

**FINAL—Archaeological Assessment of the St. Rita's Church
Grounds at TMK: (1) 8-9-005:001, Nānākuli Ahupua'a,
Wai'anae District, Island of O'ahu, Hawai'i**



Prepared For:
St. Rita's Catholic Church
89-318 Farrington Hwy.
Nānākuli, Hawai'i 96792

January 2016

Keala Pono 

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MANAGEMENT SUMMARY

An archaeological inventory survey (AIS) was conducted for TMK: (1) 8-9-005:001 in Nānākuli Ahupua‘a, Wai‘anae District, on the island of O‘ahu. Due to negative findings, the AIS results are presented as an archaeological assessment (AA). The church is planning renovations and improvements, including removal and replacement of several buildings on the church grounds. The archaeological assessment included pedestrian survey that covered 100% of the property, as well as test excavations consisting of five trenches. No surface or subsurface archaeological remains were identified. Some of the church buildings are more than 50 years old, although the Environmental Assessment for the church does not consider the buildings as historic properties. Archaeological monitoring is recommended.

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INTRODUCTION

At the request of St. Rita's Catholic Church, Keala Pono Archaeological Consulting conducted an archaeological inventory survey of TMK: (1) 8-9-005:001 in Nānākuli Ahupua'a, Wai'anae District, on the island of O'ahu. Due to negative findings, the AIS results are presented as an archaeological assessment (AA). The church is planning renovations and improvements, including removal and replacement of some of the buildings on the church grounds. The archaeological assessment was designed to identify any historic properties that may be located on the property in anticipation of the proposed construction.

This report is drafted to meet the requirements and standards of state historic preservation law, as specified in the Hawaii Revised Statutes (HRS), Chapter 6E, and in the Hawaii Administrative Rules (HAR) §13-284, *Rules Governing Procedures for Historic Preservation Review to Comment on Section 6E-42, HRS, Projects*; and HAR §13-276, *Rules Governing Standards for Archaeological Inventory Surveys and Reports*. The report begins with a description of the project area and a historical overview of land use and archaeology in the area. The next section delineates methods used in the fieldwork, followed by the results of the archaeological survey. Project results are summarized and recommendations are made in the final section. Hawaiian words, flora and fauna, and technical terms are defined in a glossary at the end of the document.

Project Location

The project area is located in Nānākuli in Wai'anae District on the leeward coast of O'ahu (Figures 1 and 2). The survey area totals 1.81 acres (.73 ha), covering TMK: (1) 8-9-005:001, owned by St. Rita's Catholic Church. The parcel lies at approximately 20 feet (6 m) in elevation and is roughly 150 feet (45 m) from the coast. It is bounded by other private parcels on the north and west, Nānākuli Stream on the east, and Farrington Highway on the south. Topography is relatively flat and there is a substantial drop down to the stream and the highway that mark the eastern and southern boundaries, respectively. The property is mostly paved, and several structures are currently standing on the western portion of the lot, utilized by the church. Much of the remainder of the parcel is a paved parking lot. Vegetation within the project area consists mainly of landscaped plants and grasses, including a large banyan tree on the west side of the property. A thick stand of *kiawe* trees lines the eastern boundary of the survey area, along the drop off to Nānākuli Stream.

Natural Environment

Nānākuli Valley is cut into the Wai'anae Mountain Range, a heavily eroded shield volcano. Erosion has removed most of the western slope and exposed the internal structure of the volcano. The caldera of the Wai'anae volcano was located just west of Kolekole Pass, and extended from the northern side of Mākaha Valley to the head of Nānākuli Valley (Macdonald et al. 1983).

Nānākuli Valley is 1.2 miles (1.9 km) wide at its mouth and extends 3.1 miles (5 km) inland, and is part of the Wai'anae District on the leeward side of O'ahu (Cordy 2002:77). It is situated between the *ahupua'a* of Lualualei on the northwest and Honouliuli on the southeast and encompasses a total area of 1,602 acres (648 ha) (Juvik and Juvik 1998:306). Cordy defines the *ahupua'a* boundaries further:

The south border of Nānākuli is at Nānākuli Point on the shore. Back across the coastal trail (today's highway), the south ridge of the valley begins and rises to Pu'u Manawahua. The ridge then meets the main ridgeline of the Wai'anae mountains, which forms the back

