
Section 8 Kālepa, Hanamā'ulu and Wailua Ahupua'a

8.1 Environmental Setting

8.1.1 Natural Environment

The Kālepa project area is located about 1.5 miles west of the eastern coast of Kaua'i, and spans the boundary of Hanamā'ulu and Wailua Ahupua'a in the Līhu'e District (Figure 48 and Figure 49). The project area receives approximately 50 inches of annual rainfall. The parcel is topographically fairly flat, but its eastern (*makai*) side abuts the north/south trending Kālepa Ridge that lies between the project area and the coast.

The soils in the project area are primarily Līhu'e silty clay (LhB, LhC and LhD) and Līhu'e gravelly silty clay (LIB and LIC) with some Hanalei silty clay (HnA) and Kalapa silty clay (KdF) (Foote et al. 1972:Sheets 30 & 31) (Figure 50). Līhu'e soils have a surface layer of dusky-red to dark reddish-brown, firm to friable silty clay. The subsoil is dark-red to dark reddish-brown, firm silty clay. The substratum is soft, weathered basic igneous rock. Sugarcane is the main crop (Foote et al. 1972:12).

8.1.2 Built Environment

The project area is in a fairly rural area, and the lands in and surrounding the parcel consist primarily of agricultural fields (Figure 51). Several old cane haul roads and one private road extend through the project area. Kūhiō Highway and Hanamā'ulu town are within one mile of the project area to the east and south. On the parcel's west and north side the landscape is almost entirely agricultural lands, and the south fork of the Wailua River is approximately 1.5 miles northwest.

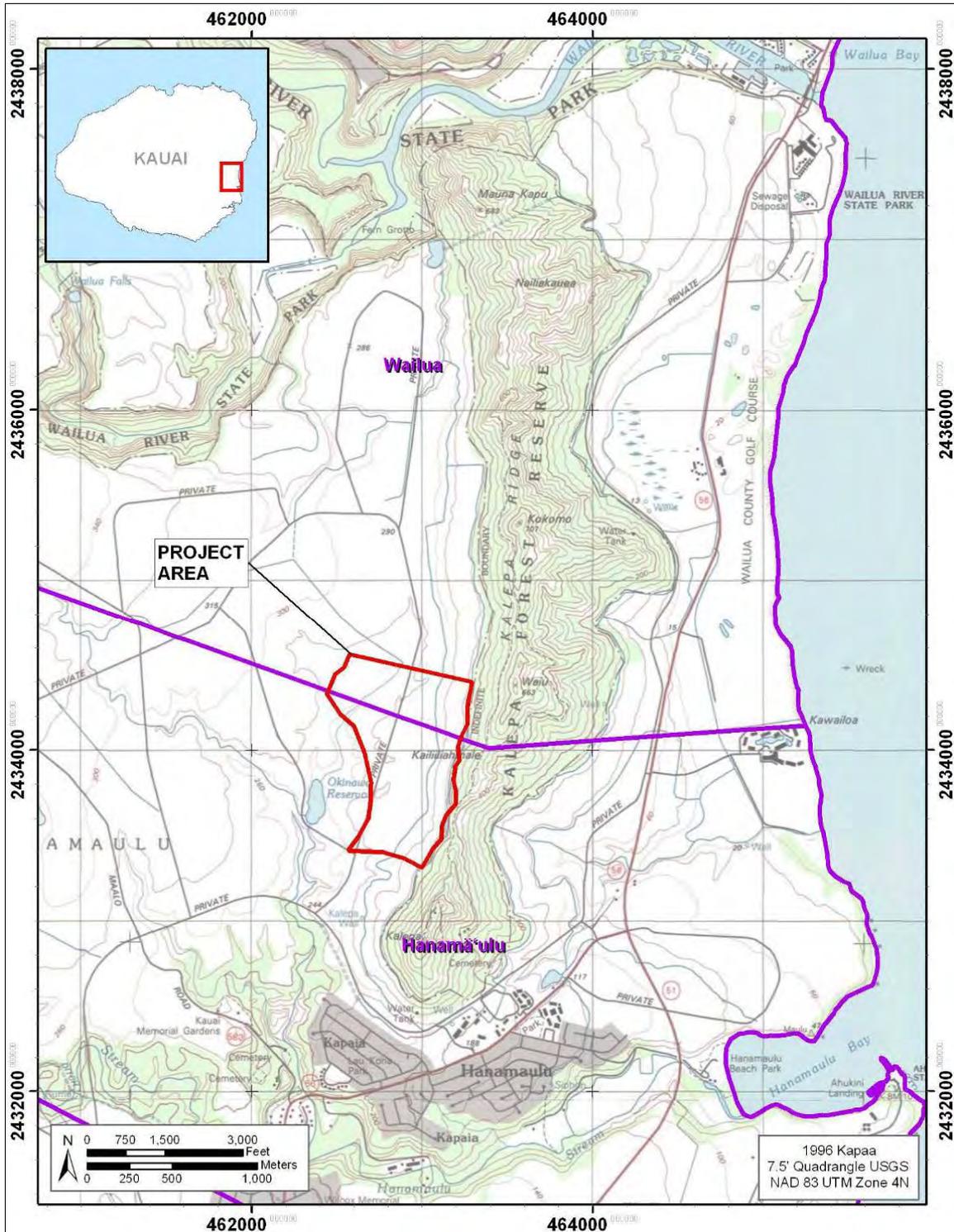


Figure 48. Portion of 1996 U.S.G.S. 7.5-minute topographic Kapaa quadrangle, showing the Kālepa project area

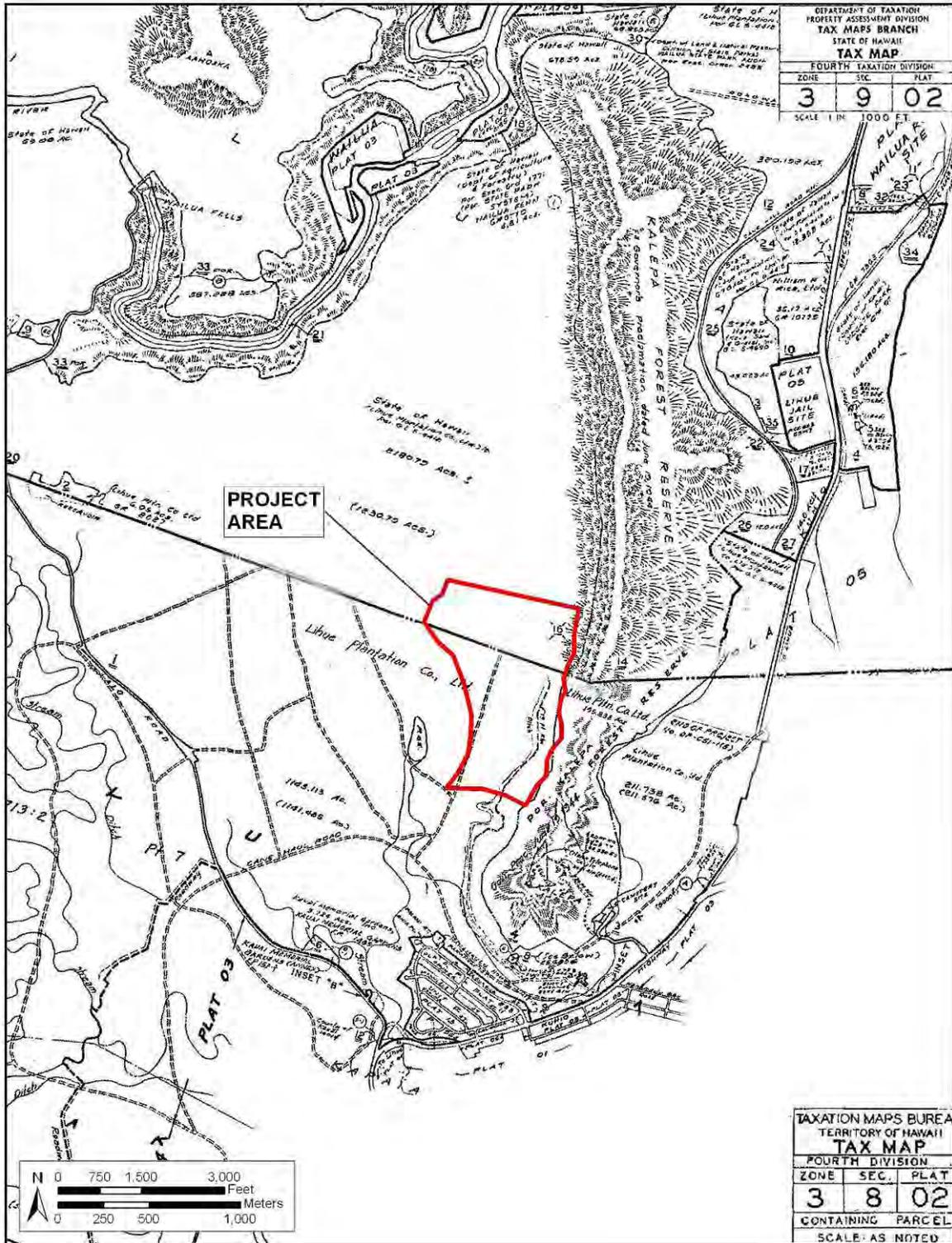


Figure 49. Tax map (TMK) [4] 3-8-002 and [4] 3-9-002 showing Kālepa project area location

