

An Archaeological Assessment Survey of a Newly Created 16,661 Square Foot Parcel

TMK: (3) 6-9-002:031

Lālāmilo Ahupua'a
South Kohala District
Island of Hawai'i

FINAL VERSION



Prepared By:

Robert B. Rechtman, Ph.D

Prepared For:

Lisa Treadwell
P.O. Box 4608
Carmel, CA 93921

April 2014

ASM Project Number 22020



Archaeology • History • Ethnography • Architectural History

Office: (808) 969-6066 • Fax: (808) 443-0065

An Archaeological Assessment Survey of a Newly Created 16,661 Square Foot Parcel

TMK: (3) 6-9-002:031

Lālāmilo Ahupua‘a
South Kohala District
Island of Hawai‘i



EXECUTIVE SUMMARY

At the request of Lisa Treadwell (property owner), ASM Affiliates, Inc. conducted an archaeological survey of a newly created 16,661 square foot parcel (TMK: (3) 6-9-002:031) that was formerly a portion of TMK: (3) 6-9-002:026, located in Lālāmilo Ahupua‘a, South Kohala District, Island of Hawai‘i. The property owner intends to construct a single-family residence on the newly created parcel. The proposed development activities must be reviewed under County SMA rules and are subject to a 40 foot shoreline setback regulation. In their review of the SMA Assessment Application, DLNR-SHPD (DOC NO: 1404MV05) requested that an archaeological study of the property be conducted and that subsurface testing be a part of that study. The current archaeological study was undertaken in accordance with Hawai‘i Administrative Rules 13§13–284, and was performed in compliance with the Rules Governing Minimal Standards for Archaeological Inventory Surveys and Reports as contained in Hawai‘i Administrative Rules 13§13–276. According to 13§13-284-5 when no archaeological resources are discovered during an archaeological survey the production of an Archaeological Assessment report is appropriate. The current Archaeological Assessment report is intended to accompany any and all County and State assessments and permit submittals.

Fieldwork for the current study was conducted on April 15, 2014 by Robert B. Rechtman, Ph.D., and Matthew R. Clark, B.A. The project area was thoroughly inspected by fieldworkers walking meandering transects across the property. As the property was quite small, ground visibility excellent, and no surface archaeological features present; areas were identified for subsurface testing with a small excavator. Three Test Trenches and two Exploratory Pits were excavated. There were no subsurface archaeological features identified during the testing, although a very spatially restricted subsurface deposit of late nineteenth to early twentieth century material was encountered that seems to be a secondary deposit; thus, no archaeological sites were identified and recorded as a result of the current study.

The proposed development plan indicates that only the *mauka* portions of the parcel that will be subject to subsurface disturbance as the house post footing will be placed one foot deep into two feet of imported and engineered fill. Given the archaeological findings of the current study coupled with the limited subsurface development strategy, it is concluded that the development of a single-family residence on this parcel will likely have no effect of historic properties. However, as a precautionary measure it is the recommendation of the current study that an archaeological monitor be present if unforeseen subsurface disturbance becomes necessary in the *makai* portion of the parcel, particularly in the area where Test Trench 2 was excavated. In accordance with HAR 13§13-279, an archaeological monitoring plan can be prepared in advance of the development that specifies on-call monitoring with the potential for on-site monitoring if excavation in the *makai* portion of the parcel becomes necessary.

CHAPTERS

1. INTRODUCTION.....	1
PROJECT AREA DESCRIPTION.....	1
2. BACKGROUND	8
PRIOR ARCHAEOLOGICAL RESEARCH.....	8
CULTURE-HISTORICAL CONTEXT	11
3. PROJECT AREA EXPECTATIONS.....	23
4. FIELDWORK	24
METHODS	24
FINDINGS.....	24
5. RECOMMENDATIONS.....	31
REFERENCES CITED	32

FIGURES

1. Project area location.....	2
2. Tax Map Key (3) 6-9-002 showing location of current study parcel (outlined in red and shaded).....	3
3. Portion of architectural site plan.....	4
4. Google Earth™ satellite image showing the current project area (outlined in red and shaded).....	5
5. Portion of surveyor’s map showing new subdivision of study parcel (Lot D-2).....	6
6. View of the study parcel to the northwest.....	7
7. View of the study parcel to the southeast.....	7
8. Locations of prior archaeological studies within the immediate Puakō area.....	10
9. Diagram of LCAw. 3758 to Akahi (<i>Māhele</i> Book Vol. 4:627).....	13
10. Diagram of LCAw. 4102 to Kamahiai (<i>Māhele</i> Book Vol. 4:626).....	14
11. School lot at Puakō (in Maly 1999:76).....	15
12. Church lot at Puakō (in Maly 1999:77).....	16
13. “Puako, Kohala, Hawai‘i”, watercolor by Paul Emmert, 1859 (in Puakō Historical Society 2000:52-53).....	17
14. Portion of Reg. Map No. 1278 prepared by J. S. Emerson in 1882, showing coastal Puakō.....	19
15. Portion of Reg. Map No. 2786, Puakō Plantation Section, prepared by G.F. Wright in 1917.....	20
16. Portion of a Map of Puakō (Reg. Map No. 1974) prepared by Chas V. E. Dove in 1900.....	21
17. 1927 map of a portion of Lālāmilo showing General Lease No. 840 to Robert Hind and the exclusion areas (from Maly 1999:121).....	22
18. Portion of a map of the Puakō Beach Lots (Reg. Map No. 4027) prepared by C. L. Murray in 1950.....	23

19. Project area plan view25
20. TT-1 north wall profile and photograph of the completed excavation, view to the east. ...26
21. TT-2 north wall profile and photograph of the completed excavation, view to
the northeast.27
22. TT-3 west wall profile and photograph of the completed excavation, view to the north. .28
23. EP-1, view to the north29
24. EP-2, view to the north.29
25. Ceramic bowl/cup rim fragment and lead strapping found in Layer II of TT-2.....30
26. Modern glass bottle base from 70 centimeters depth in EP-1.30

TABLE

1. Prior studies. 8

1. INTRODUCTION

At the request of Lisa Treadwell (property owner), ASM Affiliates, Inc. conducted an archaeological survey of a newly created 16,661 square foot parcel (TMK: (3) 6-9-002:031) that was formerly a portion of TMK: (3) 6-9-002:026, located in Lālāmilo Ahupua‘a, South Kohala District, Island of Hawai‘i (Figures 1 and 2). The property owner intends to construct a single-family residence on the newly created parcel (Figure 3). The proposed development activities must be reviewed under County SMA rules and are subject to a 40 foot shoreline setback regulation. In their review of the SMA Assessment Application, DLNR-SHPD (DOC NO: 1404MV05) requested that an archaeological study of the property be conducted and that subsurface testing be a part of that study. The current archaeological study was undertaken in accordance with Hawai‘i Administrative Rules 13§13–284, and was performed in compliance with the Rules Governing Minimal Standards for Archaeological Inventory Surveys and Reports as contained in Hawai‘i Administrative Rules 13§13–276. According to 13§13-284-5 when no archaeological resources are discovered during an archaeological survey the production of an Archaeological Assessment report is appropriate. The current Archaeological Assessment report is intended to accompany any and all County and State assessments and permit submittals.

This report contains summary background information concerning the project area’s physical setting, cultural contexts, previous archaeological work, and current survey expectations based on the previous work. Also presented is an explanation of the project’s methods, descriptions of the findings, and treatment recommendations for the proposed development activities.

PROJECT AREA DESCRIPTION

The current study parcel, located along the coast in the community of Puakō, is bounded to the north by a narrow stretch of beach and the coastal bedrock flat at Puakō Bay, to the west and east by developed residential parcels, and to the south by Puakō Beach Drive (Figure 4). The study parcel is currently undeveloped (except for the small area within the eastern triangular projection that has been developed as part of the neighboring parcel; Figure 5), but appears to have been at least grubbed (if not graded) in the past as it is flat and relatively clear of vegetation (Figure 6). Current vegetation includes *kiawe* (*Prosopis pallida*), Coconut (*Cocos nucifera*), *milo* (*Thespesia populnea*), tree heliotrope (*Heliotropium curassavicum*), and bougainvillea (*Boerhavia spectabilis*) (see Figure 6; Figure 7).

1. Introduction

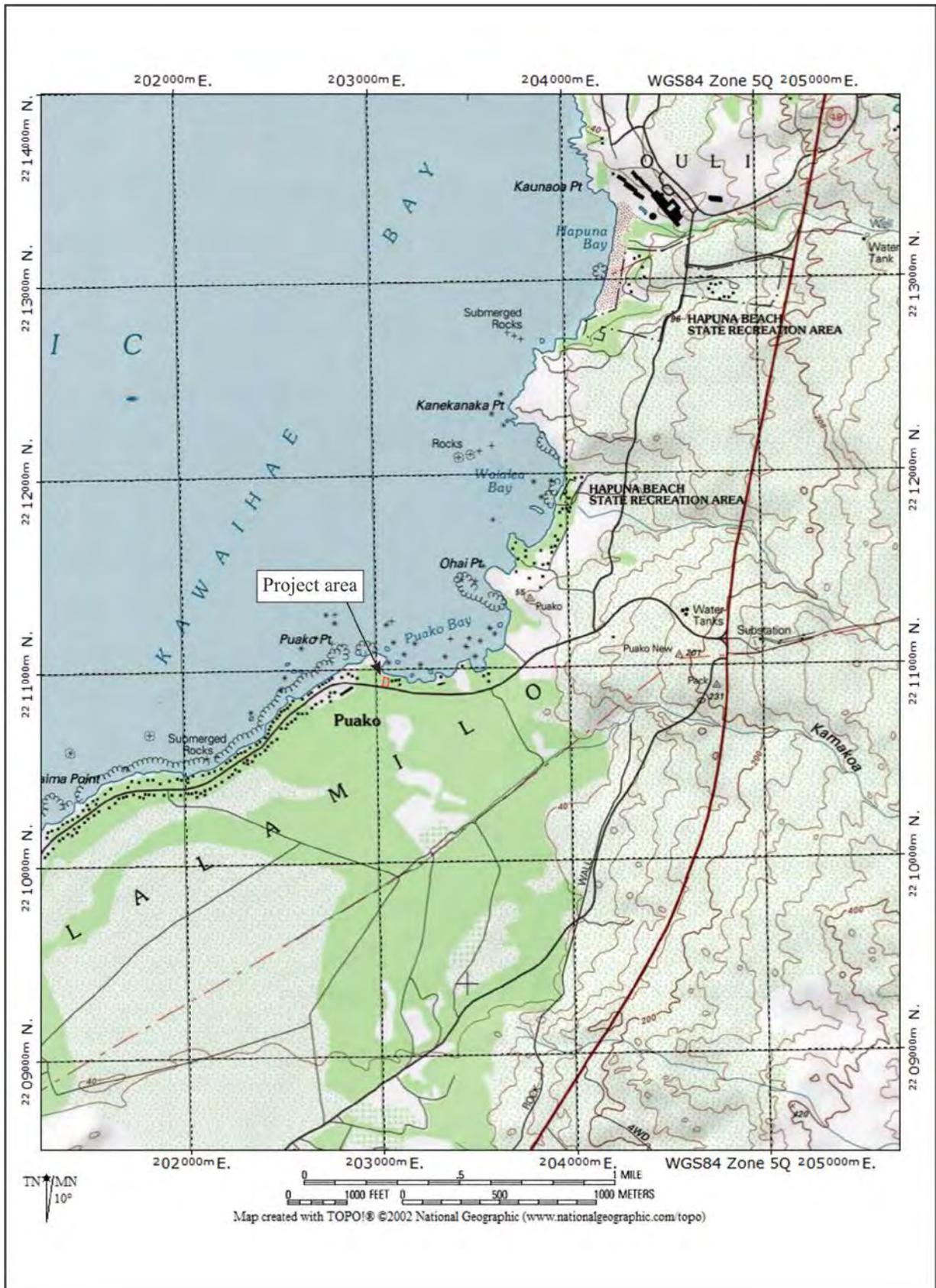


Figure 1. Project area location.

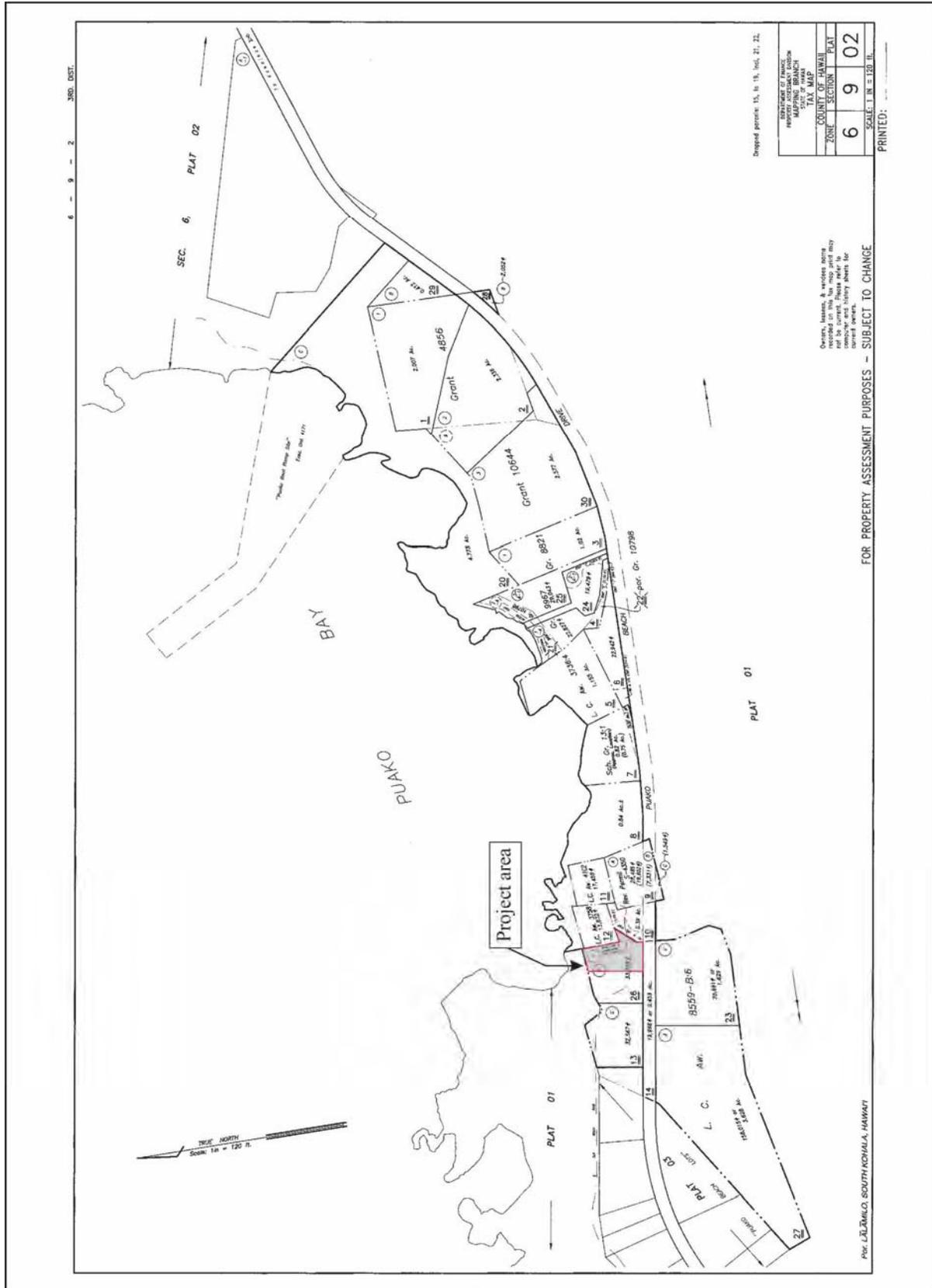


Figure 2. Tax Map Key (3) 6-9-002 showing location of current study parcel (outlined in red and shaded).