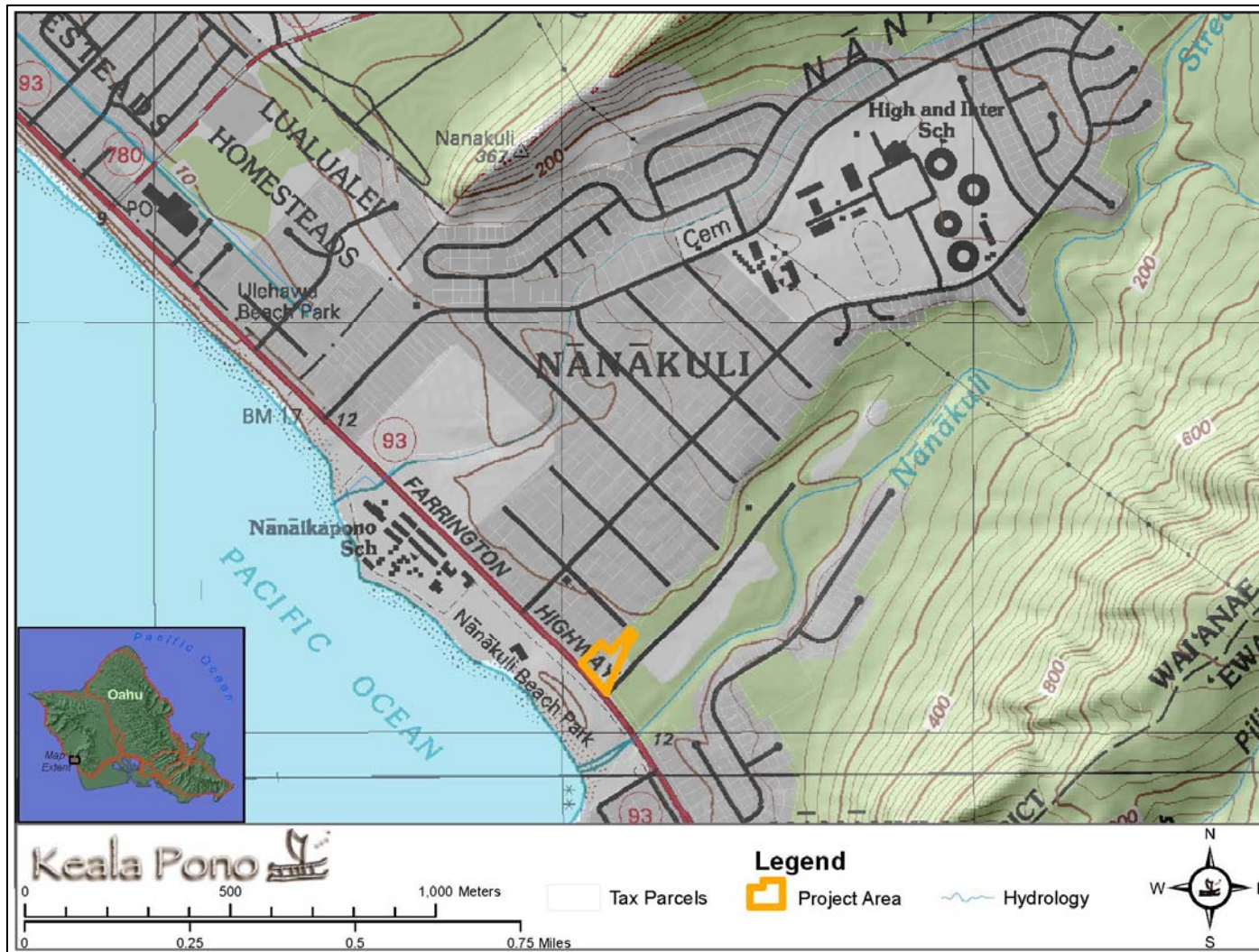


Figure 1. Project location on a 7.5 minute USGS Schofield Barracks quadrangle map (1998).

of the valley with Mauna Kapu and the light grey cliffs of Palikea at 3,098 feet. The north ridge then heads back toward the sea, forming the north side of the valley. The ridge dips in the back then rises to the high peak called Pu‘u Heleakalā. (Cordy 2002:79)

Similar to the other Wai‘anae valleys, there is a lower valley and an upper valley, which gradually increases in elevation. The valley’s many tributaries are located in the upper portion, all emerging from the ‘Ewa side, and merge in the lower valley. They are intermittent streams that appear to not have run full-time in the past, due to the lack of remains of irrigated fields (Cordy 2002:79). Nānākuli Stream is immediately east of the survey area.