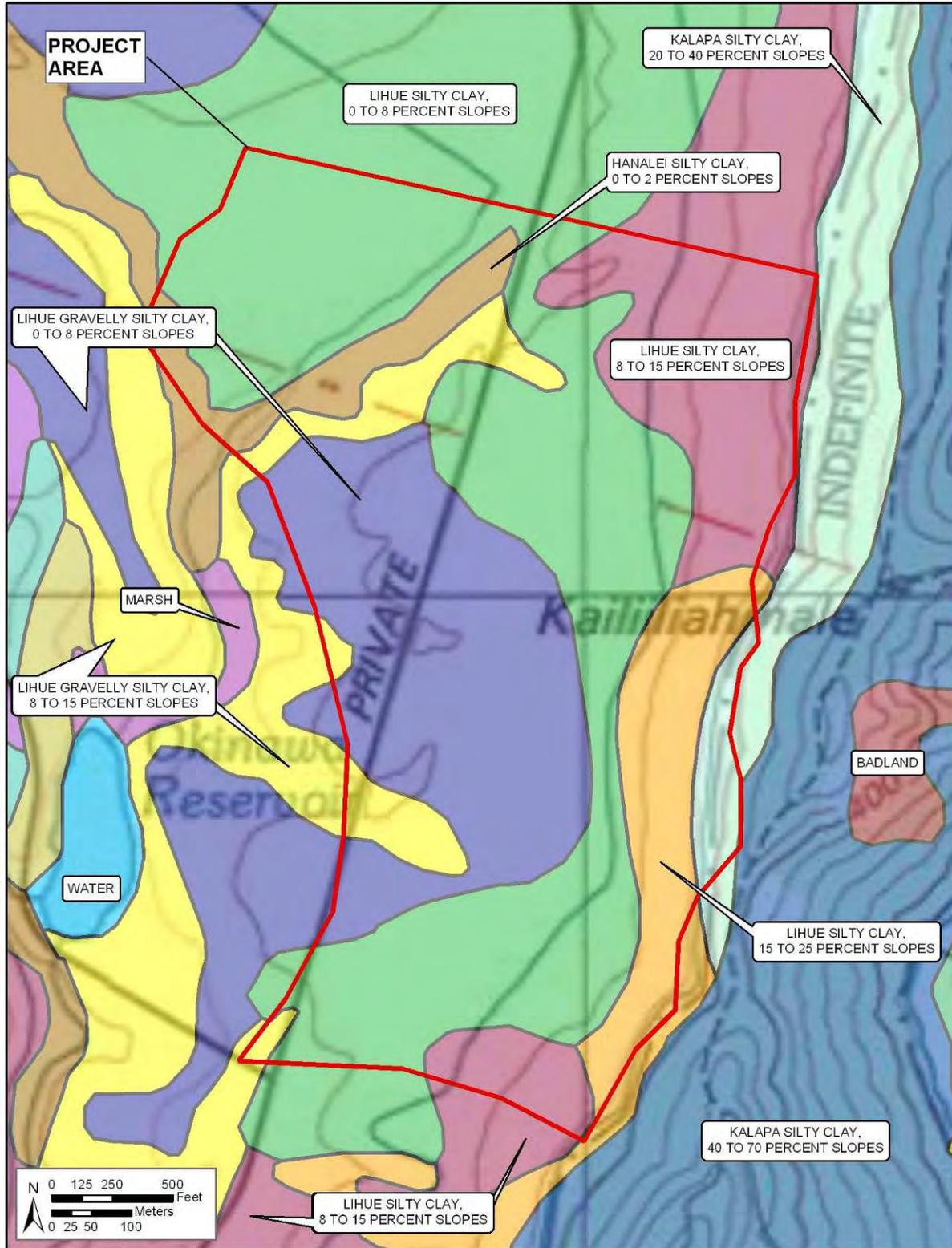


Figure 50. Soils map showing Kālepa project area location

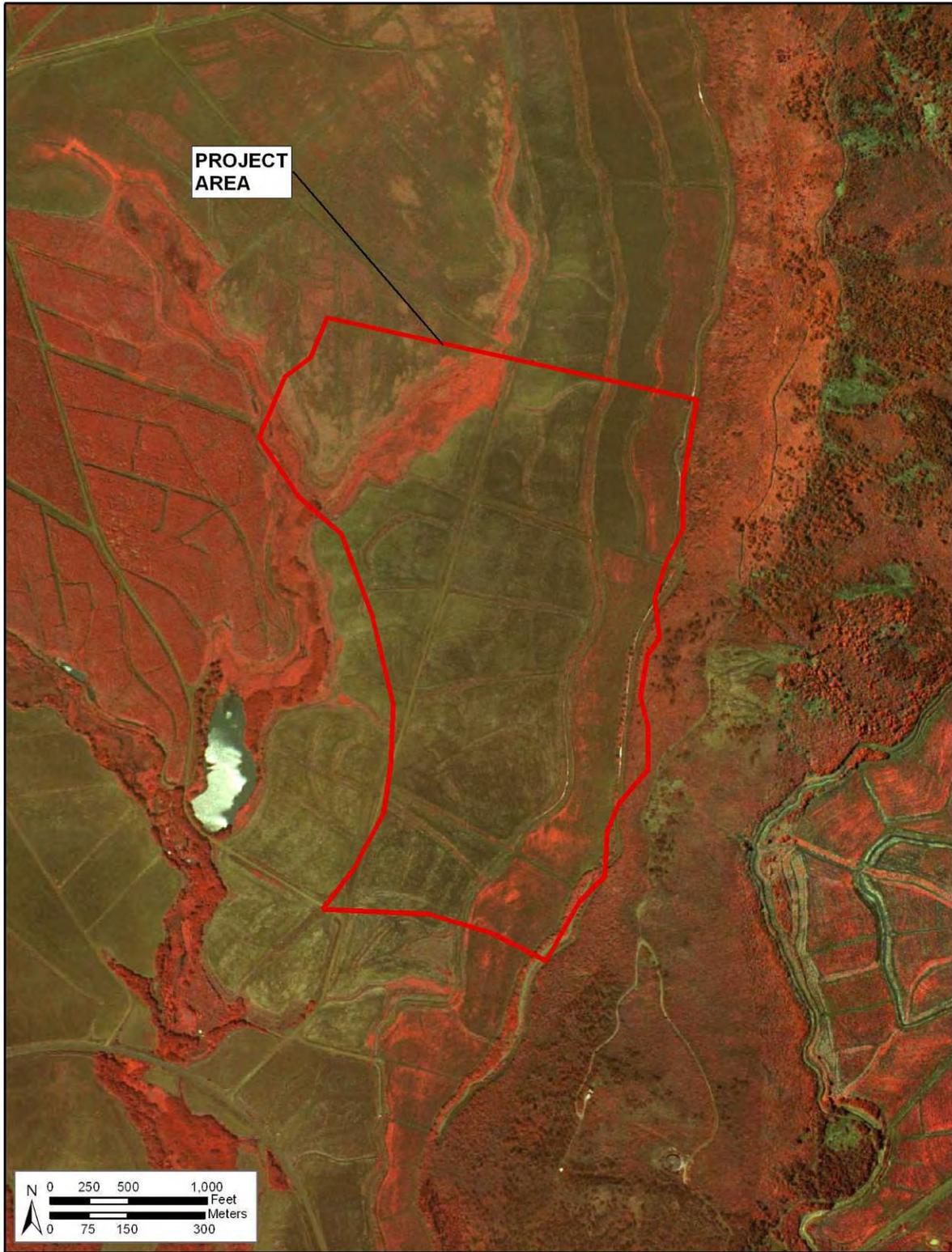


Figure 51. Aerial photograph showing Kālepa project area location

8.2 Traditional and Historical Background

8.2.1 Mythological and Traditional Accounts

The *ahupua'a* of Hanamā'ulu and Wailua are very old land divisions that were permanently inhabited and intensively used in Pre-Contact Hawaii. The coastal zones of Hanamā'ulu and Wailua were the locus for permanent habitation, *heiau*, and numerous trails. In Hanamā'ulu the houses, gardens, and pastures were spaced throughout the floodplain of the Hanamā'ulu River, and in Wailua a number of the cultural remains are located along the Wailua River. The dryland areas (*kula*) of both *ahupua'a* contained native forest and were cultivated with crops of *wauke*, sweet potatoes, and gourds. Legends and historic documentation elaborate on many of these features of the landscape. A detailed discussion of the history of these *ahupua'a* can be found in Creed et al. 1999.