1. Introduction

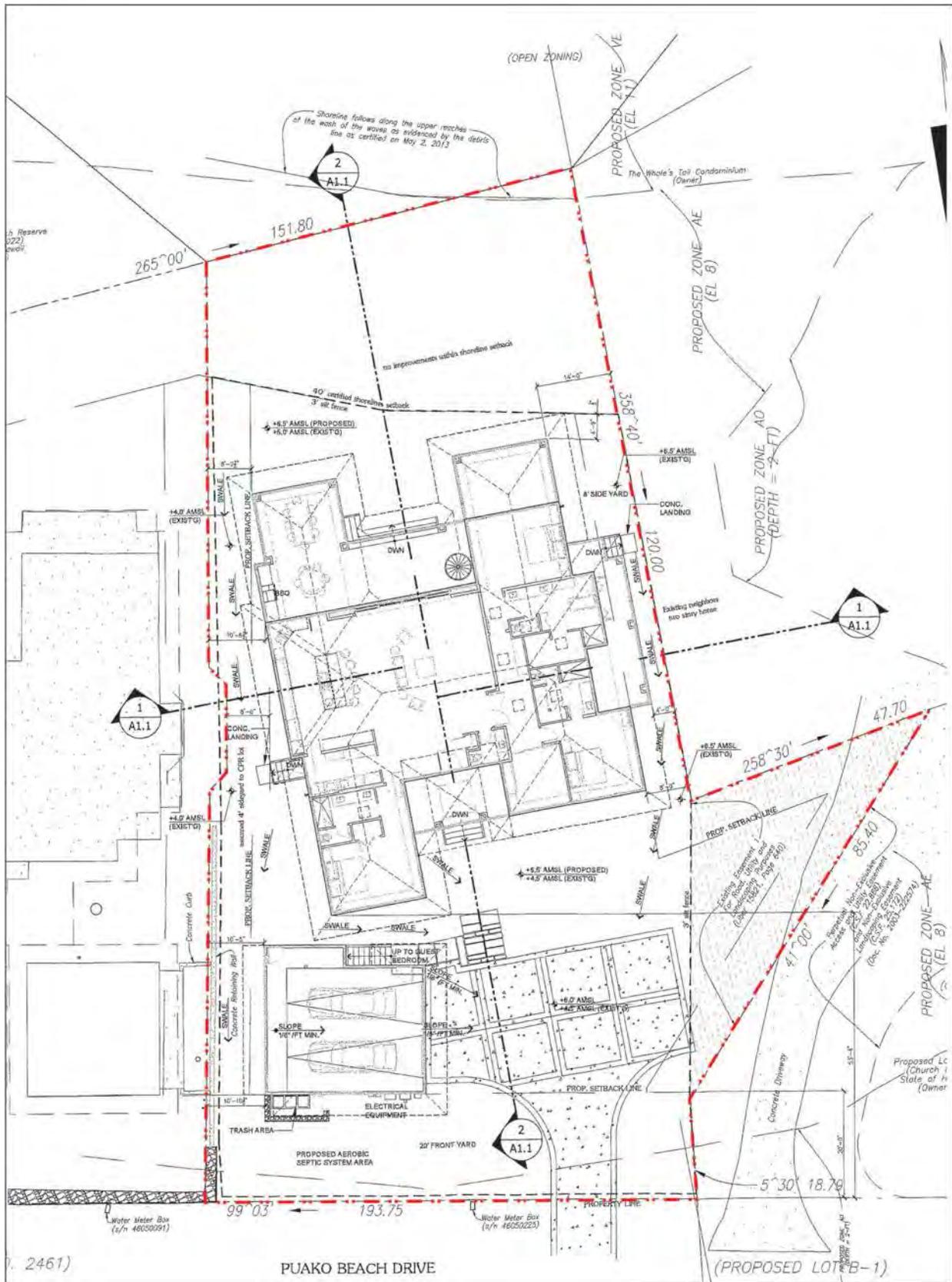


Figure 3. Portion of architectural site plan.



Figure 4. Google Earth™ satellite image showing the current project area (outlined in red and shaded).

1. Introduction

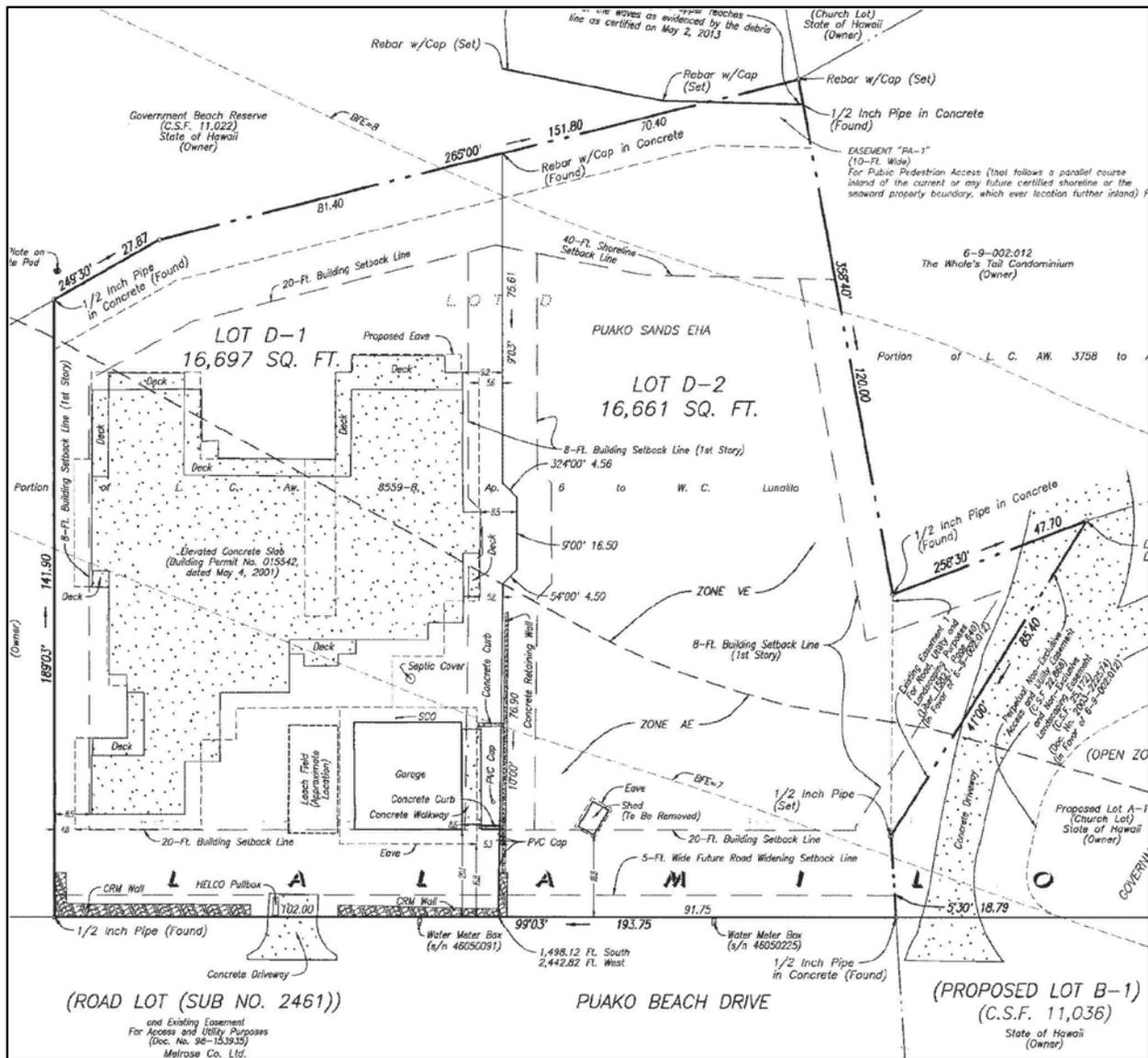


Figure 5. Portion of surveyor’s map showing new subdivision of study parcel (Lot D-2).



Figure 6. View of the study parcel to the northwest.



Figure 7. View of the study parcel to the southeast.

2. BACKGROUND

To generate a set of expectations regarding the nature of archaeological resources that might be encountered on the study parcel, and to establish an environment within which to assess the significance of any such resources, previous archaeological studies relative to the project area and a culture-historical context for the region are summarized.

PRIOR ARCHAEOLOGICAL RESEARCH

Multiple archaeological studies have been conducted in the Puakō area and in the surrounding *ahupua'a* from Kawaihae, south to Anaeho'omalu Bay (Table 1). These investigations vary from general reconnaissance level surveys to intensive data recovery efforts and have identified a range of archaeological and historical site types in this coastal setting. Sites types recorded in the coastal portions of Puakō consist of caves (lava tubes), petroglyphs, cairns, trails, rock and cave shelters, refuge caves, burials, a *holua* slide, and features associated with both temporary and permanent habitation including house platforms, overhangs, terraces, modified outcrops, paved areas, U-shape enclosures, sinkholes, walls, and rubble excavation areas. Coastal and inland (*mauka/makai*) trail networks have been documented throughout the South Kohala and North Kona Districts and were most likely used for coastal travel between *ahupua'a* and to facilitate resource extraction and exchange between the coastal areas and the upland agricultural fields. The absence or minimal presence of agricultural features in this coastal zone suggests an occupational emphasis on the extraction of marine resources.

These studies have also generated settlement pattern models and have proposed chronological constructs, the dating of which was established primarily through hydration rind techniques. Although these dates correlate with the general settlement models and chronology, the hydration rind dating technique used on Hawaiian volcanic glass is questionable at best (Olson 1983).

Table 1. Prior studies.

<i>Year</i>	<i>Author</i>	<i>Ahupua'a</i>	<i>Type of Study</i>
1930	Reinecke	General	Reconnaissance
n.d.	Emory	Lālāmilo	Excavation
1964	Smart	Lālāmilo	Excavation
1971	Ching	General	Intensive survey
1972	Rosendahl	Waikōloa, Lālāmilo	Excavation
1973	Barrera	General	Intensive survey
1975	Kirch	Waikōloa	Intensive survey, excavation
1979	Kirch	Lālāmilo	Excavation
1980	Kennedy	Lālāmilo	Intensive survey
1981	Soehren	Lālāmilo	Reconnaissance
1982	Kaschko and Rosendahl	Kawaihae 2 nd , 'Ōuli	Reconnaissance, historical
1982	Tomonari-Tuggle	Lālāmilo	Reconnaissance
1983	Rosendahl	'Ōuli	Intensive survey
1983	Clark and Kirch	General	Intensive survey
1984	Welch	Lālāmilo	Intensive survey
1985	Rosendahl	Kukio 1 st	Reconnaissance
1988	Welch	Lālāmilo	Intensive survey, excavation
1989	Welch	Lālāmilo	Intensive survey, excavation
1989a	Jensen	Waikōloa	Intensive survey
1989b	Jensen	'Anaeho'omalu	Excavation
1990	Burgett and Rosendahl	Lālāmilo	Archaeological Inventory Survey
1990	Carlson and Rosendahl	Kawaihae 2 nd	Intensive survey
1991	Jensen	Waikōloa	Excavation
1992	Jensen	Lālāmilo	Data recovery
1992	Dunn and Rosendahl	Lālāmilo	Intensive survey, excavation
1992	Burgett et al.	Lālāmilo	Intensive survey, excavation
1993	Greene	Kawaihae	Arch./Historical Assessment
1993	Graves	'Ōuli	Data recovery
1993	Boudreau and Graves	Lālāmilo	Data recovery
1993	Maly and Rosendahl	'Ōuli	Archaeological Site Preservation Plan

Table 1. Continued.

<i>Year</i>	<i>Author</i>	<i>Ahupua‘a</i>	<i>Type of Study</i>
1994	Jensen	Lālāmilo	Inventory survey
1994	Landrum and Williams	‘Anaeho‘omalu	Archaeological
1995	Nees and Williams	‘Anaeho‘omalu	Archaeological
1996	Ogden	‘Anaeho‘omalu	Archaeological Site Preservation Plan
1999	Maly	General	Oral, Archival-Historical Research
2002	Dougherty and Rechtman	Lālāmilo	Archaeological and Cultural Assessment
2007	Clark and Rechtman	Lālāmilo	Archaeological Inventory Survey
2007	Corbin	Lālāmilo	Archaeological Assessment
2008	Clark and Rechtman	Lālāmilo	Archaeological Assessment

The studies conducted in the more proximate Puakō area (Figure 8) are further discussed. To the south of the current study area, the Puakō Petroglyph Archaeological District (SIHP Site No. 4713) was nominated to the National Register of Historic Places by Myra Tomonari-Tuggle and David Tuggle on behalf of the Waimea Hawaiian Civic Club and Mauna Lani Resort (Dunn and Rosendahl 1992, Appendix B:B-6). The site was listed on the State of Hawaii Register of Historic Places in 1982, and in April of 1983 it was listed on the National Register. The site area was formally recorded by the Bishop Museum in 1964 (Kennedy 1980) and was noted as “one of the largest fields of its kind in the Hawaiian Islands” (Dunn and Rosendahl 1992, Appendix B:B-4); the petroglyph area consists of three major groupings of more than 3,000 incised figures and represents some of the oldest images in the Hawaiian Islands.

Several studies were conducted for the extension of Puakō Beach Drive (Boudreau and Graves 1993; Burgett and Rosendahl 1990; Dunn and Rosendahl 1992), an intensive archaeological survey of the “Paniau” parcel (TMK: 3-6-9-01:27) was completed (Kennedy 1980), and an inventory survey for the Puakō community emergency access road was also conducted (Clark and Rechtman 2007). Twenty-five sites containing a total of 75 features were recorded within the Puakō Beach Drive extension corridor (Dunn and Rosendahl 1992), and a total of twenty-four sites containing 47 features were recorded on the “Paniau” parcel (Kennedy 1980). Formal feature types recorded during these studies included caves, petroglyphs, terraces, modified outcrops, overhangs, modified sinks, *pāhoehoe* excavations, mounds, walls and enclosures. Most of these sites were interpreted as being used for or related to Precontact coastal habitation (Dunn and Rosendahl 1992). Radiocarbon age determinations from the “Paniau” parcel suggest that coastal habitation in the Puakō area occurred primary between A.D. 1640 and A.D.1890 (Jensen 1992). A trail, consisting of a cleared pathway across an ‘a ‘ā flow, was the only site recorded by Clark and Rechtman (2007).

To the southwest of the current study parcel, Clark and Rechtman (2010) conducted an archaeological inventory survey of Lot No. 6 of the Puakō Beach Lots (TMK: (3) 6-9-005:018). Historical records indicated, and subsurface testing confirmed the presence of an early twentieth century archaeological site (Site 50-10-11-28257) associated with the residential use of the property by Michael Kaloa. No structural remains of the residence were present on the surface, but a 1920 map of Lot No. 6 of the Puakō House Lots shows that two structures were formerly extant on the property. The residence included a larger rectangular structure to the north (seaward) with a smaller rectangular structure adjacent to its southern (inland) edge. Historic maps indicated the structures were built sometime between 1900 and 1920. A 1 x 1 meter test unit hand excavated in the general vicinity of the former residence revealed possible foundation structural remains associated with Historic Period artifacts.

In 1981 the Bishop Museum conducted surface reconnaissance surveys (Soehren 1981) of two parcel, one (TMK: (3) 6-9-002:013) next to the current study area, and one (TMK: (3) 6-9-002:023) across the street from the current study parcel. No archaeological sites were reported on either of these two parcels. TMK: (3) 6-9-002:023, across the road from the current project area was investigated again by Dougherty and Rechtman (2002), who prepared an archaeological and limited cultural assessment of a 5.2 acre area containing TMKs:3-6-9-02:023 and 027. To the east of the current project area near the Puakō boat ramp Clark and Rechtman (2008) prepared an archaeological assessment of a 5-acre portion of TMK:3-6-9-01:001. No archaeological sites were reported as a result of either of these studies largely due to mechanical disturbance that had occurred prior to the fieldwork. Clark and Rechtman (2008) did, however, note the presence of archaeological remains adjacent to their study area within a larger 750-acre area that had been previously studied by Burgett and Rosendahl (1990), Dunn and Rosendahl (1992), and Jensen (1994) for the expansion of the Hapuna Beach State Recreation Area. Within that larger area 164 sites containing 425 features were identified with feature types that included C-shapes, alignments, cairns, walls, cleared areas, paved areas, enclosures, midden scatters, modified outcrops, mounds, overhangs, terraces, rubble concentrations, trails, and upright stones. These features were interpreted as being used for agriculture, ranching, hunting, military, marker, possible ceremonial, temporary habitation, recreation, and indeterminate purposes.

