosus bigibbus</i> , <i>K. vaigiensis</i>).
gravel	Rock fragment less than 7 cm.
kahuna	An expert in any profession, often referring to a priest, sorcerer, or magician.
kala	The surgeonfish or unicorn fish, <i>Teuthidae</i> .
kapa	Tapa cloth.
ko‘a	Fishing shrine.
konohiki	The overseer of an ahupua‘a ranked below a chief; land or fishing rights under control of the konohiki; such rights are sometimes called konohiki rights.
kuleana	Right, title, property, portion, responsibility, jurisdiction, authority, interest, claim, ownership.
limu	Refers to all sea plants, such as algae and edible seaweed.
lo‘i, lo‘i kalo	An irrigated terrace or set of terraces for the cultivation of taro.
Māhele	The 1848 division of land.
mai‘a	The banana, or <i>Musa sp.</i> , whose fruit was eaten and leaves used traditionally as a wrapping for cooking food in earth ovens.
mānienie	<i>Cynodon dactylon</i> , or Bermuda grass, often used in lawns.
mauka	Inland, upland, toward the mountain.
midden	A heap or stratum of refuse normally found on the site of an ancient settlement. In Hawai‘i, the term generally refers to food remains, whether or not they appear as a heap or stratum.
mō‘ī	King.
moi	The threadfish <i>Polydactylus sexfilis</i> , a highly prized food item.
mo‘o	Lizard, dragon, water spirit.
mo‘olelo	A story, myth, history, tradition, legend, or record.
‘uala	The sweet potato, or <i>Ipomoea batatas</i> , a Polynesian introduction.
wauke	The paper mulberry, or <i>Broussonetia papyrifera</i> , which was made into tapa cloth in traditional Hawai‘i.

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2016 *Archaeological Inventory Survey Report for the Kahuku Village Subdivision Project,*

Kahuku, Keana, and Mālaekahana Ahupua'a, Ko'olaupia District, O'ahu. Cultural Surveys Hawai'i, Inc., Kailua, Hawai'i.

APPENDIX: SHPD ACCEPTANCE LETTER FOR AMP

DAVID Y. IGE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
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SUZANNE D. CASE
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COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
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JEFFREY T. PEARSON
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAPOLAHWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

July 26, 2016

Windy McElroy, PhD
Keala Pono Archaeological Consulting
47-724D Ahuimanu Loop
Kaneohe, Hawaii 96744

Log No. 2016.01760
Doc. No. 1607KM26
Archaeology

Dear Dr. McElroy,

SUBJECT: **Chapter 6E-42 Historic Preservation Review –
Archaeological Monitoring Plan for Property at 56-155 H Kamehameha Highway
Malaekahana Ahupua'a, Ko'olaupoko District, Island of O'ahu
TMK: (1) 5-6-001:028 por.**

Thank you for the opportunity to review the draft plan titled *Archaeological Monitoring Plan for TMK (1) 5-6-001:028 (por.), Malaekahana Ahupua'a, Ko'olaupoko District, Island of O'ahu* (McElroy, July 2016). The State Historic Preservation Division (SHPD) received this submittal on July 21, 2016. An archaeological inventory survey (AIS) was completed for the property and was accepted by the SHPD on July 21, 2016 (2016.01694, Doc. No. 1607KM24).

The subject property is located on the *makai* (ocean side) of Kamehameha Highway bordering the coastline. The project area consists of three discontinuous areas representing a 0.163-acre portion of the 1-acre property. The landowners, John D'Amato and Kristina Inn, plan to install a new septic system on the property which will include a new septic tank (8.5 ft. W by 11.25 ft. L by 6.5 ft. D), a leach field system (10 ft. W by 35 ft. L x 2 ft. D), a sewer drain line (1 ft. W by 75 ft. L by 1.5 ft. D), and a main service electric outbuilding (3.5 ft.² by 1.5 ft. D).

The AIS (McElroy, July 2016) included a pedestrian survey of the 0.163-acre project area and subsurface testing involving the excavation of two trenches (TR 1 and TR 2). Trench excavations documented varying fill layers overlying natural, Jaucas beach sand. Although modern debris and trash were observed within some fill layers, no archaeological deposits were observed. The AIS documented no historic properties and pursuant to Hawaii Administrative Rules (HAR) §13-284-5(b)(5)(A), the negative findings of the archaeological inventory survey are reported as an archaeological assessment (AA). The AIS encountered no significant historic properties and the project effect determination is no historic properties affected. However, due to the potential to encounter significant subsurface historic properties, including human burials, the report recommends archaeological monitoring of the proposed project. SHPD concurred with the project effect determination and recommendation for archaeological monitoring.

This AMP was prepared at the request of the landowners and in support of the AIS mitigation recommendations. Although no historic properties were identified during the AIS, previous archaeology indicates the potential for subsurface archaeological resources. The AMP indicates that subsurface cultural deposits may be encountered within the project area and include buried structural remnants (walls, pavement areas), cultural layers, agricultural deposits, historic deposits, and human burials. Due to the potential to encounter subsurface historic properties the AMP stipulates the following:

- Pre-construction briefing will be conducted prior to construction activities;
- On-site archaeological monitoring for all ground disturbing activities extending below fill deposits;

- The archaeological monitor shall have the authority to temporarily halt all activity in the area in the event of a potential historic property being identified, or to record archaeological information for cultural deposits or features;
- In the event that non-burial historic properties are identified, SHPD will be notified and provisions outlined in Hawaii Administrative Rules (HAR) §13-279 will be followed; and
- If human remains are identified, work will cease in the vicinity, SHPD will be notified, and compliance and procedures outlined in HAR §13-300-40 will be followed.

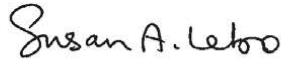
Documentation of non-burial cultural deposits will include recording stratigraphy using USDA soil descriptions, recordation of feature contents through excavation or sampling of features, representative scaled profile drawings, photo documentation, and appropriate laboratory analysis of collected samples and artifacts. Final archiving of any collected materials shall be determined in consultation with SHPD and the landowner. Departure from these provisions will occur only in consultation with and written concurrence from SHPD.

In general, the archaeological monitoring plan adequately discusses the environment, historic context, previous investigations, anticipated findings, and outlines the proposed monitoring procedures. The monitoring plan meets the minimum requirements stipulated in HAR §13-279-4. **It is accepted.** Please send one hardcopy of the document, clearly marked FINAL, along with a copy of this review letter and a text-searchable PDF version on CD to the Kapolei SHPD office, attention SHPD Library.

SHPD requests to be notified at the start of archaeological monitoring. Upon completion of archaeological monitoring fieldwork, SHPD looks forward to reviewing an archaeological monitoring report meeting the requirements of HAR §13-279-5.

Please contact Kimi Matsushima at (808) 692-8027 or at Kimi.R.Matsushima@hawaii.gov if you have any concerns regarding this letter.

Aloha,



Susan A. Lebo, PhD
Archaeology Branch Chief