The names Hanamā'ulu and Wailua are referenced in numerous legends and oral traditions, some of them very old, that hint at life as it was. During the 1920s, William Hyde Rice (1974), a life-long resident of Kaua'i, recorded Hawaiian lore of the island which was later collected in the book *Hawaiian Legends*. In that volume, Hanamā'ulu is named three times. Place names in the vicinity of the project area, such as Ninini and Ahukini -- are mentioned. In the story of "The Goddess Pele":

Two brothers of Pele, who had come from foreign lands, saw Lohiau's body lying as a stone where the lava flow had overtaken him. Pity welled up in their heard and they brought Lohiau to life again. One of these brothers made his own body into a canoe and carried the unfortunate Lohiau to Kaua'i, where he was put ashore at Ahukini [Rice 1974: 14].

Coming to Hanamā'ulu, Lohiau found all the houses but one closed. In that one were two old men, one of whom recognized him and asked him to enter. The men were making *tapa*, which they expected to carry soon to Kapa'a, where games were being held in honor of Kaleiapoa and his bride, Hi'iaka [Rice 1974:14].

The suggestion of inhospitality at Hanamā'ulu recorded by Rice ("Lohiau found all the houses but one closed") is reminiscent of the Hawaiian proverb *No Hanamā'ulu ka ipu puehu*, or "the quickly emptied container belongs to Hanamā'ulu" (Pukui 1983:252), that implies the food containers of Hanamā'ulu were often bare – a plausible reason for the local residents to be stingy.

As used above, the name Ahukini, meaning "altar of many blessings," probably refers to the *heiau* which formerly stood in Kalapakī near Ahukini Point (south of Ahukini Landing) on a bluff overlooking the sea. The *heiau* was likely named for Ahukini-a-La'a, one of the three sons of La'a-mai-kahiki, an ancestor of the Kaua'i chiefly lines.

Another *heiau* mentioned in legend is Kalauokamanu, which means the "tip of the endpiece of the canoe," and also mentions Wailua. The *heiau* was located in Hanamā'ulu near the mill. Human sacrifice was conducted at this *heiau*, and travelers would pass by the temple quickly, holding their noses to avoid the great stench coming from the dead bodies (Wichman 1998:62). According to a study by Lahainaluna School students:

Kalauokamani [*sic*] was another heiau. It was named for a real woman and this is a little story pertaining to it:

Two men came from Kaua'i, Uukanipo and Kaipoleimanu. While they lived at Kahikimaiaea, they heard of the beauty of Kalauokamani and went in search of her until they arrived in the upland of Wailua. Kalauokamani was dead but her spirit saw the men, followed after them and asked, "Where are you going?" they answered, "To see Kalauokamani to be our wife." The spirit said, "There is no woman, for she is dead." The spirit again warned them, "Do not go up this way but go down below. There is the woman for you, Moeapakii. Do not go up this way lest you smell the stench of the body of the woman [you seek] for she lies unburied.

The men insisted on going up on the upper side of Wailua and they did smell the stench of the woman and both died. They stand at Kaohokaualu to this day. Both had turned to stone [Lahainaluna Students 1885, HEN I:218].

As a whole, these legends, as well as others, contain a number of recurrent threads. Canoe landings are mentioned frequently and would have been easy in the protected bay environment of Hanamā'ulu, and so were probably very common. Whether arriving by canoe or land, travelers did not find much sustenance here on their way through, either due to lack of resources, the tight-fisted nature of the residents, or both. A number of references to *kapa* manufacturing provide evidence that the area may have been known for the production of fine *kapa* or *tapa*, the traditional material used for clothing, mats, and sails prior to contact with western cultures. Finally, it is likely that Hanamā'ulu was the residence of some *ali'i*-status individuals, as suggested in the legend of Kawelo and the presence of a number of *heiau*, including the large Kalauokamanu.

In Wailua, archaeological and ethnographic evidence reinforce one another and indicate that it was the religious and political center of Kaua'i during ancient times. There were more *heiau* (temples) in Wailua than in other *ahupua'a* on Kaua'i (Bennett 1931). The lower portion of the river valley, *makai* of Nonou ridgeline to the north and Kālepa Ridge to the south, was known as Wailuanuiho'āno (Wailuanuiaho'āno) or alternately Wailuanuilani. It was an area so sacred that it was *kapu* to *maka'āinana* or commoners. Only the *ali'i*, their *kahuna* and retainers could reside or visit here (Dickey 1917). Also, there have been at least seven major *heiau* recorded in this relatively small area of the *ahupua'a* (Ching 1968:28). A complex of *heiau* at Wailua was declared a National Historic Landmark in 1962.

A survey of traditional mythological literature shows Wailua prominently associated with some of the most famous legendary and historical figures including Maui, Kawelo, Pikoikaala, Laieikawai, Mō'ikeha, La'amaikahiki and Kaililauokekoa (Dickey 1917; Fornander 1917-19; Kalākaua 1888; Rice 1923). These associations suggest an ancient and continuous occupation of the area. Martha Yent (1989:1) suggests that because of the traditional connection of several Wailua *heiau* with Mō'ikeha as well as the mythical *menehune*, the religious complex there may have been constructed circa A.D. 1200.

8.2.2 Early Historic Period

The first written accounts of the lifestyle on Kaua'i are from travelers, missionaries, and surveying expeditions. Missionary accounts of first half of the nineteenth century provide the majority of the early written records for this portion of Kaua'i, and in some ways they confirm and expand upon what can be gathered from oral tradition.

Ethel Damon, in *Koamalu* repeats the scenic description of Līhu'e given by Reverend Hiram Brigham in his book, *A Residence of Twenty-One Years in the Sandwich Islands*, published in 1847:

In 1824, when walking around the island from Waimea to counsel the people after the wreck of *The Cleopatra's Barge*, Rev. Hiram Bingham crossed from Hanapēpē, as has been seen, over the old upland trail back of Kilohana, and wrote of it as 'a country of good land, mostly open, unoccupied and covered with grass, sprinkled with trees, and watered with lively streams that descend from the forest-covered mountains and wind their way along ravines to the sea, - a much finer country than the western part of the island' [Damon 1931: 401].

Bingham passed through Wailua twice in 1824 and visited the birthplace of King Kaumuali'i (the *pōhaku ho'ohānau* site), a *hōlua* slide, and the lower falls on the south fork of the river, but left no clues as to the size or extent of the settlement there (Bingham 1847:220, 231).

William DeWitt Alexander, son of Waioli missionary William P. Alexander, traveling from Kōloa to the north shore of Kaua'i in 1849 records some descriptive notes:

A few miles further on we crossed the picturesque valley of Hanamaulu. This valley is prettily bordered by groves of Kukui, koa, & hala trees, and is well cultivated with taro. A fine stream flows through the midst of it, which makes a remarkable bend at this place like a horse shoe. We then traveled along the seashore at the foot of a range of hills through groves of hau, & among hills of sand. It was now after dark, but the moon shone brightly, and there was no difficulty in finding our way. About eight o'clock we arrived at the banks of the Wailua river [Alexander 1933, reprinted in Kaua'i Historical Society 1991:121].

8.2.3 Māhele and Land Commission Awards

The Organic Acts of 1845 and 1846 initiated the process of the Māhele - the division of Hawaiian lands - which introduced private property into Hawaiian society. In 1848 the crown and the *ali'i* (royalty) received their land titles. Ha'ikū and Nāwiliwili *ahupua'a* were awarded - LCA 7713 - to Victoria Kamāmalu, sister of Kamehameha IV, Kamehameha V, and Moses Kekuaiwa. Documents associated with this award give no indication of specific land uses or activities other than for pasturage. Following the death of Victoria Kamāmalu in 1866, Princess Ruth Ke'elikōlani inherited her lands. In 1870, Ke'elikōlani sold large portions of her Kalapakī and Līhu'e lands to William Hyde Rice of Līhu'e Plantation. In addition, in 1870, Paul Isenberg purchased the *ahupua'a* of Hanamā'ulu from J.O. Dominis. William Hyde Rice made subsequent land purchases from Princess Ruth in 1879.

The large tracts of inland areas (*kula*), not in the river valleys or at the shore, are not described in the claims but were probably in use. Traditional *kula* resources for all claimants would have

been medicines, herbs, construction materials such as *pili* grass and trees for building houses, canoes, and perhaps lithic materials for tools. Sweet potatoes and other dryland crops, such as *wauke*, probably were cultivated in patches throughout the area at one time or another.

Kuleana awards for individual parcels within the *ahupua'a* were subsequently granted in 1850. These awards were presented to tenants - native Hawaiians, naturalized foreigners, non-Hawaiians born in the islands, or long-term resident foreigners - who could prove occupancy on the parcels before 1845 (Apple 1978:45).