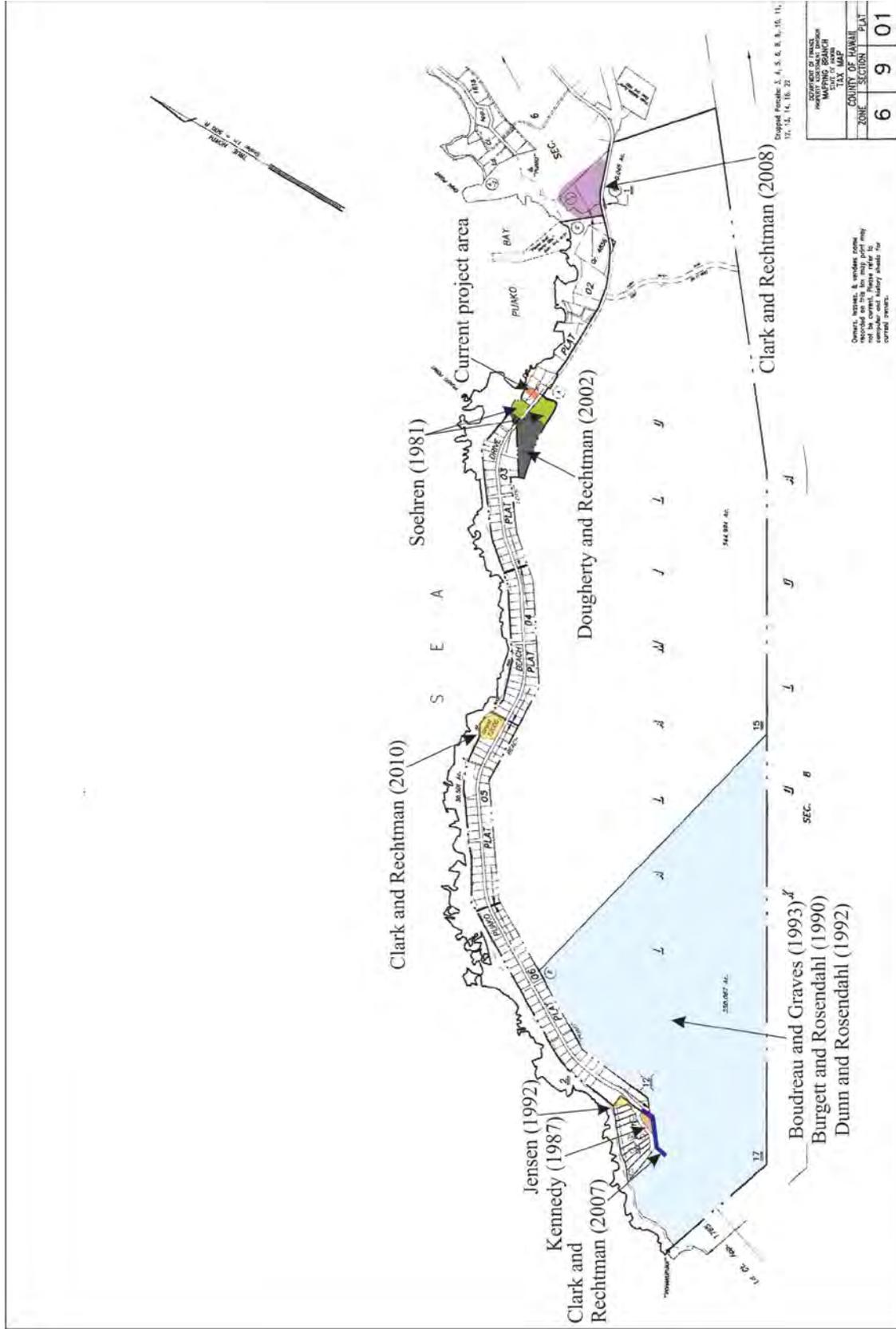


Figure 8. Locations of prior archaeological studies within the immediate Puako area.

CULTURE-HISTORICAL CONTEXT

The current project area lies within the town of Puakō in the *ahupua'a* of Lālāmilo, South Kohala District, Island of Hawai'i. The name Puakō literally translates as “sugarcane blossom” (Pukui et al. 1974), but according to the *Legend of Kaulanapokii* (Fornander 1917), the area may have been named for a handsome man who once lived there. The story tells of five sisters (Kaulanapokii being the youngest) who one day set out site seeing along the West Hawai'i coast, and upon arriving in Kohala (at Kalāhuipua'a) they met Puakō, who took Mailelailii, the oldest sister, as his wife. Fornander writes:

Puako was a very handsome man whose form was perfect. When he saw Mailelailii he took her to be his wife and that night they were covered with the same kappa. Very early the next morning the girls looked and saw Puako carrying sea water and filling pools for salt making. Upon seeing this the sisters got disgusted and said to Mailelailii: “Say, if that is going to be your husband we will all be made weary carrying sea water for salt making and our skins will look like the windward bark of a noni tree.” Mailelailii then said to Puako: “My sisters are urging me to continue on our way sight seeing.” Puako consented to this, so the girls departed on their way to Kohala. (1917:560-562)

The first Hawaiians may have settled in the Puakō area as early as A.D. 1200, with major population expansion occurring between A.D. 1500-1700 (Dunn and Rosendahl 1992; Kirch 1979). The original settlers must have been attracted to this arid stretch of coastline by the numerous anchaline ponds that offered abundant, marginally potable water, and the easy access to the rich pelagic and benthic marine resources. The early community likely shared extended familial relations and there would have been an occupational focus on the collection of marine resources. As illustrated in the *Legend of Kaulanapokii*, some residents of Puakō were also engaged in salt making. Additionally, where conditions allowed, small scale agriculture must have been practiced, although much of the produce consumed by the coastal residents likely came from the uplands of Waimea. Handy and Handy write that, “Puako near the Kona border was a sizeable fishing village at one time where there were undoubtedly many sweet-potato patches” (1972:532).

Coconuts were another abundant natural resource of Puakō. When King Kamehameha needed coconuts for the rededication of *heiau* in the Waimea area, he sent his people to Puakō to gather them. Kamakau tells the following story of this event:

While Kamehameha was living with the chiefs at Waimea [he was] engaged in restoring the old heiaus. When the fence of images (*paehumu*), the oracle tower (*anu'unu'u*), and the pavement (*Kipapa*) of the heiau of Uli had been restored, all the people had to go down to Puako after coconuts. When each had taken up his load to return there remained still 480 nuts unhusked. All had gone except Kamehameha and one other to whom the chief was unknown. Kamehameha turned to him and said, “It looks as if there would not be enough coconuts for the dedication in the morning.” It is possible that the man recognized the chief for he replied, “They will all be there.” The two put the nuts into nets and fastened them together into a huge load that stood taller than either of them. The road from Puako to Waimea is close to twenty miles in length. Occasionally when the man seemed tired Kamehameha took a turn at the load. At dusk as they neared their destination, and it came time for evening prayer, Kamehameha left the man, saying, “When you get to the heiau spend the night with the people of the place, but do not tell them that Kamehameha helped carry the load on his back.” Because of this feat of strength and another later, when he took up two hogs each more than a fathom long and carried them without help, this Ku-i-helani, as his name was, became a great favorite with the chief and held an important office under him. He was allowed to have ten wives, an honor allowed to no other chief besides, and there was no home happier than his, no governor of a district to be compared with Ku-i-helani. (1992:183)

Early Western visitors to Puakō noted the bleak appearance of the land, the lack of agriculture, and the residents' dependence on the ocean for sustenance. Archibald Menzies, a botanist who travelled to Hawai'i in 1792 with Captain George Vancouver, observed that the land was “... barren and rugged with volcanic dregs and fragments of black lava ... in consequence of which the residents were obliged to have to recourse to fishing for their sustenance” (1920:99).

Lorenzo Lyons, who arrived in Hawai'i at Kawaihae on July 16, 1832, replaced Reverend Dwight Baldwin as the minister in Waimea (Maly 1999). Lyons' missionary territory, although centered in Waimea, included the districts of Kohala and Hāmākua. He served as the preeminent missionary of the area until his death in 1886 (Puakō Historical Society 2000), becoming one of the most beloved of the Hawaiian missionaries, known to his parishioners as *Ka*

2. Background

Makua Laiana, haku mele o ka aina Mauna (Father Lyons, lyric poet of the mountain country). During his tenure at Waimea Lyons' travelled the territory spreading the gospel and helping the needy. He helped establish and maintain many of the early churches and schools in Kohala, including a school at Puakō and Hōkūloa Church. In 1835 Lyons visited Puakō, writing in his journal:

Wednesday: Rose at four o'clock and walked to Puako, five or six miles distant. When it was light I gathered a few shells. I walked along the shore - alone. On one hand was the ocean; on the other a dreary, desolate waste -rocks, lava, coral. I thot of home as I often do. I wonder what my friends would think if they knew just where I am... I reached Puako at an early hour. As I was alone carrying my own calabash, the natives mistook me for some wandering foreigner, and when I spoke to them in their own language how startled they were! But some knew me. They expressed a great deal of pity for me because I had to carry my own baggage ... I excited a great deal of curiosity, I then had breakfast - that is I sat on a stone and ate a biscuit. No water could be found but salt water. As soon as the people could be collected together I talked to them; examined their school, after which I took a look at their salt works, took dinner, drank some coconut water, and started for home, my horse having come after me.

Puako is a village on the shore, very like Kawaihae, but larger. It has a small harbor in which native vessels anchor. Coconut groves give it a verdant aspect. No food grows in the place. The people make salt and catch fish. These they exchange for vegetables grown elsewhere. (Doyle 1945:85)

Between 1839 and 1846 Lyons documented the worsening condition of life for the general population of Puakō as its inhabitants adjusted to a more Western way of life and a market economy. Lyons blamed the system of taxation and the lack of economic opportunity, which led to severe food shortages (Puakō Historical Society 2000). In 1844 he wrote that the poor people of Puakō could not raise enough fish or *poi* for their Thanksgiving feast, and that he never ate nor drank anything while there (Doyle 1945). In another entry he writes:

Not infrequently at Kawaihae and Puako there is no food to be had. The people live without food for days, except a little fish which prevents starvation. Nor is this to be had everyday, the ocean being so rough they cannot fish, or a government working day interferes, when the sailing of a canoe is tabu - unless the owner chooses to pay a fine. The water too at these places is such that I cannot drink it. I would as soon drink a dose of Epsom salts ... (Doyle 1945:108-109).

By the mid-nineteenth century, the ever-growing population of Westerners forced socioeconomic and demographic changes that promoted the establishment of a Euro-American style of land ownership, and in 1848 the *Māhele 'Āina* became the vehicle for determining ownership of native lands. This change in land tenure was promoted primarily by the missionaries and Western businessmen in the island kingdom. Generally these individuals were hesitant to enter business deals on leasehold land. The *Māhele* (division) defined the land interests of Kamehameha III (the King), the high-ranking chiefs, and the *konohiki*. During the *Māhele*, all lands in the Kingdom of Hawai'i were placed in one of three categories: (1) Crown Lands (for the occupant of the throne); (2) Government Lands; and (3) *Konohiki* Lands (Chinen 1958:vii and Chinen 1961:13). The chiefs and *konohiki* were required to present their claims to the Land Commission to receive awards for lands provided to them by Kamehameha III. They were also required to provide commutations to the government in order to receive royal patents on their awards. The lands were identified by name only, with the understanding that the ancient boundaries would prevail until the land could be surveyed. This process expedited the work of the Land Commission.

All three types of land were subject to the rights of the native tenants therein; those individuals who lived on the land and worked it for their subsistence and the welfare of the chiefs. Native tenants could claim, and acquire title to, *kuleana* parcels that they actively lived on or farmed at the time of the *Māhele*. The Kuleana Act of December 21, 1849 provided the framework by which native tenants could apply for and receive fee-simple interest in their *kuleana* lands from the Land Commission. The Board of Commissioners over saw the program and administered the lands as Land Commission Awards (LCAw.). Not all lands that were claimed were awarded.

As a result of the *Māhele* of 1848 the *'ili* (land division smaller than an *ahupua'a*) of Puakō and Lālāmilo in the *kalana* (land division smaller than a district) of Waimea were both awarded to William Charles Lunailo, who would eventually become the ruler of Hawai'i, as part of LCAw. 8559-B (Foreign Testimony Vol. 16:81). During the *Māhele* eight *kuleana* parcels were claimed in Puakō, but only four were awarded. All four of the awards were residential lots located along the coast (Maly 1999), three of which (LCAws. 3736, 3758, and 4102) are located nearby the current project area (see Figure 2). The three nearby claims are described in the *Māhele* records as follows:

LCA 3736 to Petero Wahakane – I have three places to describe: at Puako is a house lot, at Waimea is a house lot, at Waipio are 17 taro pond fields (*loi*), District 6, Hawaii. (Native Register Vol. 8:52)

Kamahiai sworn and stated: I have seen (his land), there in the land section of Lalamilo at Puako, Hawaii. It is not enclosed, there are two houses within it, one for Wahakane and one for Kau who dwells under Wahakane. The boundaries are; inland and waho is Uilama Pekeles land, is so on all sides. It was vacant before Wahakane received it in 1843... (Native Testimony Vol. 4:19)

LCA 3758 to Akahi (w.) – I have a house lot at Puako, in Waimea, at the shore [Figure 9]. It is 16 fathoms long and 16 fathoms wide. It has been surrounded with a stone wall from ancient times. (Native Register Vol. 8:52)

Kamahiai sworn and stated: I have seen Akahi's Place, it is at Puako in Waimea, Hawaii, in one section. It has been enclosed and there are four house, two of which are for Akahi, and one for Kahenehene (w.) and the other for Napuupuu. On the upland and Waho sides is the land of Uilama, the Konohiki; towards the sea is Hueu's land; and towards Kawaihae is Uilama Pekele's land. Akahi has a very old claim and no one has objected... (Native Testimony Vol. 4:20)

LCA 4102 to Kamahiai – I hereby describe to you my house lot at Puako...[Figure 10] The circumference is 80 fathoms, it is for you to affirm. I am your obedient servant. (Native Register Vol. 8:65)

Akahi sworn and stated: I have seen there in the land section of Lalamilo, adjoining Puako, a house lot with three houses in it. It is enclosed with a wall. One house is for Kamahiai, one for Naoho, and one for Kahaanapilo. On the upland side is William B.; on the outer Kohala side is William B., on the shoreward side is Akahi's lot, and on the Kohala side is William B. He got it from Hueu in 1842. No one has objected...

Kalala testifies the same as Akahi. (Native Testimony Vol. 4:21)

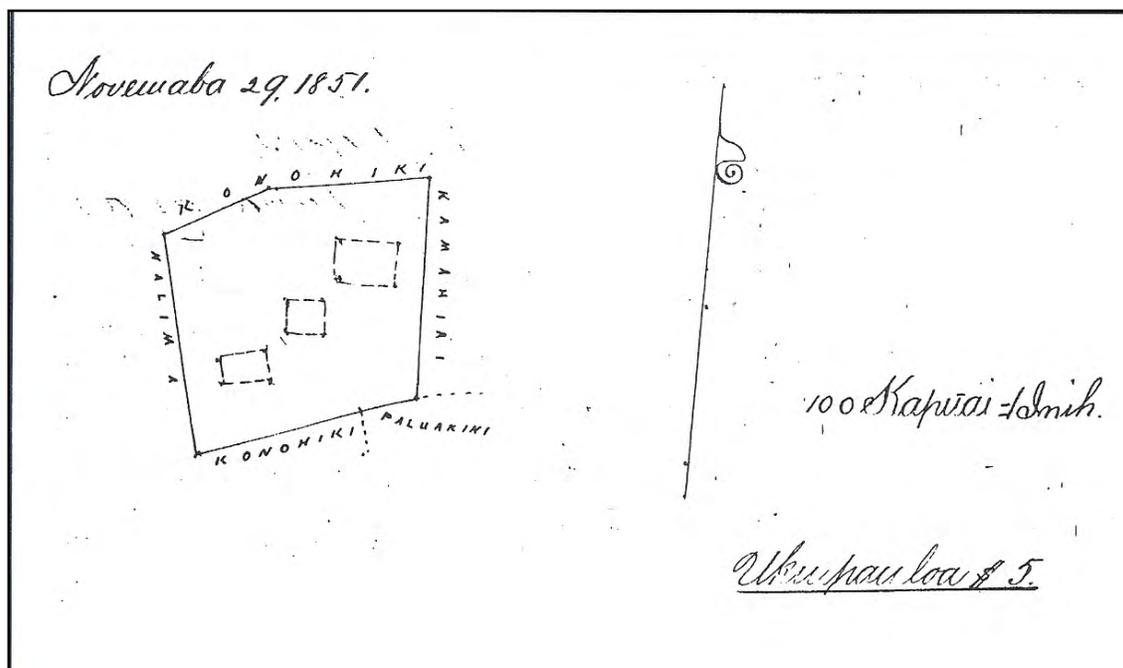


Figure 9. Diagram of LCAw. 3758 to Akahi (*Māhele* Book Vol. 4:627).

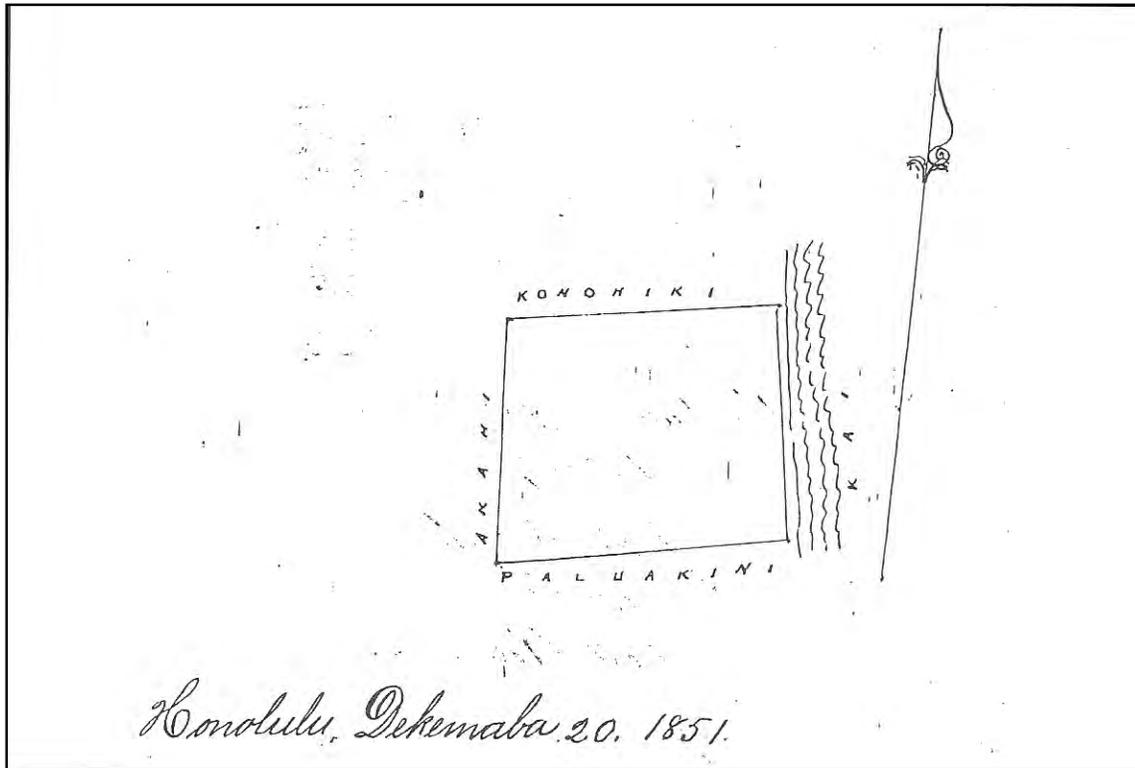


Figure 10. Diagram of LCAw. 4102 to Kamahiai (*Māhele* Book Vol. 4:626).

Although there are some minor discrepancies within the Akahi and Kamahiai testimonies with respect to location, orientation, and ownership of adjoining lands, it is clear that the Akahi *kuleana* was surrounded by a stone wall and that the area to the west of the Akahi award (the current study area) may have been occupied by Nalima. A review of the unawarded *kuleana* for Puakō does not list Nalima as a claimant. Akahi’s presence in the Puakō area seems to be of greater antiquity than that of her fellow awardees; as Kamahiai (who received his land in 1842) relates “Akahi has a very old claim.”

To the east of the current study area, the recipient of LCAw. 3736, Petero Wahakane was the school teacher at Puakō at that time. His lot was located adjacent to (east of) the school lot. The school at Puakō had been established sometime prior to Lorenzo Lyons’ visit to Puakō in 1835 (see above). Wahakane taught subjects such as reading, arithmetic, geography, penmanship, philosophy, science, and religion, but in a January 10, 1848 letter to Keoni Ana, P. Wahakane laments that the Puakō school program was suffering great difficulties, largely due to the lack of funding for facilities and teachers’ salaries (Maly 1999). On December 6, 1851 the school house, which was originally built on vacant land, was formally granted with a piece of land to the Board of Education as Grant No. 13:1 (Figure 11). The boundaries of the lot were described as follows:

School lot at Puako, Waimea, Hawaii. Beginning at a coconut tree on the Northern corner next to the land of Wahakane, proceeding South 24° East 184 feet, then along the land of the *Konohiki*, South 74 1/4° West 228 feet; then along Mokuheia’s land North 5 3/4° West 169 feet; then proceeding near the shore North 78½ East 177 feet to the place of commencement.

Within this is 903 fathoms.

C.I. Lyons.

(Board of Education Grant No. 13:1; in Maly 1999:76)

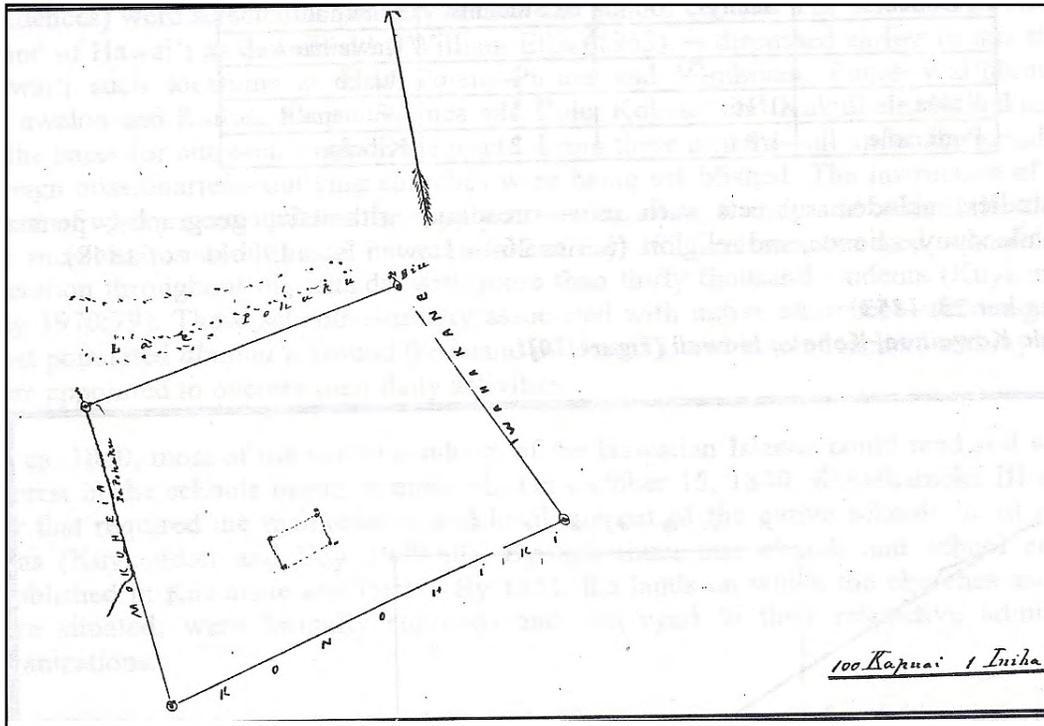


Figure 11. School lot at Puakō (in Maly 1999:76).

By 1855 D. Kilakau was listed as the teacher at Puakō School, which at that time had 18 students (Maly 1999). On July 19, 1865, Chas Gulick, the school inspector, visited the Puakō School, and reported the following findings in his report:

1. Puako: In a S.W. direction from Kawaihae, about 5 miles distance, pleasantly situated amidst cocoanut groves, at the foot of the barren hills, along the shore. It is quite a village, with a painted and well kept meeting house and several newly built dwelling houses. The school house is of stone and mortar, substantially built and was once upon a time whitewashed. But time and neglect has laid their hands heavily upon it as evidenced in the dirty and broken walls, the want of floor and benches and its broken door and mud stained windows. Although the school site belonging to it was about an acre large, the house stood pinched up within a narrow enclosure of stone. I ordered the Agent to repair and whitewash the house, put floor and benches in it, enlarge the enclosure in conformity with the original lot, have it cleaned and planted, and to stir up the parents to assist in the work. This school carries 18 children on the register, but only 10 attended on the day I was there. The proficiency of the scholars was not very satisfactory. I am inclined to believe that "the School master is abroad" too much of his time, he living at Kawaihae too far from the school; but none other was to be had. (in Maly 1999:78)

The next school report in 1873 lists Josepa as the Puakō schoolteacher with 20 students and a daily salary of fifty cents (Maly 1999). By 1911 the old stone and mortar school house had been replaced by a tongue and groove frame building with a shingle roof and an outhouse. The Puakō School remained in operation until the 1920s. James La'au was the last teacher at the school. After the school closed, children from Puakō went to Kawaihae to attend school (Maly 1999).

In 1853 King Kamehameha III gave a piece of his own royal lands in Puakō to Lorenzo Lyons for the use of his ministry (Maly 1999; Puakō Historical Society 2000). This land would eventually become the location of Hōkūloa Church. The lot, located adjacent to Kamahiai's *kuleana* (LCAw. 4102) consisted of land that at the time of the *Māhele* of 1848 was identified by the name Paluakini (see Figures 9 and 10). The boundaries of the church lot were described on September 17, 1853 as follows (Figure 12):

at the northern corner adjoining Kamahiai's lot and proceeding along Kamahiai's lot South $80\ 1/2^\circ$ West 150 feet; then along Kauhini's lot South $69\ 1/2^\circ$ West 24 feet; then along the Konohiki's land South 90° West 150 feet; North $80\ 1/2^\circ$ East 200 feet; and North 19° West 155 feet to the point of commencement. (in Maly 1999:77)

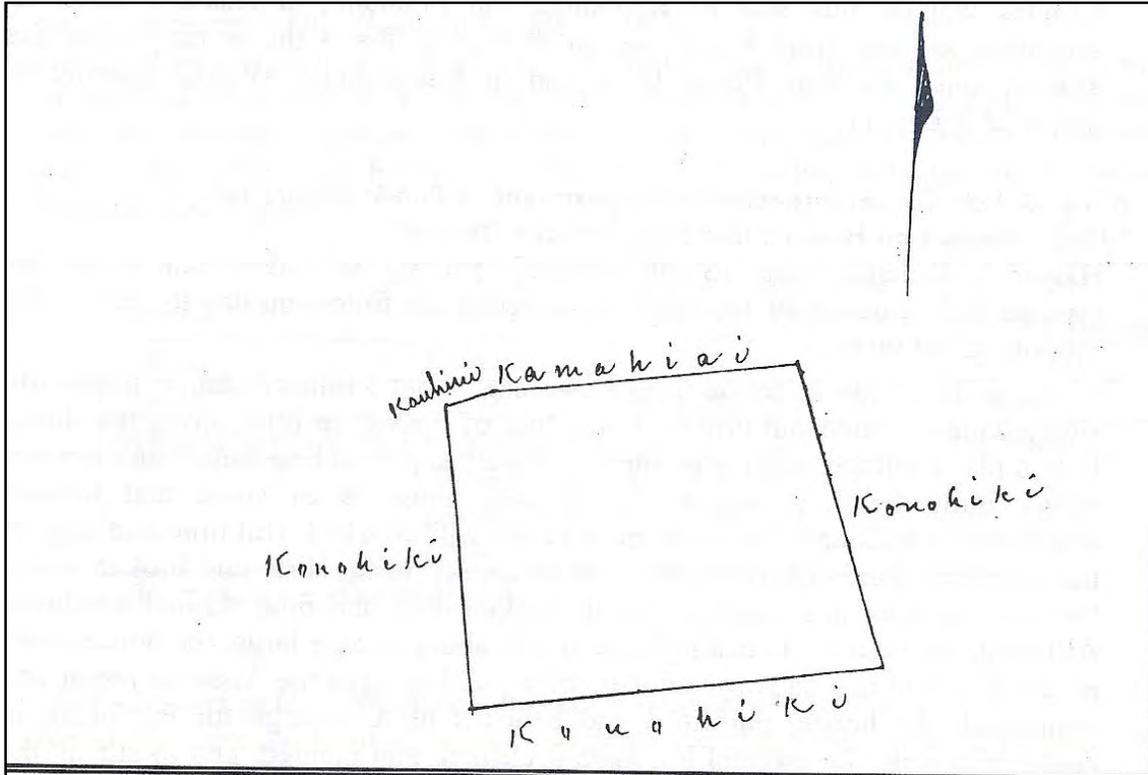


Figure 12. Church lot at Puakō (in Maly 1999:77).

In 1858 work commenced on Hōkūloa Church, which was named after the evening star. The men of the parish volunteered their labor to construct the edifice. A twenty-one by thirty-six foot foundation was laid for the structure. Divers cut and brought up coral blocks from the Puako reef, which were then fired in pits, ground, and mixed with sand and water to make the mortar for the rock walls. Floor planks were cut and hewed from *koa* trees that were hauled down from the high forests (Puakō Historical Society 2000).

In an 1859 report Lorenzo Lyons provides some details of the church building efforts and the general state of affairs in Puakō:

I reported this [church] last year as on the way—the stone walls up-laid in mortar-& windows procured. This is the poorest parish in my field, rendered still poorer of late by the frequent rains that have prevented the people from making salt—one of their chief dependencies—the wind-rough weather, & the heat of the volcanic stream that entered the sea near this place [from the 1859 eruption of Mauna Loa] have killed or frightened away all their fish the 2nd source of wealth. There remain the fruit of a few cocoa nut [sic] trees, & the lauhala from the leaf of which the women busy themselves in making mats. The men can sometimes find a job of work that will bring them in something, i.e. if they can manage to obtain food, all of which comes from a distance. One such job they have found. They have built a stone schoolhouse plastered inside and out & surrounded it with a stone wall, & turned all the avails 120\$ [sic] into their [church]. The avails of the women's mats are disposed of in the same way. With the funds obtained & any others I may be so fortunate as to secure by begging or otherwise, I am authorized by the trustees to purchase materials for the roof - floor &c. We have resolved to have the roof & belfrey & the floor laid by the next communion season—which is the, last week in Aug. (in Puakō Historical Society 2000:49-50)

An 1859 watercolor of Puakō by the Swiss artist Paul Emmert, a resident of Kailua-Kona, depicts the coastal village during the building of Hōkūloa Church. The painting shows three plumes of the Mauna Loa eruption on the horizon, with the half-completed church surrounded by scaffolding (to the right above the traditional sailing canoe), the school building within an enclosed lot (in the center), and some scattered thatched houses and numerous coconuts along the shore (Figure 13). The current project area is located at the far right of the painting (the cluster of three houses may be the location of LCAw. 3758 to Akahi).