The locations of *kuleana* in Hanamā'ulu and Wailua Ahupua'a are from the shore back into and along the floodplains of the valley land. In both *ahupua'a*, the cultivation of *kalo* (taro), the major staple, was along these river flood plains. There were small *kula* listed for both *ahupua'a* where presumably sweet potatoes and other produce were grown.

Eighteen claims are made in Hanamā'ulu, of which fifteen are awarded. There are 16 *'ili* mentioned with 95 *lo'i*, 13 houses and house lots, and 8 *kula*. In Wailua 51 parcels totaling approximately 75 acres were awarded to 27 individual claimants. These parcels comprise 122+ *lo'i*, 5 *mo'o*, 24 house lots, and 8 *kula*.

The settlement pattern at Hanamā'ulu includes *lo'i*, *kula*, and houses along both sides of the Hanamā'ulu River, extending from the shore up to the village of Kapaia. The *kula* and *lo'i* are often together in one *'āpana* and the house is in a separate *'āpana*, slightly removed from the floodplain. There are four claims in the back bay area of Hanamā'ulu and two claims for house lots (LCA nos. 3650 and 3653) near the beach, south of Kapule Highway. Much of the land claimed in Hanamā'ulu is in land that has been under sugar cane cultivation for much of the 20th century and occasionally artifacts, like adze and volcanic glass can still be found in soil of the cane fields.

There are 11 other *ahupua'a* on Kaua'i with greater numbers of claims at the time of the Māhele (1848-1853) than Wailua Ahupua'a. When it was the former religious, economic and social center of Kaua'i more land would have been under cultivation, not only for the *lo'i* and *kula*, but other traditional crops, such as *wauke* and *noni*, bananas, woods and fishponds. The fact that so few claimed land in Wailua at the time of the Māhele, no doubt reflects Wailua's changed status after trading ships and missionaries arrived. Communities grew up around the new social and economic centers, especially on the south side of the island and drew people away from their former establishments. By the mid-1800s only a small population, decimated in part by disease, existed in the Wailua River Valley within a mile from the sea. They were displaced within decades by imported farmers and crops.

All of the *kuleana* in Wailua are within approximately a mile of the shore. Of the parcels on which *kalo* was cultivated on the north side of the Wailua River, most were watered by *'auwai* (irrigation canals) sourced in 'Ōpaeka'a (or Wailuaiki) Stream.

There do not appear to have been any *kuleana* (commoner Land Commission Awards in the vicinity of the Kālepa study area.

8.2.4 Mid-1800s to early 1900s

In early accounts there is mention of rich lands in Hanamā'ulu and Kalapakī, but little mention of industry, suggesting that land may only have been cultivated for local subsistence. Oral traditions reporting that these lands were not necessarily ones of abundance are consistent with these later observations. When the first non-Hawaiian sailing vessels began arriving in Hawai'i (post 1794), pigs, sweet potatoes, and salt, among other items, were traded with these ships. It is likely that at this time agricultural production in Hanamā'ulu and Kalapakī began to grow beyond traditional subsistence patterns.

Cutting and shipping sandalwood to the Orient was likely the first formal "industry" seen from a western perspective. An indirect reference to the sandalwood trade in the Līhu'e area via Ethel Damon records that Chief Forester C.S. Judd had told an early settler, Richard Isenberg, that Mount Kālepa had formerly been covered with sandalwood (Damon 1931:913).

The sandalwood trade was shortly replaced by the whaling industry, which was based in Kōloa to the west and peaked in Hawai'i between 1840 and 1860.

Like most well watered areas in Hawai'i, rice crops began taking over former *lo'i kalo* in the second half of the 1800s. This sharing of the land by the Chinese rice farmers and native *kalo* growers continued through the end of the century. Knudsen (1991:152) visited Wailua in 1895 and wrote:

We rode through the Lihue Plantation cane fields, passed through Hanamaulu and came to the Wailua River. What a sight! The great river lay clear and placid - winding away up toward the mountains with rice fields and taro patches filling all the low lands.

By 1935, Handy (1940:67) found no *kalo* being cultivated at Wailua. The terraces had been taken up by rice, sugar cane, sweet potato and pasture. However:

Kapa'a, Waipouli, Olohena, and Wailua are districts which have broad coastal plains bordering the sea, any part of which would be suitable for sweet potato plantings; presumably a great many used to be grown in this section. There are a few flourishing plantations in Wailua at the present time [Handy 1940:153].

By 1842 missionaries had moved into the area and had established five schools. Some of these missionaries attempted to introduce cotton as the first intensive cash crop, but were unsuccessful (Damon 1931).

Sugar, however, caught on. The sugar cane plantation at Līhu'e was first established in 1849 by Henry A. Pierce; Judge Wm. Little Lee, the chairman of the Land Commission; and Charles Reed Bishop who formed Henry A Pierce and Company (Damon 1931). The first 3,000 acres were purchased in Nāwiliwili and an additional 300 acres were purchased in Ahukini in 1866. The Lihue Plantation became the most modern plantation at that time in all Hawai'i. It featured a steam-powered mill built in 1853, the first use of steam power on a Hawaiian sugar plantation, and the ten-mile-long Hanamā'ulu Ditch built in 1856 by plantation manager William H. Rice, the first large-scale irrigation project for any of the sugar plantations (Moffatt and Fitzpatrick 1995:103).

The success of the Lihue Plantation allowed it to continue to expand. When the owner of Hanamā'ulu Ahupua'a, Victoria Kamāmalu, died in 1870, all 9,177 acres in the *ahupua'a* were purchased by Paul Isenberg, the manager of Līhu'e Plantation from 1862-1878 (Damon 1931:742-747). By 1872, the plantation owned 17,000 acres in Hanamā'ulu. A total of 30,000 leased acres in Wailua were added in 1878. Līhu'e Plantation built a second mill in 1877. This mill operated until 1920, when it was converted into housing for laborers.

The extent of the sugar cane fields in the late eighteenth century can be seen in an 1878 Hawaiian Government Survey map (Figure 52). In this map, there are not yet sugar cane fields depicted in the Kālepa study parcel. However, well before 1910, the project area came under heavy alteration accompanying the cultivation of sugar cane. The 1910 USGS map shows the railroad extending through the northwest portion of the Kālepa project area (Figure 53). The expansion of Lihue Plantation's sugar cane cultivation would accelerate throughout the district in the early decades of the twentieth century.

Sugar cane cultivation transformed nearly the entirety of the traditional landscape of Hanamā'ulu and Wailua into plantation landscape. By 1931, Līhu'e Plantation had 6,712 acres in cane. Condé and Best's map of Lihue Plantation in 1941 (Figure 54) also shows cane fields covering the much of Hanamā'ulu and Wailua. This map also shows substantial development throughout the area: Ahukini Landing at the bottom center, Ninini Lighthouse on lower left, a dumping place between them; roads and railroad tracks, reservoirs, camps, parks, an athletic field and a school.

The explosion of the sugar industry in Hawai'i fundamentally transformed the *ahupua'a* of Hanamā'ulu and Wailua. During the sugar plantation era, the Kālepa project vicinity came under very heavy use (Figure 55). Nearly all pre-contact structures were almost certainly destroyed and if archaeological remains are to be encountered they will likely be related to commercial plantation enterprise.

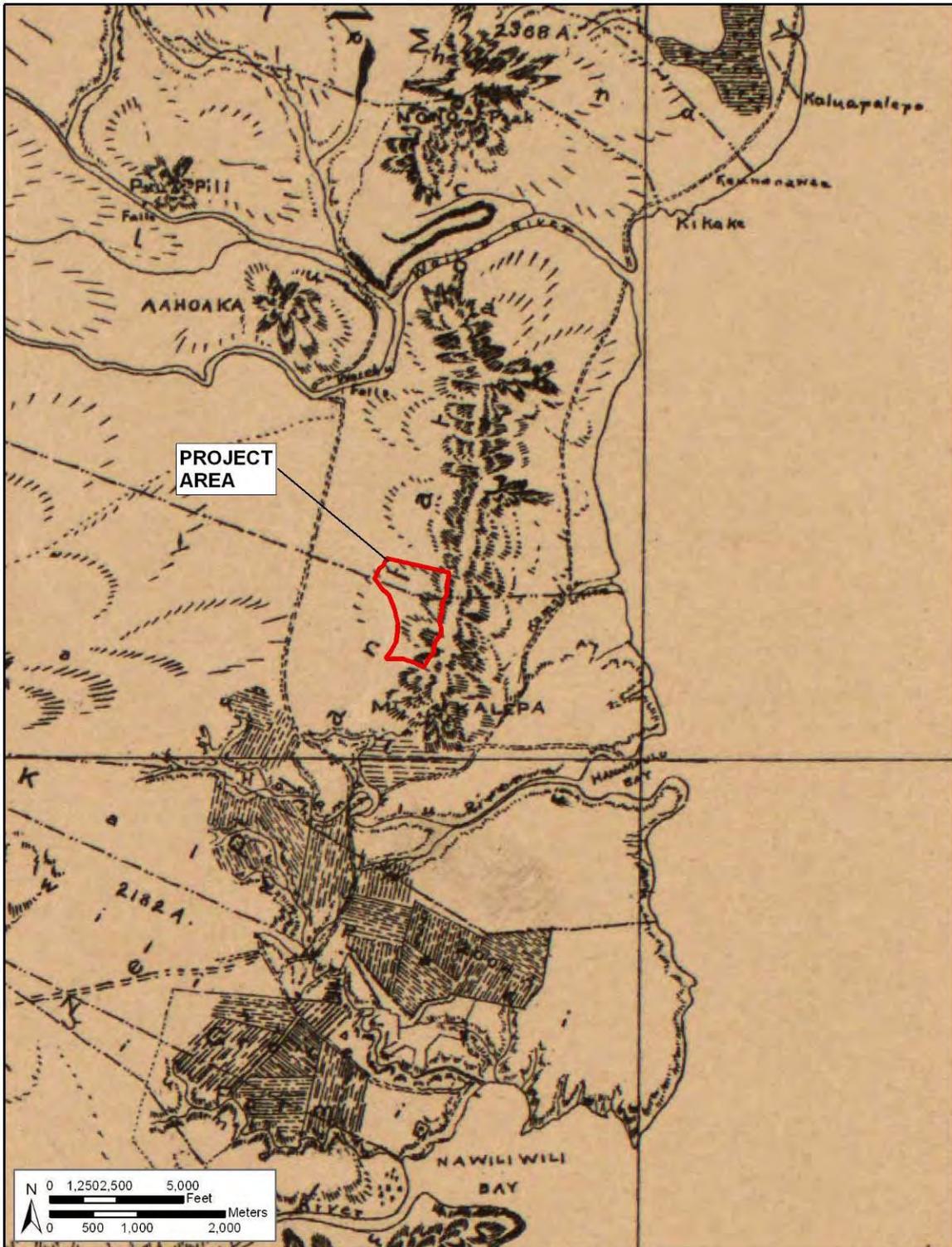


Figure 52. 1878 Hawaiian Government Survey map of Kaua'i showing areas south of the Kālepa project area under cultivation for sugar cane

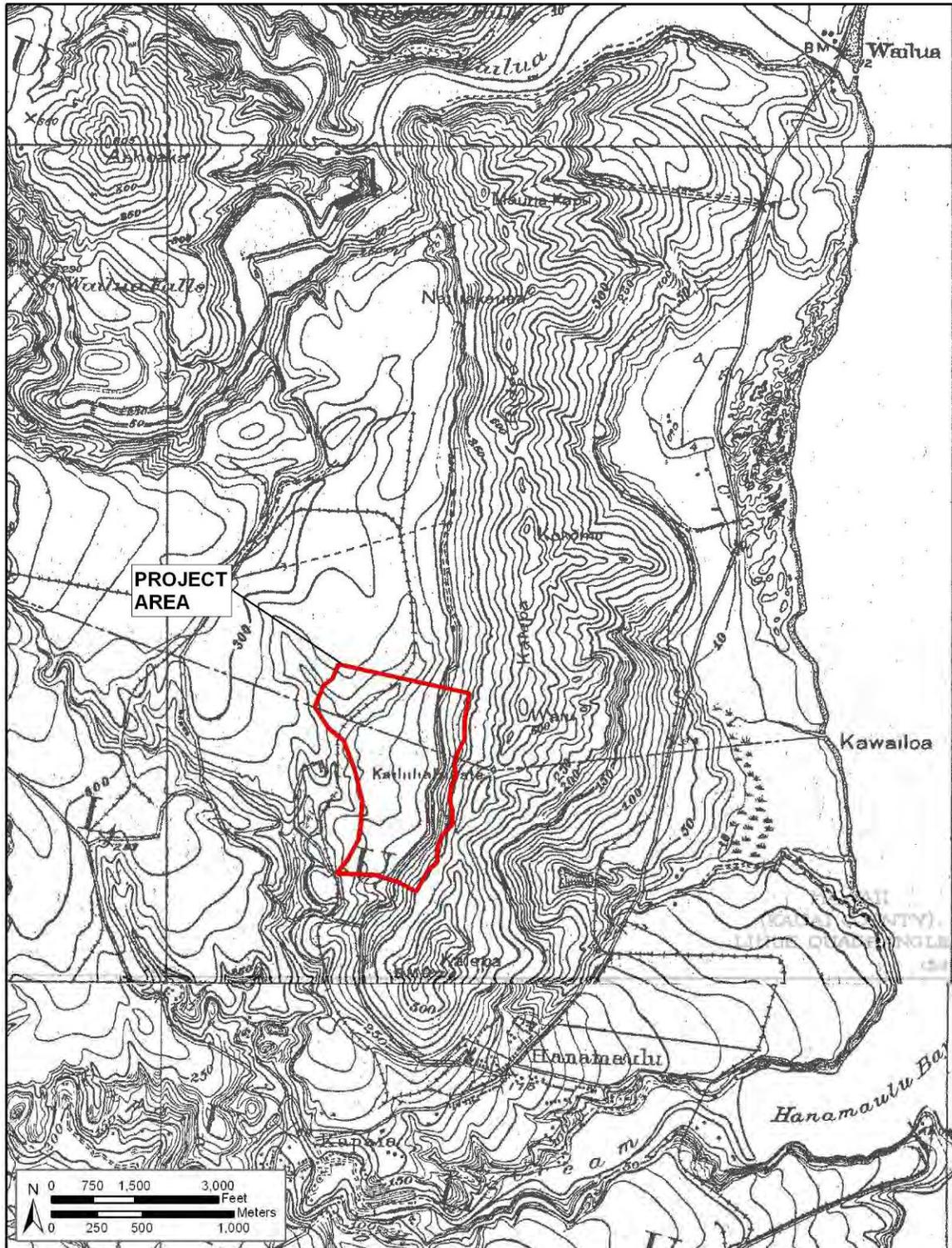


Figure 53. Portion of 1910 U.S.G.S. topographic Kapaa quadrangle, showing the Kālepa project area