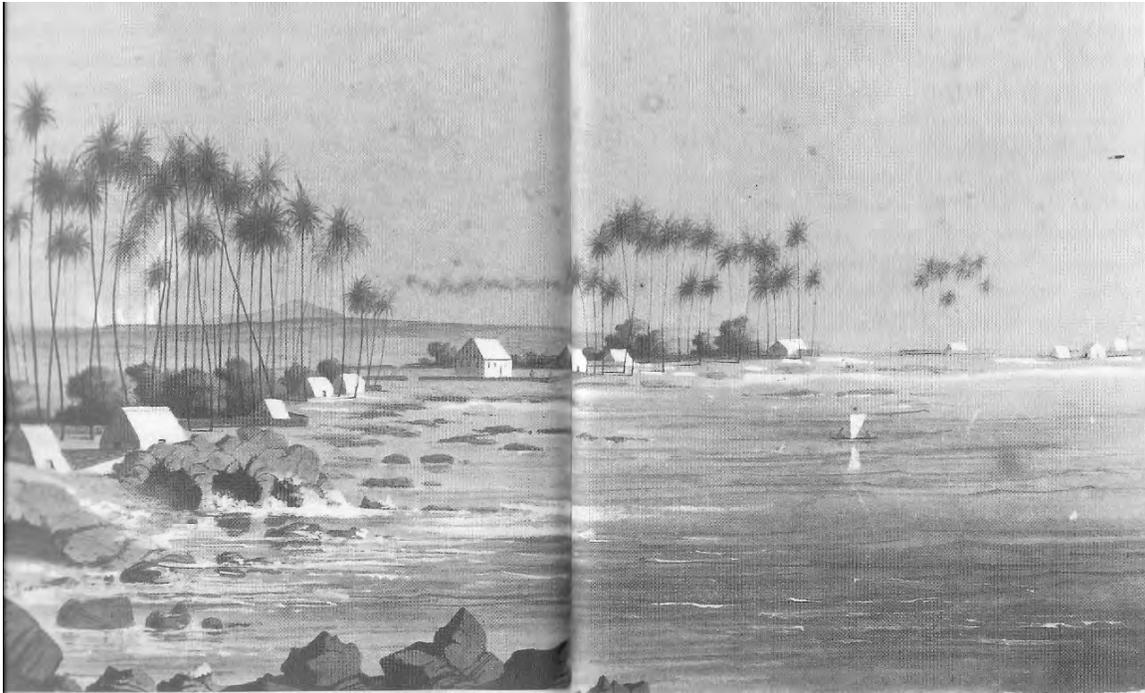


Figure 13. “Puako, Kohala, Hawai‘i”, watercolor by Paul Emmert, 1859 (in Puakō Historical Society 2000:52-53).

Despite the hardships faced by the residents of Puakō, Hōkūloa Church was completed and dedicated on March 21, 1860. A fine new bell placed in a little steeple replaced the conch shell horn that had formerly called the faithful to worship (Puakō Historical Society 2000). In his journal, Lyons described the scene with satisfaction, writing, “The stone chh [sic], with its whitened walls, & reddened roof & humble spire give the place an air of civilization & religiousness, & the school house in close proximity with its similar walls tho’ thatched roof, makes something of a show” (in Puakō Historical Society 2000:51). A review of Lyons’ journal entries and annual reports following the completion of Hōkūloa Church provides some additional information concerning life in Puakō during the 1860s-70s:

The seventy-member parish held a festival to help payoff the remaining \$1,200 debt. For the next years, the annual reports note only passing news of the community as it continued its gradual decline. Barenaba K, the sub pastor, was found to be not highly qualified for the job. The schoolteacher, a “smart young man”, fell and was injured. He was replaced by an older fellow “whom the last examination shows to be incompetent for his position.” A mother and daughter were burned to death in a house fire, and that same year a deacon of the church, a carpenter, died. (Puakō Historical Society 2000:51)

Attendance at the church gradually waned as the population of Puakō declined, and the parish eventually gave up some of its regular services (Puakō Historical Society 2000). Some of the Puakō residents may have moved elsewhere seeking economic gains. In 1880, George Bowser, editor of *The Hawaiian Kingdom Statistical and Commercial Directory and Tourists Guide*, described Puakō as it appeared then:

At Puako there is some grief for the eye, in the shape of a grove of cocoa-palms, which are growing quite close to the water’s edge. These had been planted right amongst the lava, and where they got their sustenance from I could not imagine. They are not of any great height, running from twenty to sixty feet. There are about a dozen native huts in the place. These buildings are from twenty to forty feet long and about fifteen feet high to the ridge of the roof. They only contain a single room each, and are covered with several layers of matting. [Bowser 1880:546]

A map prepared by J. S. Emerson in 1882 (Hawai‘i Reg. Map No. 1278) shows a few scattered houses along the shore in Puakō within a coconut grove near the church and school house along the coastal road (Figure 14). By this time Hōkūloa Church must have fallen on hard times and suffered from lack of repair; it is labeled on the map “puako church ruins”. No houses are shown in the vicinity of the current project area on the 1882 map.

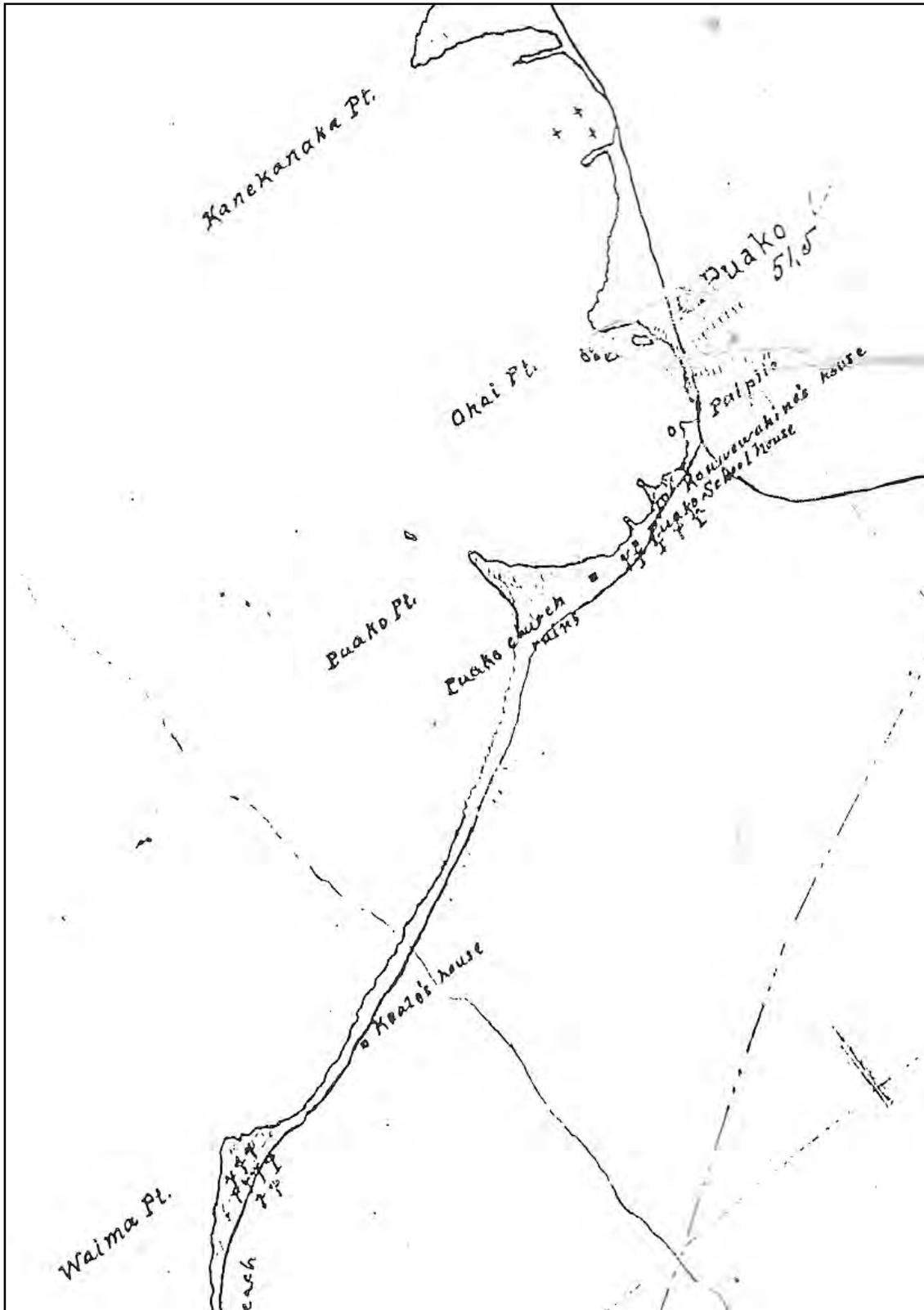


Figure 14. Portion of Reg. Map No. 1278 prepared by J. S. Emerson in 1882, showing coastal Puakō.

In 1884, under the guidance of Reverend Johnathon Stuppelbeen, Hōkūloa Church underwent considerable restoration, and was rededicated on January 1, 1885 (Puakō Historical Society 2000). In 1895 a chance discovery was made that would briefly change the economic fortunes of Puakō. It was in that year that Mr. Wilmot I. Vredenberg, a British national, came across sugarcane growing wild in the Puakō area. Delighted by his discovery, Vredenberg immediately took the sugarcane to Robert Hind and his son John who in ca. 1880 had founded the Hāwī Mill and Plantation Company in North Kohala (Puakō Historical Society 2000). John Hind described this chance encounter, which would soon lead to the establishment of the Puakō Sugar Plantation, in his journals:

Mr. W. I. Vredenberg one Sunday came to Hawi in a state of considerable excitement, with four or five sticks of fine looking cane strapped to his saddle, which, as he put it, he discovered at Puako the day before while on a shooting trip. This cane was grown without irrigation, and he enthusiastically announced there were large areas of as good land as that on which these sticks were grown.... Conditions appeared extremely favorable.... Soil was analyzed... a well was sunk (about ten feet) water analyzed and found to contain no more salt water than other plantations, using well water. An experimental plot was planted, which for growth exceeded anything I had ever seen. (John Hind manuscript in Puakō Historical Society 2000:56)

The Hinds, excited by the prospects of a new plantation, soon entered into negotiations with the Parker Ranch for land at Puakō. Subsequent to the *Māhele* Parker Ranch had acquired some of Lunalilo's royal lands around the bay as a winter range for their cattle, and as a place to occasionally ship cattle from (Puakō Historical Society 2000). The Hinds were able to trade a piece of land in Hilo for a swath of Parker Ranch land in Puakō, and they leased additional acreage from the Territory of Hawai'i (Maly 1999). These lands (between 1,500-1,800 acres) eventually (by ca. 1902) became the Puakō Sugar Plantation.

Norman G. Campion, a marine engineer, was hired to design the Puakō sugar mill and oversee its construction on a four acre property along the shore to the east of the current project area (Grant No. 4856; Figure 15). A wharf was constructed first to facilitate the shipment of materials for mill construction. Then, as John Hind writes, "a fine up to date little mill with all the appurtenances which go with a modern plantation was installed [ca. 1905], on an ideal site, a hundred or so yards from the landing" (Hind ms.:50 in Maly 1999:122). The mill area housed crushing machinery, mixers, vats, and all the other mechanical necessities for the mill, along with dormitories and a camp for over three hundred workers, a company store, two schoolhouses, an office building, various storehouse and warehouse facilities, and a shed for honey processing machinery (Puakō Historical Society 2000). A rail line connected the mill operations with field operations (see Figure 15). Other improvements to the plantation included the construction of an approximately eight-mile long wooden flume that carried water from Waimea Stream to the plantation. Vredenberg, who was nicknamed *Manuwai* (sea bird) because of his dislike of ocean travel, was hired by the Hinds to manage the plantation (Puakō Historical Society 2000).

From the beginning Puakō Sugar Plantation was plagued by periods of heavy rain and floods, followed by prolonged droughts and strong winds that deposited salt in the fields and broke the cane stalks (Puakō Historical Society 2000). Eventually, abnormally dry weather caused Waimea Stream to dry up, which cut off the plantation's water supply, and as a result, the sugar venture in Puakō failed by ca. 1914 (Maly 1999). The mill and machinery were sold and shipped elsewhere, and Puakō soon returned to its roots as a small coastal community. A "Map of Puako" prepared by the surveyor Chas V. E. Dove in 1900 (Hawai'i Registered Map No. 1974; Figure 16) depicts several structures clustered along the shore to the west of the mill property (Grant No. 4856). This map shows details of the current project area, including walls and a pen, with the road further inland than it is today.

When the sugar mill closed only seven families remained at Puakō (Puakō Historical Society 2000). The remaining families were clustered along the bay in the area from the mill property. None of the families had houses within the current project area, but a stone house on the nearby Akahi *kuleana* (LCAw. 3758) was occupied by the Akona family (Puakō Historical Society 2000). The church, which had fallen into disrepair, no longer held services. By the 1920s the school house had also burned. With no money to rebuild it, the remaining children in Puakō went elsewhere to receive an education (Puakō Historical Society 2000).

Despite the failure of the sugar plantation, Robert Hind continued to foster economic development in Puakō area. By 1914 he had leased 1,000 acres of coastal Lālāmilo Ahupua'a (General Lease No. 840) for a period of 15 years. Excluded from the lease were LCAw. 3736, 3758, 4102, and 8550-B Ap. 6; the Puakō House Lots Nos. 2, 3, 4, 5, 6, and 7; Grant Nos. 8821 (to David Kaono) and 4856 (to John Hind); the Puakō Shool Lot and Church lot; and the existing government roads and trails (Figure 17). The main beach road is shown closer to the coast than on the 1900 map (cf. Figure 16). Hind used his lease land for a number of economic endeavors including, "extending his ranching interests (a *kiawe* feed lot and cattle shipping operation), honey making, and making charcoal" (Maly 1999:118).