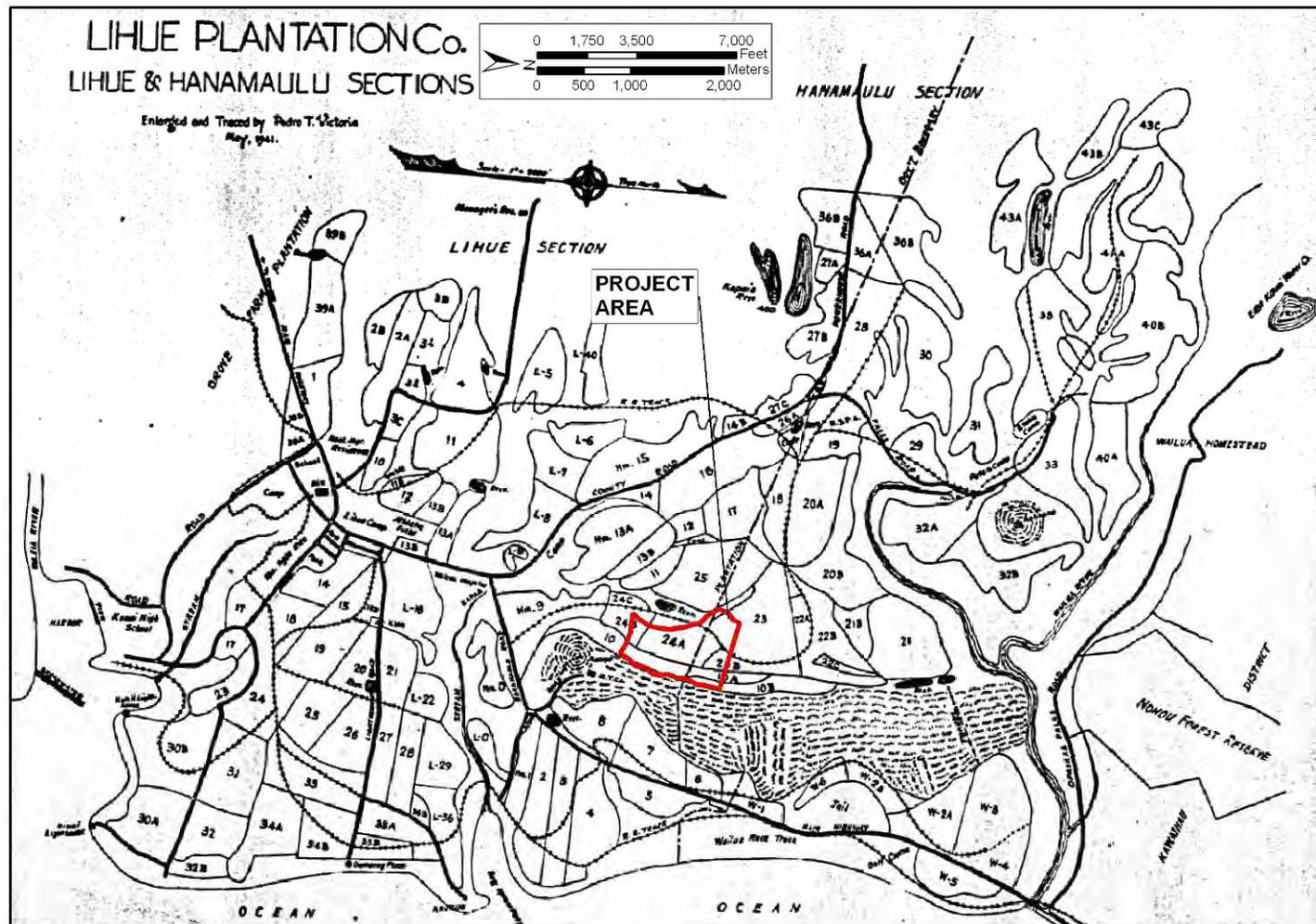


Figure 54. 1941 Līhū'e Plantation Co. map showing intensive sugar cane cultivation in and surrounding the Kālepa project area. Note: map is as originally drawn, with north to the reader's right.

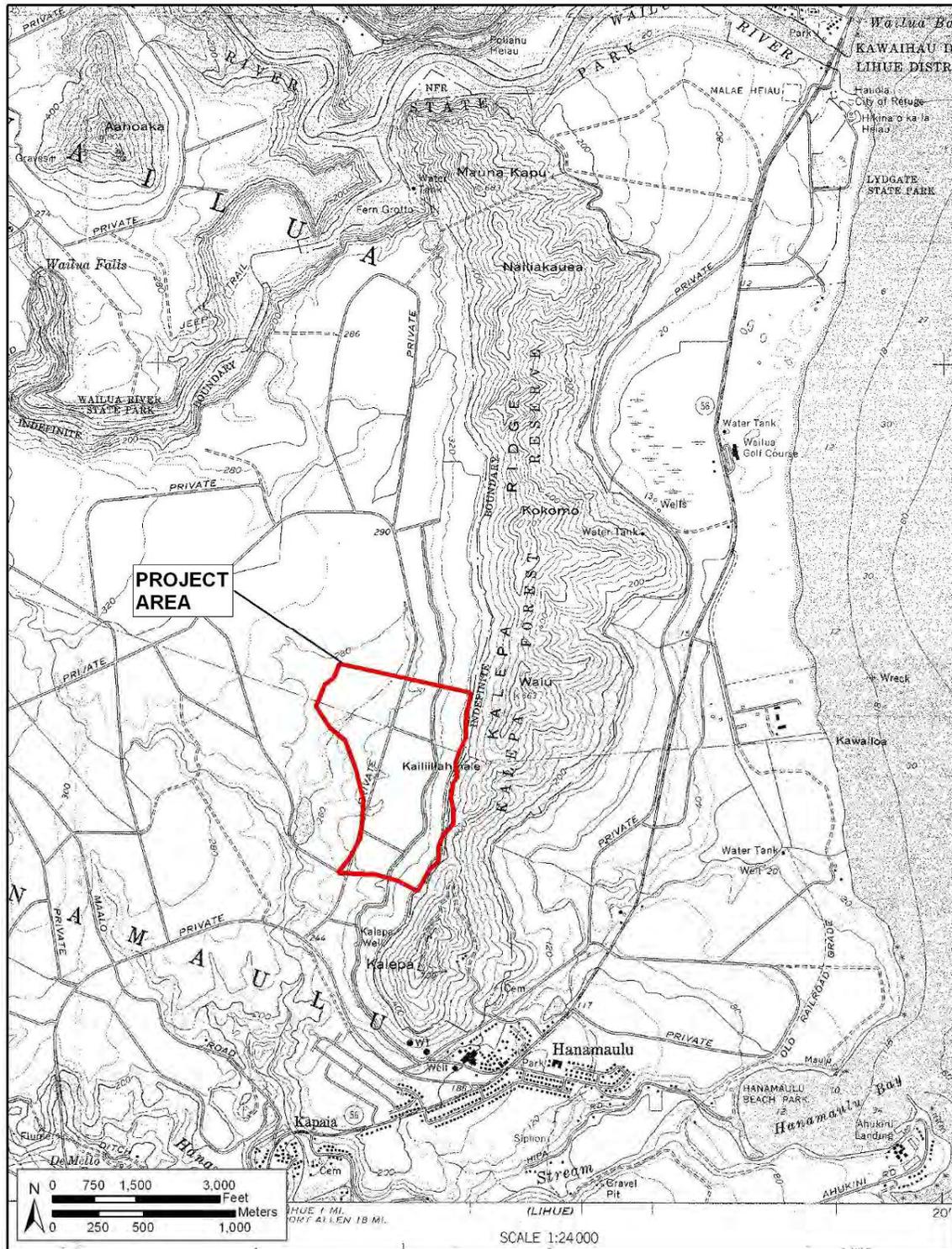


Figure 55. Portion of 1963 U.S.G.S. topographic Kapaa quadrangle, showing the Kālepa project area

8.3 Previous Archaeological Research

Previous archaeological projects in the vicinity of the Kālepa project area are shown in Figure 56 and Table 8 provides a list of archaeological research conducted nearby, including columns for source, location, nature of study, and findings. Figure 57 shows the location of archaeological sites in relation to the project area, and Table 9 lists historic properties nearby. Sites and project areas within one mile of the Kālepa project location are denoted by an asterisk in tables and are highlighted by a 0.5 mile and 1.0 mile buffer on figures.

Extensive archaeological work has been conducted in both Wailua and Hanamā'ulu Ahupua'a, with nearly all studies focusing on either the coastal areas (river mouths and bays) or the river banks. Relatively very little work has been conducted near the current project area, *mauka* of the Kālepa Ridge, although there has been fairly extensive work done in relation to the Līhu'e airport and Hanamā'ulu town. Again, all of this work is on the south or east (*makai*) side of the Kālepa Ridge, away from the current project area.

Thomas Thrum, the publisher of the *Hawaiian Almanac*, gathered lists of *heiau* on all islands. For the *ahupua'a* of Hanamā'ulu and Wailua he compiled a list of five: Kalauokamanu in Hanamā'ulu, Malae in Central Wailua, Polo'ahu in Upper Wailua, Holoholokū in Wailua, and Hikinaakalā in Wailua-kai. The first attempt at comprehensive archaeological survey of Kaua'i was undertaken by Wendell Bennett (1931) of the Bishop Museum, who summarized Thrum's findings and added his own observations. The closest sites to the current project area that Bennett identified are his site 102 and 103, which consist of:

Site 102: Kalauokamanu heiau. A large walled heiau that stood above the present mill; destroyed about 1855- of pookanaka class. [Bennett 1931:125].

Site 103. Dune burials. In the sand dunes that run along the shore halfway between Hanamā'ulu and Wailua River are many burials [Bennett 1931:125].

In addition to the sand dune burials or grave sites identified by Bennett (Site 103), there is another near Kālepa Ridge (50-30-08-746) (Rosendahl 1990), and the Kālepa Burial Platform (Site 50-50-08-1827) discovered by Mr. Kaipō Akana during a field survey of damage after Hurricane 'Iniki by the Kaua'i Island Burial Council in 1992. The Halemanu graves (Site 50-50-08-1826) are also on Kālepa Ridge, within half a mile of the current project area.

To the northwest of the project area, both Soehen (1967) and Ching (1968) conducted broad surveys of the Wailua River valley and its north and south fork, identifying a variety of archaeological sites including several *heiau*, habitation areas, and fairly extensive agricultural modification. Later work in the *mauka* portions of the *ahupua'a* include archaeological assessments by Folk and Ida (1981) and Carpenter and Yent (1995); these studies primarily noted agricultural terraces along the banks of the Wailua River, with more extensive archaeological finds closer to the river mouth. Nearly all archaeological reports in the vicinity of the project area note extensive rice and/or sugar fields from the historic period.

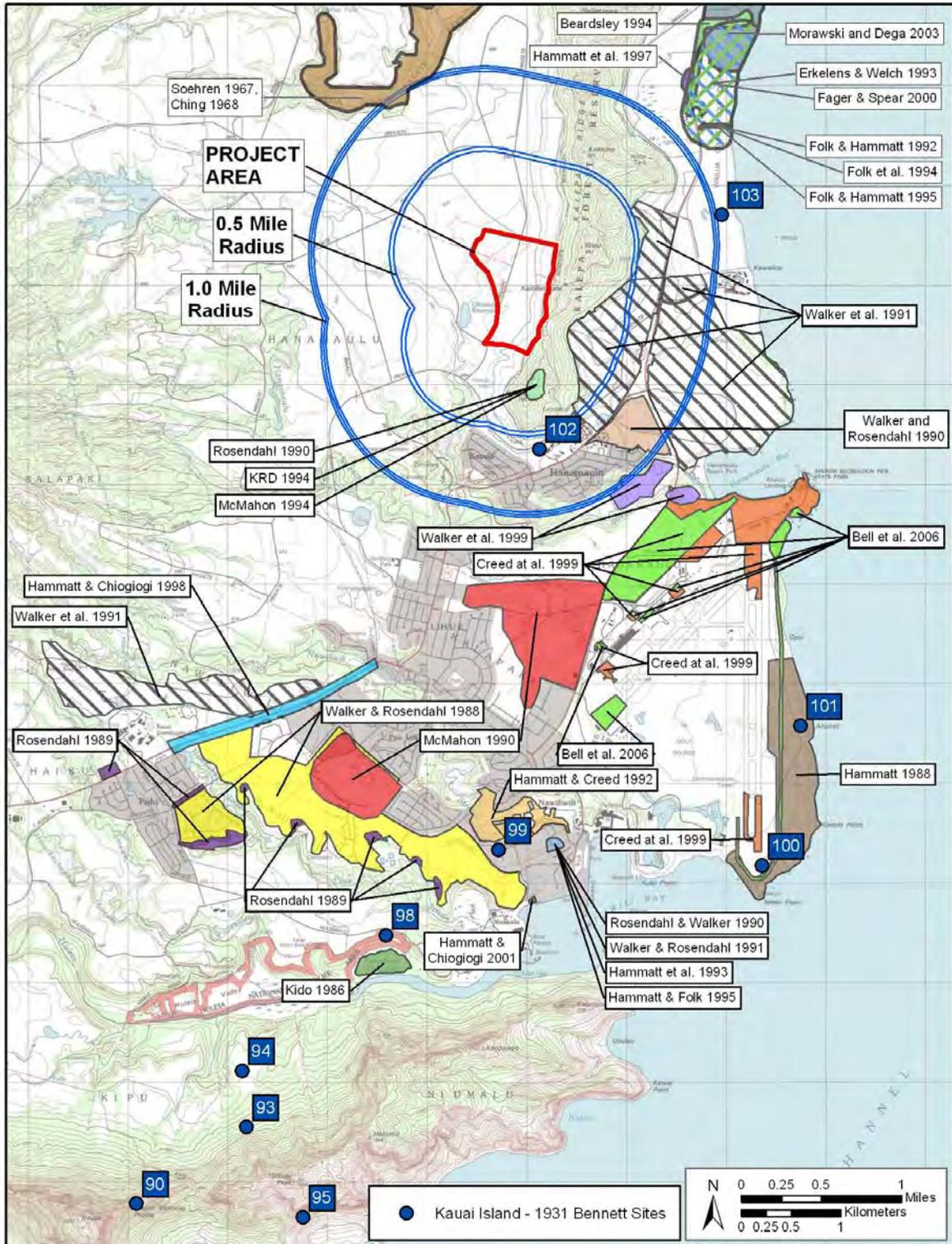


Figure 56. Map of the Kālepa project area showing adjacent areas of previous archaeological work

Table 8. Previous Archaeological Studies near the Kālepa project area

Study	Location	Type	Findings
Bennett 1931*	Kauai	Island-wide survey	Describes two sites in Hanamā'ulu, site 102 (Kalauokamanu <i>heiau</i>), and site 103 (dune burials).
McMahon 1990*	Kālepa Ridge	Field check	Inspection of inadvertent burial on Kālepa ridge
Rosendahl 1990*	Kālepa Ridge	Archaeological Field Inspection	Identifies Site 50-30-11-1827 Burial platform (2+ individuals)
Walker and Rosendahl 1990*	Hanamā'ulu Affordable Housing Project Area	Archaeological Inventory Survey	No cultural material observed
Walker et al 1991*	A study of 8 parcels near Hanamā'ulu Bay	Archaeological Inventory Survey	Identifies 10 sites; 3 pre-contact, 7 historic
Folk & Hammatt 1992	Wailua County Golf Course	Assessment for Fiber Optic Cable	No cultural material observed; informants described burials in the golf course area
Beardsley 1994	Kaua'i Community Correctional Center	Sub-surface testing for sewer line	One burial designated Site -9357 regarded as part of Bennett's site 50-30-08-103 but no other significant findings
Folk et al. 1994	Wailua County Golf Course	Archaeological Inventory Survey with sub-surface testing	No significant finds
KRD – Kaua'i Renovation & Development 1994 (Kaipo Akana)*	Kālepa Ridge	Monitoring Report	Revetment for Burial Site -746; additional bone fragments recovered
Fager & Spear 2000	Wailua Golf Course	Archaeological Monitoring Report	Documents several burials
Morawski & Dega 2003	Lydgate Park	Monitoring Report	Two burials, two isolated skeletal finds and a cultural layer

*Indicates archaeological studies within one mile of the current project area

Table 9. Historic Properties in the Vicinity of the Kālepa Project Area

Site Identification No.	Site Type	Ahupua'a Location and Reference
50-30-11-100;	Ninini heiau (near site of Nāwiliwili light house, double paved wall remnant)	Kalapākī Bennett 1931:124
50-30-11-101	Ahukini <i>heiau</i> (A heiau of medium size; foundations only now remain)	Hanamā'ulu; from Thrum IN Bennett 1931:125
50-30-11-102*	Kalauokamanu <i>heiau</i> (A large walled heiau that stood above the present mill; destroyed about 1855-of pookanaka class.)	Hanamā'ulu; from Thrum IN Bennett 1931:125
50-30-11-099	Kuhiau <i>heiau</i> , A large paved heiau, whose enclosure covered an area of about four acres; long since destroyed	Nāwiliwili from Thrum IN Bennett 1931:124
50-30-11-421	Midden Scatter of marine shells	Hanamā'ulu on shoreline; Hammatt 1990:
50-30-11-422	Remnant/probable cattle wall	Hanamā'ulu on shoreline; Hammatt 1990:
50-30-11-423	Remnant/probable cattle wall	Hanamā'ulu on shoreline; Hammatt 1990:
50-30-11-424	Oval Terrace Alignment	Hanamā'ulu on shoreline; Hammatt 1990:
50-30-11-503	Halehaka Japanese Cemetery	Kikuchi & Remoaldo 1992: and pers. comm. N. McMahon 1999
50-30-08-621	Kapaia Chinese Cemetery	Hanamā'ulu; NE of airport Kikuchi & Remoaldo 1992: and pers. comm. N. McMahon 1999
50-30-08-746*	Kalepa Road Burial	Hanamā'ulu; on Kalepa Hill; Rosendahl 1990
50-30-11-818*	Plantation Wall	West of Kapaia in Hanamā'ulu; (Kikuchi 1992)
50-30-11-1826*	Halemanu Graves	Hanamā'ulu; on Kalepa Hill; Pers. comm. N. McMahon 1999
50-30-08-1827*	Kālepa Burial Platform	Pers. comm. N. McMahon 1999
50-30-11-1840	Historic Retaining Wall	Hanamā'ulu, Walker Kajima & Goodfellow 1991
50-30-11-1840	Historic Retaining Wall	Hanamā'ulu, Walker Kajima & Goodfellow 1991

Site Identification No.	Site Type	Ahupua'a Location and Reference
50-30-11-1841	Historic Road	Hanamā'ulu, Walker Kajima & Goodfellow 1991
50-30-11-1842	Historic Wall	Hanamā'ulu, Walker Kajima & Goodfellow 1991
50-30-11-1843	Historic Concrete Foundation, Road and Concrete Wall	Hanamā'ulu, Walker Kajima & Goodfellow 1991
50-30-11-1844	Historic Cemetery	Hanamā'ulu, Walker Kajima & Goodfellow 1991
50-30-11-1845	Historic Railroad Bridge	Hanamā'ulu, Walker Kajima & Goodfellow 1991
50-30-11-1999	Paukini rock (in the ocean)	Kalapakī or Nawiliwili Bay; N. McMahan (personal comm. 1999)
50-30-11-1842	Boundary/Agricultural Wall	south side of Hanamā'ulu Valley; Franklin & Walker 1994
50-30-11-1847	Hanamā'ulu Valley	Walker, Kajima & Goodfellow 1991
50-30-11-6009	Nawiliwili Cemetery	Kalapakī near high school Hammatt & Folk, ed. 1997
50-30-08-9000	Ahukini Landing	Hanamā'ulu Bay; N. McMahan (personal comm. 1999)
50-30-08-9402	Historic Building Remnant at Site of Radio Station KIVM	Off Radio Road near Ahukini Hwy (McMahan 1990; Franklin & Walker 1994)
08-B008*	Kauai Memorial Gardens	Kikuchi & Remoaldo 1992
08-B009	Hanamā'ulu Immaculate Conception Church Cemetery II, Roman Catholic	Kikuchi & Remoaldo 1992
08-B011*	Immaculate Conception Church Cemetery, Kapaia	Kikuchi & Remoaldo 1992
08-B019	family cemetery, not located, possibly connected to LCA 3653:2	Kikuchi & Remoaldo 1992
11-B001	Lihu'e Lutheran Church Cemetery	Kikuchi & Remoaldo 1992
11-B002	Japanese Cemetery, purported to have been moved	Kikuchi & Remoaldo 1992
11-B003	Lihu'e Lutheran Church Cemetery /Lihu'e Public Cemetery	Kikuchi & Remoaldo 1992