2. Background

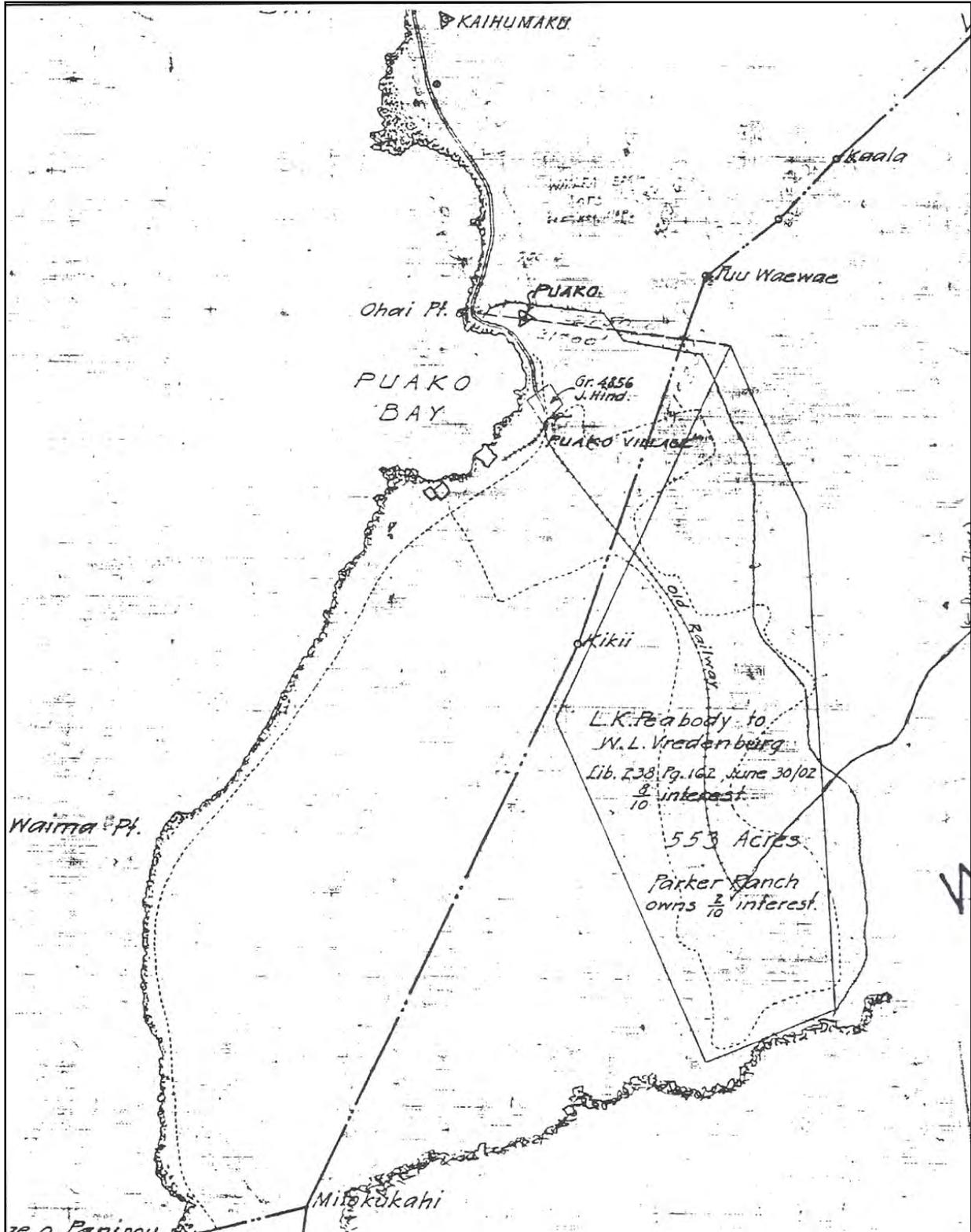


Figure 15. Portion of Reg. Map No. 2786, Puakō Plantation Section, prepared by G.F. Wright in 1917.

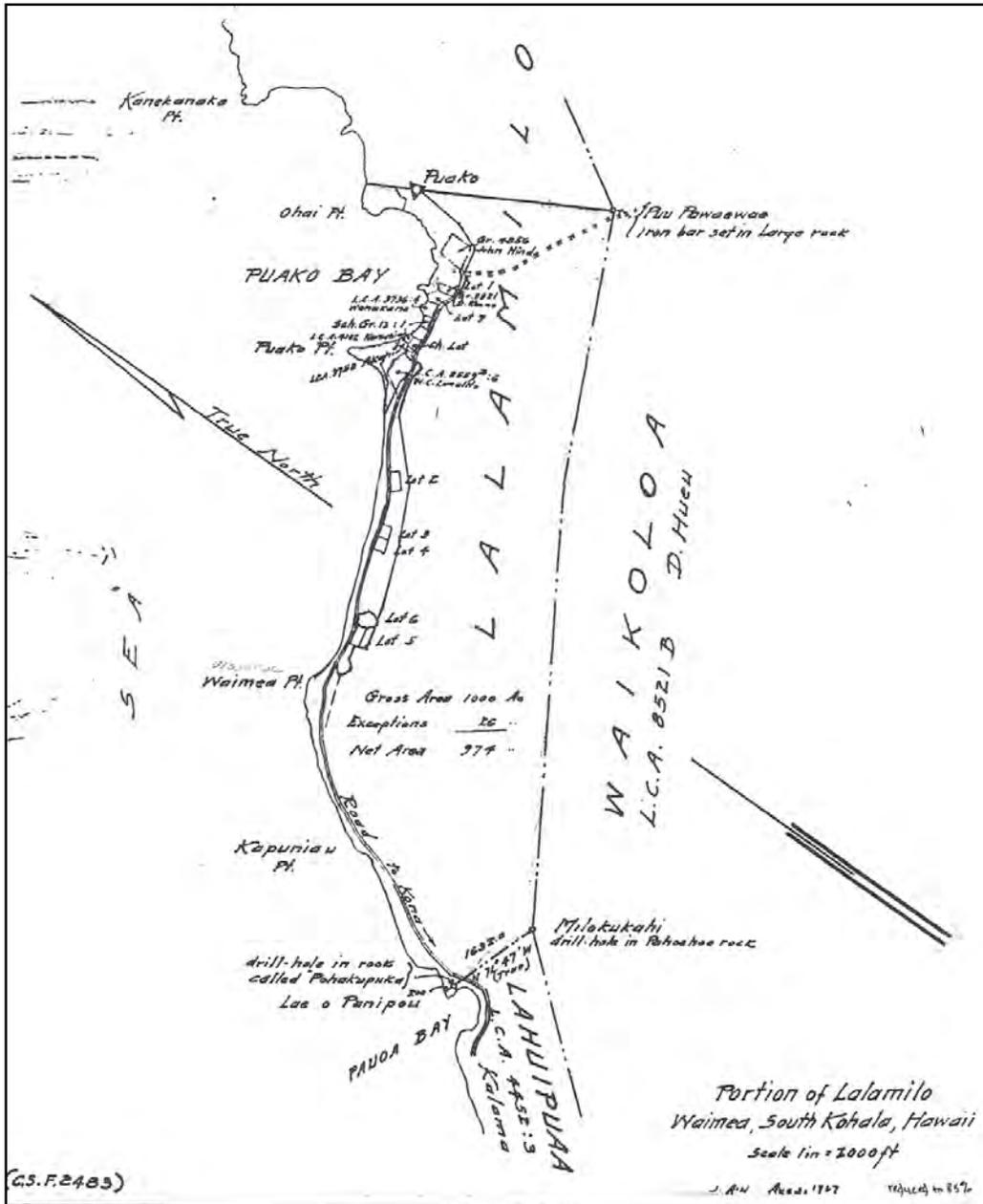


Figure 17. 1927 map of a portion of Lālāmilo showing General Lease No. 840 to Robert Hind and the exclusion areas (from Maly 1999:121).

During World War II the United States Military used the coastal area around Hapuna Beach and the upland areas of Lālāmilo and Waikōloa for training exercises. Use of the area included the construction of “many small defensive outposts along ridges and elsewhere” (Jensen 1994:14). Roads were bulldozed by the military during the early 1940s along the coast of South Kohala, including Puakō (Maly 1999). After the war, interest in the Puakō Beach Lots increased and pressure was brought on the Territory to create a subdivision. In 1950 a survey was conducted laying out the Puakō Beach Road and dividing the coastal lands of Lālāmilo into 163 lots (Puakō Historical Society 2000). The 1950 map prepared by C. L. Murray (Hawai‘i Registered Map No. 4027) shows the realigned road at its current location and the old (shaded) alignment through the current study area (Figure 18). In 1960 a *tsunami* generated by an earthquake in Chile struck Puakō. Many of the older structures along the shore were damaged including six dwellings near the boat harbor that were completely destroyed (Puakō Historical Society 2000). Modern use of the Puakō area has been primarily for residential and resort development, with a few integrated commercial ventures.

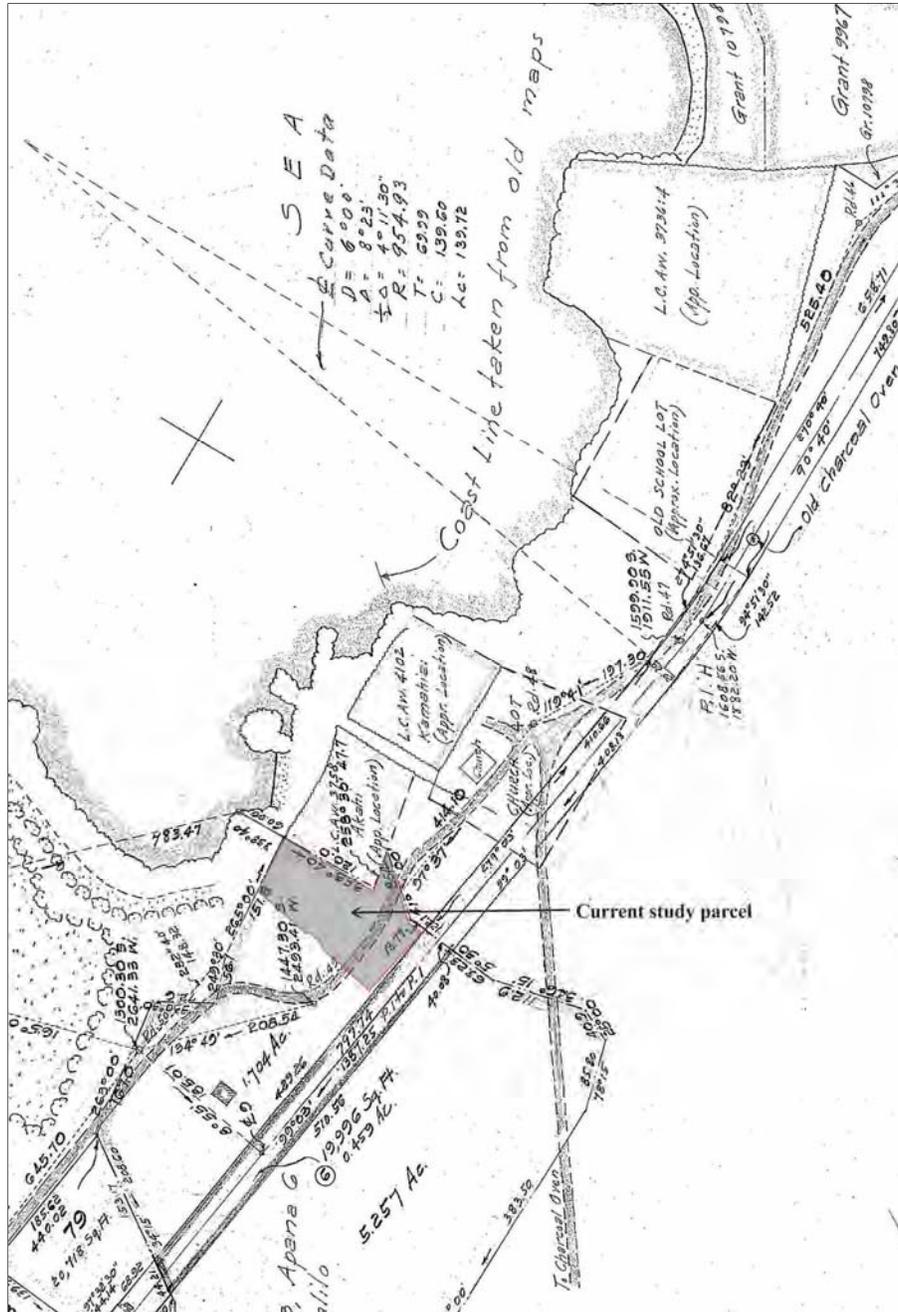


Figure 18. Portion of a map of the Puakō Beach Lots (Reg. Map No. 4027) prepared by C. L. Murray in 1950.

3. PROJECT AREA EXPECTATIONS

Given the results of previous archaeological work conducted in the Puakō area coupled with the specific information about nineteenth and twentieth century land use in and around the current study area, expectations for the presence of Precontact features are limited. The sandy area toward the *makai* side of the parcel may contain buried cultural deposits and burial; however much of this area is within the 40 foot building setback so it will remain undisturbed. It is possible that debris from a former animal pen shown on Figure 16 may be present as well as residential refuse (food debris, ceramics, glass, etc.) from the adjoining Akahi *kuleana*. Given that a former alignment of the Beach Road once bisected the parcel, the presence of a nineteenth century residential sites is unlikely, although evidence of earlier habitation may be present.

4. FIELDWORK

Fieldwork for the current study was conducted on April 15, 2014 by Robert B. Rechtman, Ph.D., and Matthew R. Clark, B.A.

METHODS

The project area was thoroughly inspected by fieldworkers walking meandering transects across the property. As the property was quite small, ground visibility excellent, and no surface archaeological features present; areas were identified for subsurface testing with a small excavator. The testing areas were all within the building envelope of the parcel; no subsurface testing was done within the 40 foot coastal building setback. Measured from property pins set by a surveyor, a map (Figure 19) of the study area was prepared using tape and compass. This map identifies the parcel boundary and shows the locations of the subsurface test excavations.

Three Test Trenches (TT-1, TT-2, and TT-3) were excavated, each 5 meters long by 75 centimeters (one bucket width) wide. The Test Trenches were dug until bedrock was encountered. Upon completion of the Test Trenches photographs were taken and stratigraphic profiles prepared (Figures 20, 21, and 22). The observed layers were described and Munsell color notations were made. Additionally, two Exploratory Pits (EP-1 and EP-2), each 1.5 meters long by 75 centimeters (one bucket width) wide (Figure 23 and 24), were excavated to assist in determining the horizontal limits of a potential cultural layer identified in TT-2. These latter excavations were photographed but profile drawings were not prepared. All excavations were backfilled.

FINDINGS

As stated, there were no archaeological features observed on the surface of the parcel. However, as a result of the subsurface testing a potential cultural deposit was observed (Layer III) within TT-2; this layer was not present in the other two test trenches or within either of the two exploratory pits. Layer III within TT-2 was roughly 25 centimeters below the existing ground surface and between 15 and 30 centimeters thick. It consisted of mottled clay loam containing a sparse collection of water-worn pebbles, marine shell, ceramic fragments, bottle glass fragments, and a piece of lead strapping. One of the ceramic pieces, a hand-painted red and green floral patterned whiteware bowl/cup rim fragment (Figure 25), is temporally diagnostic, dating to between 1860 and 1920. The lead strapping (see Figure 25) may have been a source for fashioning fishing line sinkers.

A concentration of pig and cow bones was also observed within Layer V at a depth of roughly 65 centimeters (just above bedrock) in the western end of TT-2. This material appears to have been naturally deposited/accumulated as there was no other associated cultural material within this layer. Perhaps this material washed to this location from the former pen that was located on the *mauka* part of the property.

The deposit represented by Layer III is a very spatially restricted accumulation of material that may not represent an intact cultural deposit but rather may be the result of filling a low spot on the property by mechanical scraping of material from the *mauka* part of the property. Bedrock within TT-3, which is located 12 meters *mauka* of TT-2, was encountered at depths ranging from 10 to 25 centimeters, which indicates that this area of the parcel has been stripped of soil. It is possible that activities associated with the creation of the older Beach Road and/or the removal of the older Beach Road led to the accumulated cultural material identified as Layer III in TT-2.

As support for the notion that the current study parcel has undergone substantial modern alteration, within EP-1 at a depth of 70 centimeters (10 centimeters above the water table and 50 centimeters above bedrock) a circular, clear glass bottle base was found. The base measures 5.5 centimeters in diameter, and has embossed characters and a textured (stippling) ring around its perimeter on its resting surface (Figure 26). There are four sets of embossed characters just inside the textured ring consisting of “23” “L-805” “78” and “Ⓛ” (maker’s mark) with three dots to the right of the circle. David Whitten (<http://www.glassbottlemarks.com/bottlemarks>) identifies that the “L in a circle” maker’s mark was used by the W. J. Latchford Glass Co. of Los Angeles from 1925 to 1938, and again from 1957 to 1989 when it became Latchford Glass Co. According to the Society for Historical Archaeology bottle website (<http://www.sha.org/bottle/>), the textured ring around the perimeter of the base was an adaptation first used in 1940 to reduce drag on conveyor belts in bottling factories. The texturing on this bottle eliminates the possibility of it being manufactured by the W. J. Latchford Glass Co., as it discontinued the use of the “Ⓛ” maker’s mark in 1938, two years before the textured bases started appearing. Thus, the bottle from which this base fragment derived was likely produced by the Latchford Glass Co., and the “78” code on the base seems to indicate that the bottle was manufactured in 1978.