*Indicates archaeological sites within one mile of the current project area

Nine backhoe trenches were excavated in association with the Hanamā'ulu Affordable Housing Project from which only "several small isolated coral fragments" were found. No further archaeological work was recommended in TMK 3-7-03:Por. 20, since, like much of the Līhu'e area, it was former cane lands (Walker and Rosendahl 1990:8).

Walker, Kajima, and Goodfellow's *Archaeological Inventory Survey Līhu'e/Puhi/Hanamā'ulu Master Plan* (1991) identified or re-identified 10 sites. Three sites are pre-Contact historic properties: 1) Site -1838A & B (a habitation cultural deposit); -1839A & B (agricultural wall and terrace of undetermined function); and, Site -1847 (river valley of approximately 53 acres). Site -1839 provided a carbon date of 1170-1400 A.D. (Walker et al. 1991:72).

Kikuchi and Remoaldo's *Cemeteries of Kaua'i* (1992) notes cemeteries in Hanamā'ulu and Wailua. A pre-Contact burial platform on Kālepa Ridge was found by Kaipo Akana in 1992 in an inspection of areas damaged by Hurricane 'Iniki. These sites are not in the project area but lie scattered in all directions throughout Hanamā'ulu and Wailua.

A document review (Hammatt et al. 1994), archaeological study (Hammatt et al. 2002), and archaeological assessment (Hammatt and Shideler 2003) were all carried out to evaluate the potential impacts to archaeological resources of the proposed Kūhiō Highway Improvements. The most critical concern is suggested to be the potential impact to the viewplanes of the Wailua Complex of Heiau (designated Site 50-30-08-502), northeast of the current project area. Six sites were related to plantation-era transportation: four of them related to roads (-1840 a wall, -1841 a road, -1842 a wall and -1843 a complex of a concrete foundation, a road, and a concrete wall), and two related to railroads (-1845 a railroad bridge and -1846 two concrete bridges). One site was an historic cemetery (Site -1844 Japanese-Buddhist and Filipino-Catholic cemetery). As one would expect, the three pre-Contact sites are in areas never cultivated sugar cane. Two of the three sites are along the shoreline and the third is in the river valley. No structural remains were located in the river valley, but sub-surface remains of traditional agricultural activities may continue to exist. A multitude of other studies have been conducted northeast of the project area along the same shoreline area, with similar findings and shoreline burials.

Both Creed et al. 1999 and Bell et al. 2006 performed fairly extensive surveys in the vicinity of the Līhu'e airport. Neither study found pre-contact archaeological remains, although a few historic sites were encountered.

Creed et al. (1999) provide a detailed synthesis of the settlement patterns and prehistory of the *ahupua'a* of Hanamā'ulu and Kalapakī. This synthesis includes extensive research on how both *ahupua'a* fit into the settlement patterns of Kaua'i as a whole. The archaeological record of early Hawaiian occupation in the Līhu'e District indicates a date range of ca. AD 1100 to 1650 for pre-Contact Hawaiian habitations (Walker et al. 1991). As pointed out by Franklin and Walker (1994:17), two important *ahupua'a* and large rivers lie on either side of Hanamā'ulu and Kalapakī lands. The first, Wailua Ahupua'a, is home of the royal chiefs and lies immediately to the north. The other, Hulē'ia River Valley and the *ahupua'a* of Ha'ikū lie to the south beyond Nāwiliwili and Niumalu. Thus Hanamā'ulu and Kalapakī Ahupua'a would be expected to have less varied pre-Contact resources than their more dominant neighbors, which had greater populations along large river valleys.

Hanamā'ulu and Kalapakī, however, would hardly be devoid of pre-Contact structures as legends assign considerable importance to the region. They portray Hanamā'ulu as the birth and

death place of Kawelo, a late seventeenth-century paramount chief. They reference paths crossing both Hanamā'ulu and Kalapakī as well as frequent canoe landings, and speak of a number of *heiau* including the large Kalauokamanu, where human sacrifice was conducted. Based on Māhele records, archeological surveys and ethno-historical accounts, the traditional settlement pattern for Hanamā'ulu and Kalapakī varied somewhat but both populations were concentrated in a stream valley and near the shore. The *kula* lands were used for *wauke* and other dryland crops.

Archaeological remains of a terrace and midden along the Kalapakī coast (Hammatt 1998) indicate that other shoreline habitations existed that were not included in the Māhele records. Shorelines are also traditional burial sites, as attested by Bennett (1931), Cox (1977), Erkelens and Welch (1993), Beardsley (1994), and Hammatt and Folk (1995), particularly along the shoreline on both sides of the Wailua River.

The large amount of *kula* land and the importance of the sugar industry in Hanamā'ulu and Kalapakī dramatically altered land use patterns, perhaps more so than in prestigious traditional *ahupua'a* like Wailua and Ha'ikū. Many people moved away from the river valleys to make a living through cash crop agriculture. As a result Kalapakī and Hanamā'ulu should have a very high number of cultural resources, both relatively and absolutely, that are related to sugar plantations.

The pattern of plantation land use (e.g. plowing, rock removal, etc.) generally obliterates most traces of pre-historic and early historic land use. Thus, the non-cane shoreline is the most likely place to find traces of the pre-Contact sites such as midden and artifact scatters. Structure remnants are highly unlikely as many pre-Contact structures such as *heiau* were disassembled and their stones incorporated into historic structures.

8.4 Assessment

8.4.1 Historic Properties within the Kālepa project area

There are no known archaeological sites in the proposed Kālepa project area. However, this is complicated by the fact that no archaeological studies have been done within the project area. The aerial map (see Figure 51) shows that the Kālepa project area is largely undeveloped agricultural lands. Overall, the chance of surface archaeological finds within the Kālepa project area is rather low with the possible exception of remnants of post-1878 plantation infrastructure. Remnants of a pre-1910 plantation railroad, for example may be present in the northwest portion of the Kālepa project area (see Figure 53 and Figure 54).

8.4.2 Historic Properties within one mile of the Kālepa project area

Six archaeological studies have been conducted within one mile of the Kālepa project area (see Table 8 and Figure 56) under very heavy use. Nearly all pre-contact structures were almost certainly destroyed and if archaeological remains are to be encountered they will likely be related to commercial plantation enterprise.

This work resulted in the identification of three sites within 0.5 miles of the project area, consisting of three burial locations (Sites -746, -1826, and -1827) on top of the Kālepa Ridge (Kālepa Hill) (see Table 9 and Figure 57). There are also three other sites, Kalauokamanu heiau (Site -102 identified by Bennett 1931), a cemetery (Site 08-B008, the Kauai Memorial Gardens), and a historic wall (Site -818) within one mile of the project area. All of these sites can be considered to be in a different environmental zone, since all are located near the summit or on the other (east) side of Kālepa Ridge from the project area. The cemetery and historic wall – primarily due to their distance from the project area – are unlikely to be adversely affected by development of the Kālepa project area. However, the *heiau* and three burial locations do need to be considered as far as visual and possible auditory impacts relating to development of the parcel.

8.4.3 Summary

The Kālepa project area contains no known historic properties and, although no archaeological inventory survey has been done within the parcel, there is a very low probability of there being historic properties (other than post-1878 plantation infrastructure) in the area due to agricultural disturbance. Overall there is low site density in the area and archaeological concerns are minimal as the majority of the archaeological activity in the vicinity of the Kālepa project area appears concentrated along the shore. However, there are some historic properties and identified burials within about a quarter-mile of the project area. These sites are located in a different environmental zone (on top of the Kālepa ridge) than the project area, and their presence does not necessarily increase the likelihood of archaeological sites being found within the Kālepa project area. However, the three burial sites on top of the ridge and the *heiau* may be impacted by the development of the Kālepa parcel in a visual or auditory manner. Overall, an assessment of archaeological sites within one-half mile would likely need to be undertaken prior to development.