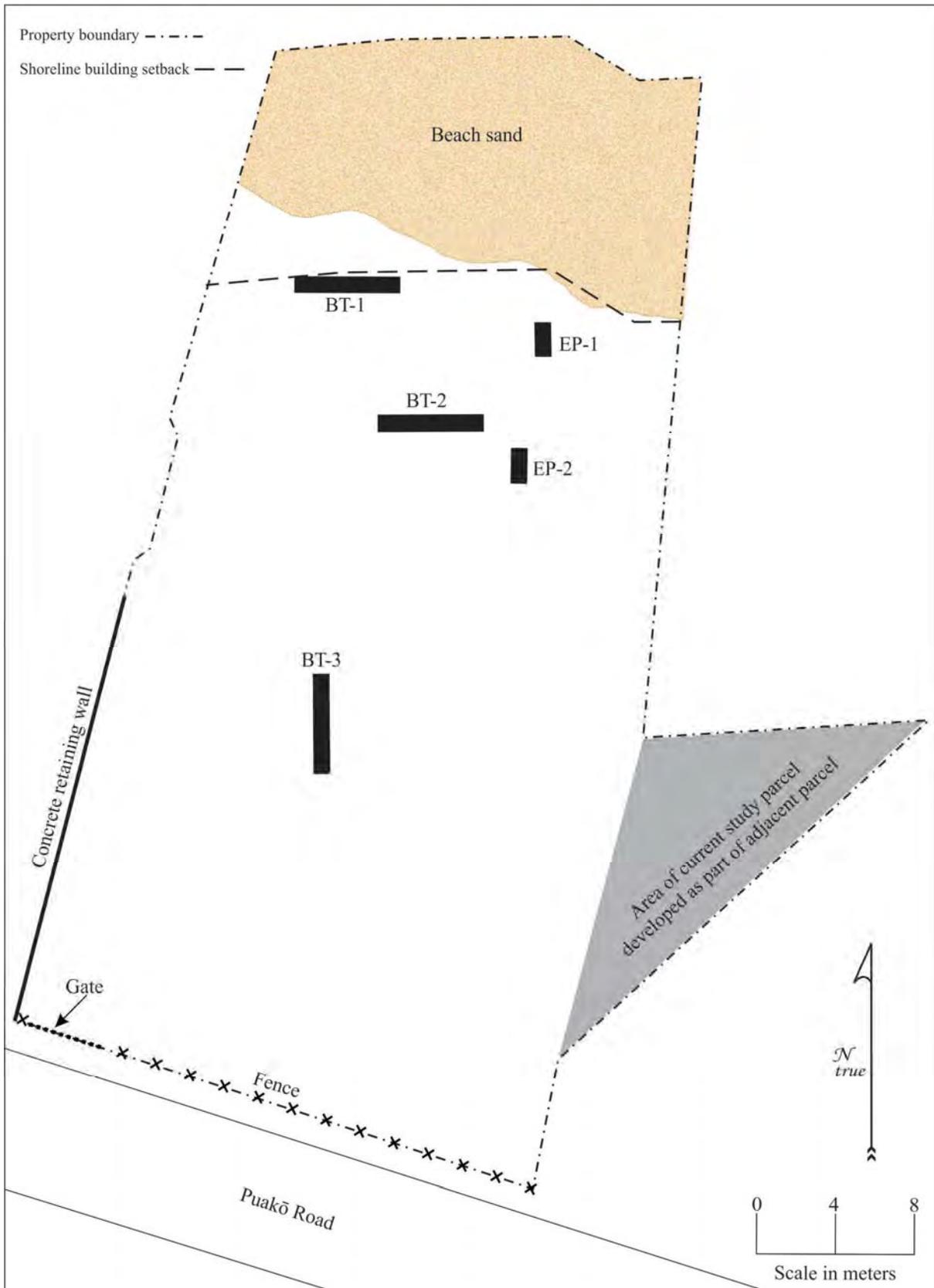


Figure 19. Project area plan view.

4. Fieldwork

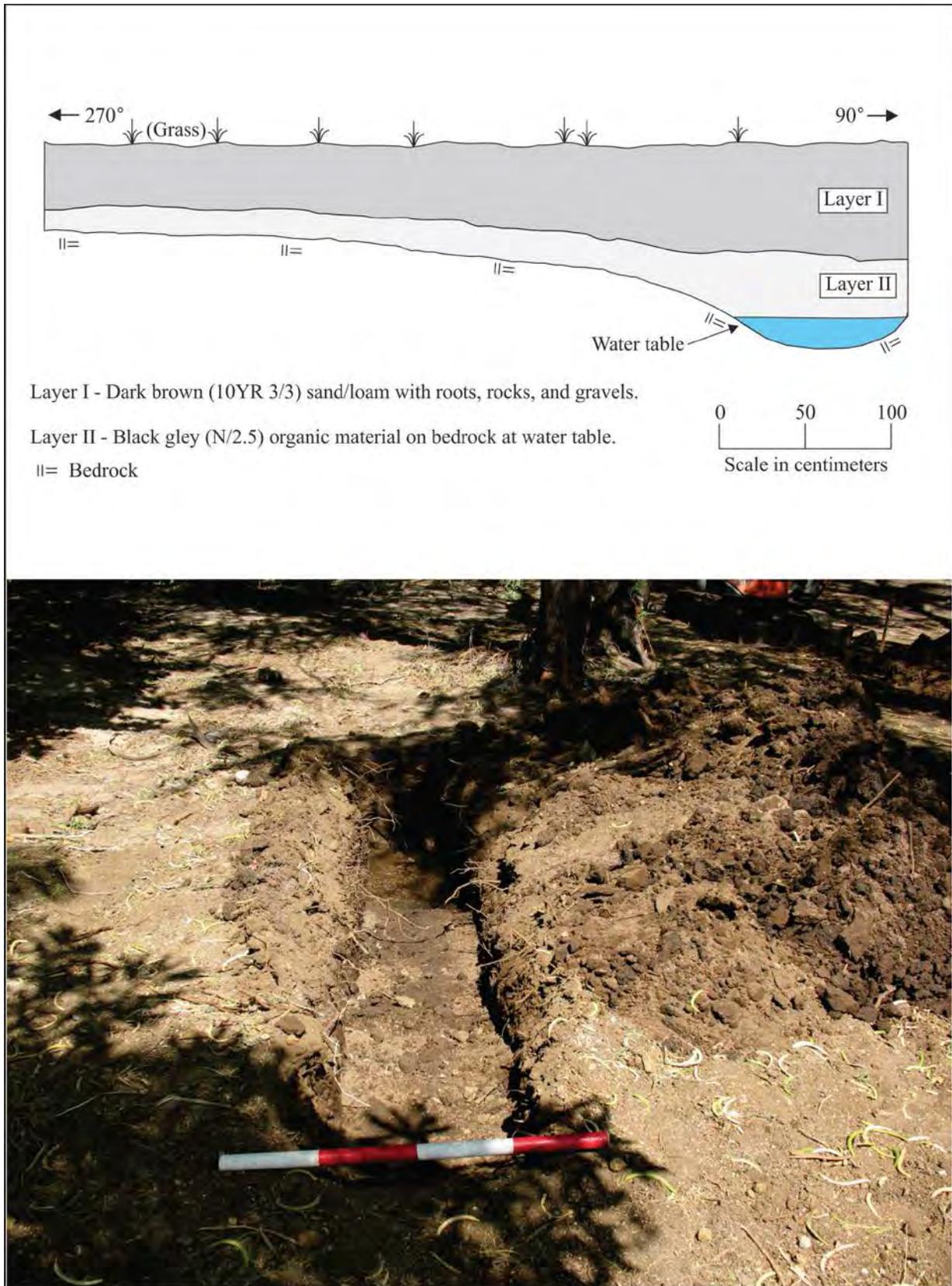


Figure 20. TT-1 north wall profile and photograph of the completed excavation, view to the east.

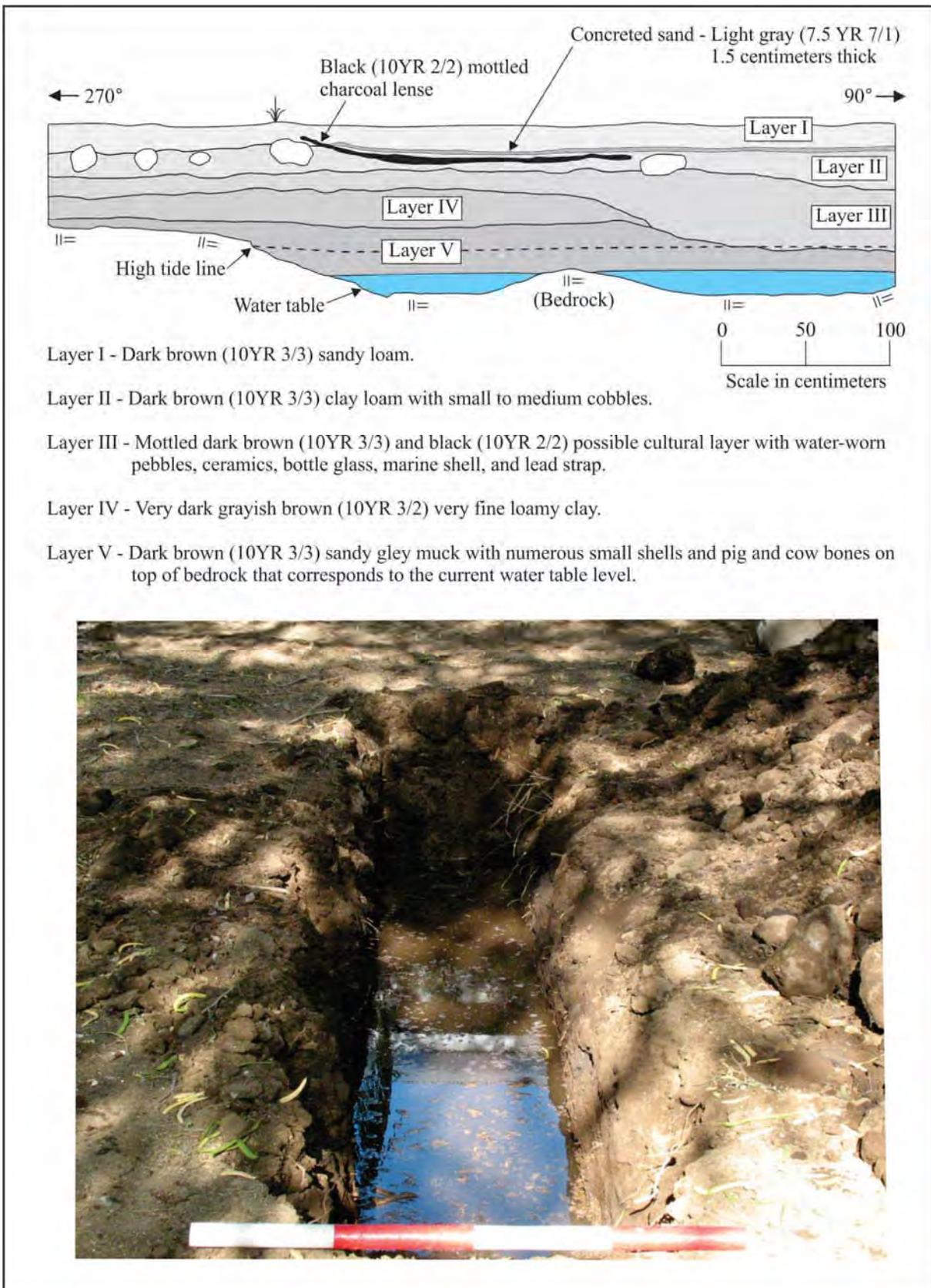


Figure 21. TT-2 north wall profile and photograph of the completed excavation, view to the northeast.

4. Fieldwork

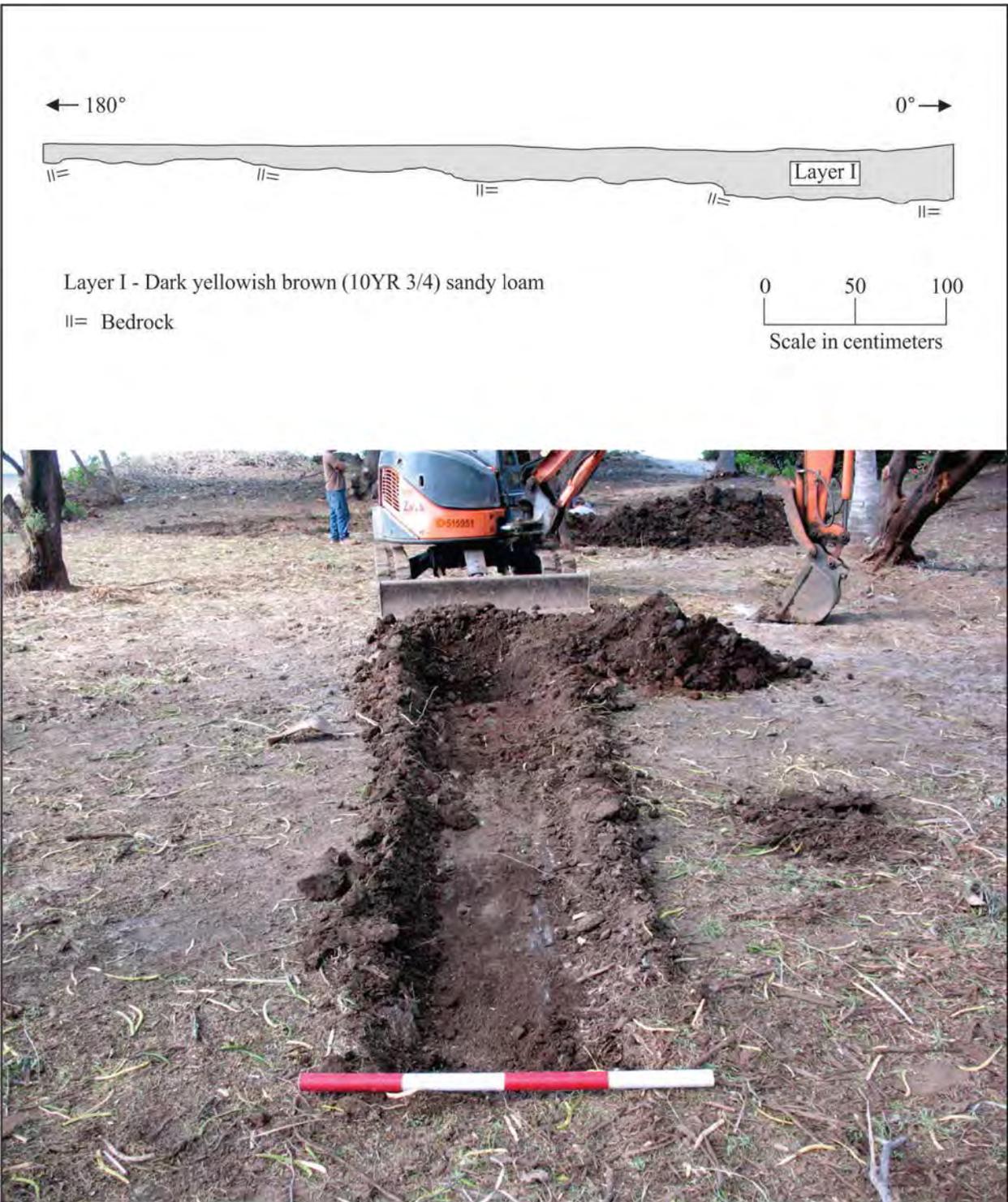


Figure 22. TT-3 west wall profile and photograph of the completed excavation, view to the north.



Figure 23. EP-1, view to the north.



Figure 24. EP-2, view to the north.



Figure 25. Ceramic bowl/cup rim fragment and lead strapping found in Layer II of TT-2.

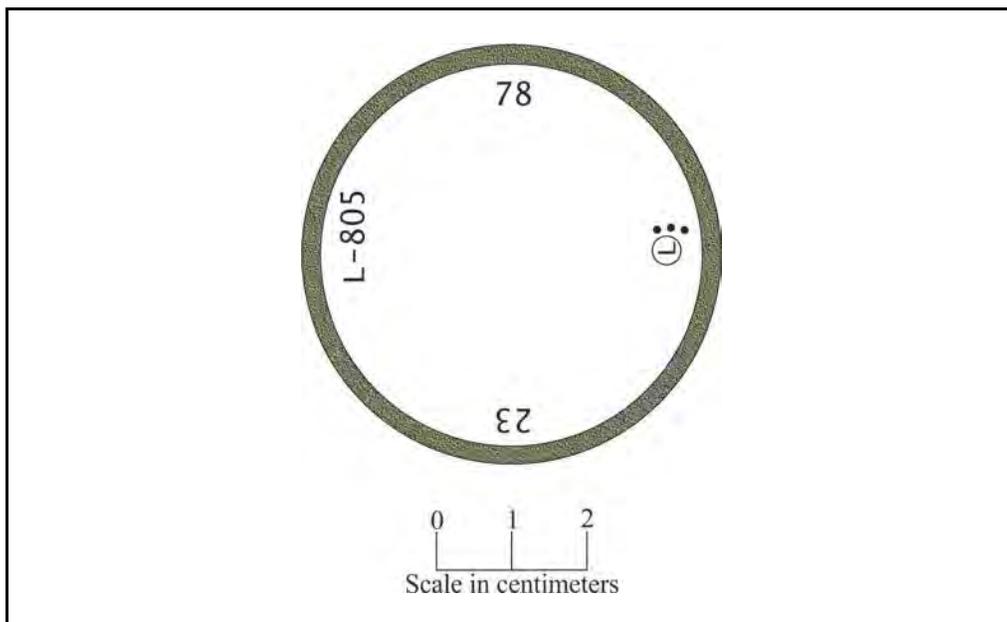


Figure 26. Modern glass bottle base from 70 centimeters depth in EP-1.

5. RECOMMENDATIONS

As there were no surface or subsurface archaeological features identified during the current study, and as the very spatially restricted subsurface deposit of late nineteenth to early twentieth century material seems to be a secondary deposit, no archaeological sites were identified and recorded. Further, the construction contractor explained that only the *mauka* portions of the parcel that will be subject to subsurface disturbance as the house post footing will be placed one foot deep into two feet of imported and engineered fill. Given the archaeological findings of the current study coupled with the limited subsurface development strategy, it is concluded that the development of a single-family residence on this parcel will likely have no effect of historic properties. However, as a precautionary measure it is the recommendation of the current study that an archaeological monitor be present if unforeseen subsurface disturbance becomes necessary in the *makai* portion of the parcel, particularly in the area where TT-2 was excavated. In accordance with HAR 13§13-279, an archaeological monitoring plan can be prepared in advance of the development that specifies on-call monitoring with the potential for on-site monitoring if excavation in the *makai* portion of the parcel becomes necessary.

REFERENCES CITED

- Barrera, W.
1973 Archaeological and Historical Surveys of the Waimea to Kawaihae Road Corridor, Island of Hawaii. *Departmental Report Series 74(1)*. Department of Anthropology, B.P. Bishop Museum.
- Boudreau, M. and D. Graves
1993 Archaeological Mitigation Program, Puako Road Extension Corridor, Phase II - Data Recovery and Interim Site Preservation, Land of Lalamilo, South Kohala District, Island of Hawaii (3-6-9-01:12,17). PHRI Interim Report 1187-100192. Prepared for Paniau Partners.
- Bowser, G. (compiler)
1880 The Hawaiian Kingdom Statistical and Commercial Directory and Tourists Guide. Honolulu and San Francisco: George Bowser and Co.
- Burgett, B. and P. Rosendahl
1990 Phase I—Site Identification Phased Archaeological Inventory Survey, Puako Beach Road Extension Corridor, Land of Lalamilo, South Kohala District, Island of Hawaii (TMK:3-6-9-01:Por.12). PHRI Report 715-101890. Prepared for The Keith Companies, Hawaii.
- Burgett, B., P. Rosendahl, and S. Goodfellow
1992 Preliminary Report: Background, Summary of Findings, and General Significance Assessments and Recommended General Treatments, Phase I - Site Identification, Phased Archaeological Inventory Survey, Hapuna State Park Expansion Area. Land of Lalamilo, South Kohala District, Island of Hawaii. PHRI Report 855-092790. Prepared for Mr. Warren M. Harrison.
- Carlson, A. and P. Rosendahl
1990 Summary of Findings, and General Significance Assessments and Recommended General Treatments, Phase II - Data Collection, Phased Archaeological Inventory Survey, Queen's Lands at Mauna Kea, Land of Kawaihae 2nd, South Kohala District, Island of Hawaii. PHRI Interim Report 591-030990. Prepared for Mauna Kea Properties, Inc.
- Chinen, J.
1958 The Great Mahele: Hawaii's Land Division of 1848. Honolulu: University of Hawaii Press.
1961 *Original Land Titles in Hawaii*. Honolulu: privately published.
- Ching, F. Jr.
1971 The Archaeology of South Kohala and North Kona: From the Ahupua'a of Lalamilo to the Ahupua'a of Hamanamana. Surface Survey Kailua-Kawaihae Road Corridor (Section III). Hawaii State Archaeological Journal 71-1. Department of Land and Natural Resources.
- Clark, J., and P. Kirch, (Eds.)
1983 Archaeological Investigations of the Mudlane-Waimea-Kawaihae Road Corridor, Island of Hawai'i. An Interdisciplinary Study of an Environmental Transect. *Departmental Report Series 83-1*. Department of Anthropology, B.P. Bishop Museum, Honolulu. Prepared for Department of Transportation, State of Hawaii.
- Clark, M., and R. Rechtman
2007 An Archaeological Inventory Survey for the Proposed Puakō Community Emergency Access Road (TMKs: 3-6-9-01:17 por. and 3-6-9-06:51 por.), Lālāmilo Ahupua'a, South Kohala District, Island of Hawai'i. Rechtman Consulting Report RC-0518. Prepared for Puakō Community Association, Puakō, HI.
2008 An Archaeological Assessment Survey of the Proposed UHH Puakō Marine Educational Center Development Area (TMK: 3-6-9-01:001 por.), Lālāmilo Ahupua'a, South Kohala District, Island of Hawai'i. Rechtman Consulting Report RC-0533. Prepared for Helber Hastert & Fee, Honolulu, HI.

- Corbin, A.
2007 Archaeological Assessment Survey for SHPD Determination of “No Historic Properties Affected” Jupiter Research Foundation Proposed Antenna Site, Land of Lalamilo, South Kohala District, Island of Hawaii. PHRI Report 2700-072707. Prepared for Jupiter Research Foundation, Kamuela, HI.
- Dougherty, D., and R. Rechtman
2002 Archaeological and Limited Cultural Assessment for Two Parcels in the Puakō Area, Lālāmilo Ahupua‘a, South Kohala District, Island of Hawai‘i. Rechtman Consulting Report RC-0101. Prepared for Fabyonic Properties, L.L.C., Kamuela, Hawai‘i.
- Doyle, E.
1945 *Makua Laiana: The Story of Lorenzo Lyons*. Compiled from the manuscript journals, 1832-1886. Honolulu, Honolulu Star Bulletin.
- Dunn, A. and P. Rosendahl.
1992 Phased Archaeological Inventory Survey, Puako Beach Road Extension Corridor, Land of Lalamilo, South Kohala District, Island of Hawaii (TMK:3-6-9-01:Por.12, Por.17). PHRI Report 975-050592. Prepared for Paniau Partners.
- Emory, K.
n.d. Field Notes on the Excavation of Sites H100 and H101 (1955). Manuscript. Department of Anthropology, B.P. Bishop Museum, Honolulu.
- Fornander, A.
1917 *Fornander Collection of Hawaiian Antiquities and Folklore*. (Vol. 3) Honolulu: Bishop Museum Press.
- Graves, D.
1993 Archaeological Mitigation Program, Phase II - Archaeological Data Recovery, The Bluffs at Mauna Kea, Land of Ouli, South Kohala District, Island of Hawaii, PHRI Interim Report 1042-013192. Prepared for Mauna Kea Properties, Inc. c/o Belt, Collins & Associates.
- Greene, L.
1993 A Cultural History of Three Traditional Hawaiian Sites on the West Coast of Hawai‘i Island. United States Department of the Interior, National Park Service, Denver Service Center.
- Handy, E.S.C., and E.G. Handy
1972 Native Planters in Old Hawai‘i: Their Life, Lore, and Environment. *B.P. Bishop Museum Bulletin* 233. Bishop Museum Press, Honolulu. (With M. Pukui)
- Jensen, P.
1989a Archaeological Data Recovery and Site Perimeter Flagging at the Mauna Lani Resort New Golf Course, Land of Waikoloa, South Kohala District, Island of Hawaii. PHRI Report 546-032289. Prepared for Mauna Lani Resort, Inc.
1989b Archaeological Data Recovery Program, Lots 1,2,6,7,17,24, Waikoloa Beach Resort, Land of Anaehoomalu, South Kohala District, Island of Hawaii. PHRI Report 468-061489. Prepared for Transcontinental Development Co.
1991 Archaeological Data Recovery Plan, Mauna Lani Cove and Adjacent Golf Course Relocation Project Area, Lands of Kalahuipuaa and Waikoloa, South Kohala District, Island of Hawaii. PHRI Report 1026-020191. Prepared for Mauna Lani Resort, Inc.
1992 Archaeological Mitigation Program Paniau Development Parcel Project Area, Phase I-Mitigation Plan for Data Recovery and Interim Site Preservation, Land of Lalamilo, South Kohala District, Island of Hawaii (TMK:3-6-9-01:7). PHRI Report 1171-072892. Prepared for Paniau Partners, Kamuela, Hawaii.
1994 Phased Archaeological Inventory Survey, Hapuna Beach State Recreation Area Expansion Project: Phase III–Data Analyses and Final Report. Prepared for Harrison Associates. Honolulu

References Cited

- Kamakau, S.
1992 *Ruling Chiefs of Hawaii*. The Kamehameha Schools Press, Honolulu (Revised Edition).
- Kaschko, M., and P. Rosendahl
1982 Identification of Historic and Prehistoric Trails Located Within Mauna Kea Properties, Inc., Development Properties at Kawaihae 2nd and Ouli, South Kohala District, Island of Hawaii. Manuscript. PHRI Report 55-060782. Prepared for Mauna Kea Properties, Inc.
- Kennedy, J.
1980 The Archaeology of Paniau. Archaeological Consultants of Hawaii. Report prepared for Kep, Alui, Inc.
- Kirch, P.
1975 Preliminary Report on Phase II Archaeological Investigations at Kalahuipua‘a, South Kohala, Hawaii Island. Manuscript. Department of Anthropology, B.P. Bishop Museum, Honolulu.
1979 Marine Exploitation in Prehistoric Hawaii: Archaeological Investigations at Kalahuipua‘a, Hawai‘i Island. *Pacific Anthropological Records* No. 29. Department of Anthropology, B.P. Bishop Museum, Honolulu.
- Landrum, J., and S. Williams
1994 Archaeological Inventory Survey of Hotel Site 3, Mauna Lani Resort Complex, ‘Anaeho‘omalua‘ili Waimea Ahupua‘a, South Kohala District, Hawaii Island (TMK 6-8-22:32). Prepared for Mauna Lani Resort by Ogden Environmental and Energy Services Co., Inc.
- Maly, K.
1999 *Nā Ala Hele Ma Kai O Kohala Hema*. Kumu Pono Associates Report HiAla-17K (043099). Prepared for *Nā Ala Hele* Program State Division of Forestry and Wildlife, Hilo.
- Maly, K., and P. Rosendahl
1993 Archaeological Site Preservation Plan, Phase III, the Bluffs at Mauna Kea, Land of ‘Ouli, South Kohala District, Island of Hawai‘i (TMK:3-6-02:Por. 12; 3-6-6-01:38). PHRI Report 1405-121393. Prepared from Mauna Kea Properties, Inc. c/o Belt Collins Hawaii.
- Menzies, A.
1920 *Hawaii Nei, 128 Years Ago*. Edited by William F. Wilson. Honolulu: The New Freedom Press.
- Nees, R., and S. Williams
1995 Archaeological Inventory Survey of Parcel G, Mauna Lani Resort Complex, ‘Anaeho‘omalua‘ili Waimea Ahupua‘a, South Kohala District, Hawaii Island (TMK 6-8-22:27). Prepared for Mauna Lani Resort by Ogden Environmental and Energy Services Co., Inc.
- Ogden
1996 Burial Treatment Plan for Hotel site 3 Mauna Lani Resort, South Kohala District, Hawaii Island. Prepared for Mauna Lani Resort by Ogden Environmental and Energy Services Co., Inc.
- Olson, L.
1983 Hawaiian Volcanic Glass Applied “Dating” and “Sourcing”: Archaeological Context. IN Clark, J.T., and P.V. Kirch, editors, Archaeological Investigations of the Mudlane-Waimea-Kawaihae Road Corridor, Island of Hawai‘i: An Interdisciplinary Study of an Environmental Transect. Departmental Report Series 83-1:325-340. Department of Anthropology, B.P. Bishop Museum, Honolulu.
- Puakō Historical Society
2000 *Puakō An Affectionate History*. Creative Connections Publishing. Vancouver, B.C.
- Pukui, M., S. Elbert, and E. Mo‘okini
1974 *Place Names of Hawaii. Revised and Expanded Edition*. Honolulu: University of Hawaii Press, Honolulu.
- Reinecke, J.
1930 Survey of West Hawaiian Sites: From Kailua, Kona, to Kalahuipuaa, Kohala. Manuscript. Department of Anthropology, B.P. Bishop Museum, Honolulu.

-
- Rosendahl, P.
1972 Archaeological Salvage of the Hapuna-Anaehoomalu Section of the Kailua-Kawaihae Road (Queen Kahumanu Highway), Island of Hawaii, Department Report Series 72-5. Department of Anthropology, B.P. Bishop Museum, Honolulu.
- 1983 Archaeological Investigation of Ouli Coastal Lands, Land of Ouli, South Kohala District, Island of Hawaii: Intensive Survey and Test Excavations on Mauna Kea Beach Resort Lands Between Hapuna Bay and Kaunaoa Bay. PHRI Report 38-030182. Prepared for Mauna Kea Properties, Inc.
- Smart, C.
1964 A Report of Excavations on Site H22, Puako, Hawaii Island. B.P. Bishop Museum, Honolulu.
- Soehren, L.
1981 A Letter Report Concerning the Reconnaissance of TMKs:3-6-9-02:13, 23, Puako, Hawaii Island. Kilo 'Aina. Prepared for Mr. Stephen Bess, Kailua-Kona.
- Tomonari-Tuggle, M.
1982 An Archaeological Reconnaissance Survey of a Parcel Adjoining the Puako Petroglyph Fields, Puako, Hawai'i. Prepared for Waimea Hawaiian Civic Club and Mauna Lani Resort.
- Welch, D.
1984 Archaeological Reconnaissance of the Area South of the Puako Petroglyph Archaeological District, South Kohala, Hawaii Island. Department of Anthropology, B.P. Bishop Museum, Honolulu. Prepared for Mauna Lani Resort, Inc.
- 1988 Field Summary Report. Archaeological Investigations at the Site of the Ritz-Carlton Hotel, Mauna Lani Resort. International Archaeological Research Institute, Inc. Prepared for Belt, Collins & Associates and Mauna Lani Resort, Inc.
- 1989 Archaeological Investigations at Pauoa Bay, Ritz Carlton Mauna Lani Resort, South Kohala, Hawaii. Final Report. International Archaeological Research Institute, Inc. Prepared for Belt, Collins and Associates.