Situated on the dry coastal plain, the project area receives low rainfall of only 20–30 inches (51–76 cm) per year, and the wind generally comes from the east, over the Ko‘olau and Wai‘anae mountain ranges (Juvik and Juvik 1998:50). Soils consist of Mamala stony silty clay loam, 0–12% slopes (MnC) on the west side of the project area, Pulehu clay loam, 03% (PsA) on the east side, and a small portion of Beaches (BS) on the south side (Foote et al. 1972) (Figure 3).

The Undertaking

Renovations and improvements are planned for the west side of the property. The existing church building will be renovated, with the façade left in place. Several buildings will be demolished and replaced with new structures. These include the Quonset hut currently used for the food pantry, as well as four trailers utilized as offices and classrooms. A new multipurpose structure will be built in this area. Excavations for the construction are not expected to exceed 3 feet (.9 m) in depth.

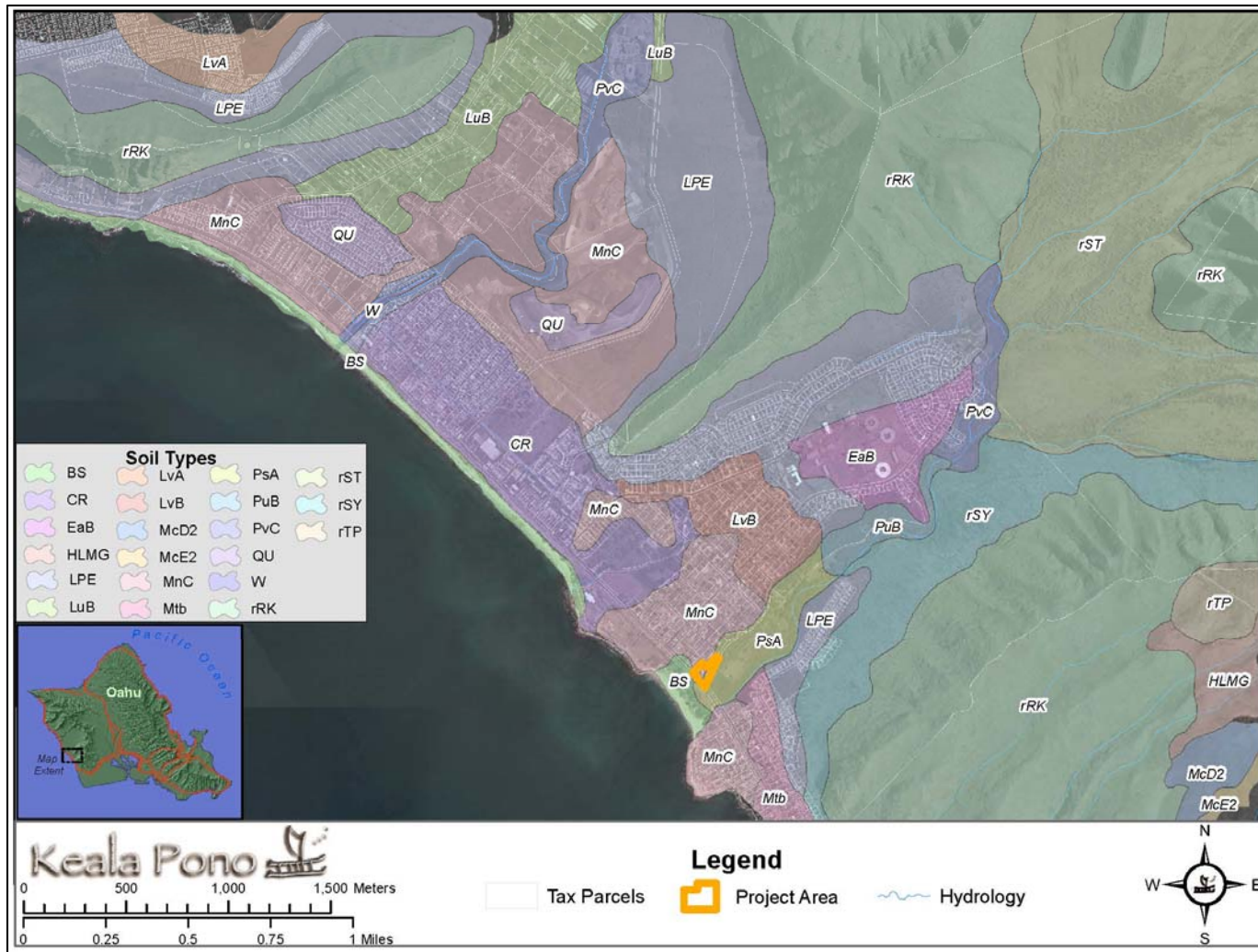


Figure 3. Soils in the vicinity of the project area.

BACKGROUND

This section of the report presents traditional and historic background information for Nānākuli, including place names, Hawaiian proverbs and *mo'olelo*, land use, Māhele land tenure data, and a summary of previous archaeological research.

***Inoa 'Āina* Nānākuli: Place Names**

Nānākuli literally means “look at knee” or “look deaf” (Pukui et al. 1974). There are several stories that attempt to explain the origin of the name.

One *mo'olelo* relates that Nānākuli is named in honor of the tattooed knee of Ka'ōpulupulu, a priest whose chief, Kahāhana, turned a deaf (*kuli*) ear to his advice (Pukui et al. 1974):

Kahāhana dug up bones from their burial places “to make arrows for rat-shooting and hooks for fishing. The bones of chiefs were bartered for skirts for chiefesses and handles for *kāhili*. Ka'ōpulupulu pleaded with him in vain to stop this disrespectful deed, but Kahāhana turned a deaf ear to Ka'ōpulupulu's pleas. As a sign of protest, Ka'ōpulupulu, his followers, relatives and members of his household tattooed their knees to signify Kahāhana's unwillingness to listen to advice. (Kamakau 1992:133)

Sterling and Summers (1978) share another story based on the “look deaf” translation, as told to noted historian and author Mary Kawena Pukui in 1945 by Simeona Nawa'a:

Simeona Nawa'a came in to the Museum and sat down to talk to me. In the course of the conversation he told me these things:

Nanakuli – It was Kanui, a native woman of Wai'anae who told him why this place was so named. In the olden days, this place was sparsely inhabited because of the scarcity of water. The fishing was good but planting very poor. When it rained, some sweet potatoes would be put into the ground, but the crops were always poor and miserable.

There were a few brackish pools from which they obtained their drinking water and it is only when they went to the upland of Waianae that they were able to get fresh water. They carried the water home in large calabashes hung on mamaka or carrying sticks and used their water very carefully after they got it home. They spent most of their time fishing and most of the fish they caught were dried as gifts for friends and relatives in the upland. Sometimes they carried dried and fresh fish to these people in the upland and in exchange received poi and other vegetable foods. And as often as not, it was the people of the upland who came with their products and went home with fish.

Because of the great scarcity of water and vegetable food, they were ashamed to greet passing strangers. They remained out of sight as much as possible. Sometimes they met people before they were able to hide, so they just looked at the strangers with expressionless faces and acted as though they were stone deaf and did not hear the greeting. This was so that the strangers would not ask for water which they did not have in that locality.

The strangers would go on to other places and mention the peculiar, deaf people who just stared and they would be told that the people were not deaf but ashamed of their inability to be hospitable. So the place they lived was called Nana, or look, and kuli, deaf—that is, Deaf mutes who just look (Nawa'a 1956:2740 in Sterling and Summers 1978:61–62)

Another interpretation comes from an early 20th century resident of Nānākuli, Wm. Z.H. Olepau in 1933 as follows:

There were two women who went up the hill of “PuuHakila” or PuuHela to dry their Kapas. While the kapas were being dried they left and went down the hill to the pool for some water. They heard dogs barking so they stood, looking around for the barking was deafening. (Sterling and Summers 1978:62)

Olepau then explains why Nānākuli may have been named for the knee:

- (1) Women used to go to the top of a hill to dry their kapa, and when they got there, they looked at their knees – nana kuli.
- (2) Royalists of the valley used to sit with their knees up and watch their knees – nana kuli.

W.Z. Olepau, resident of Nanakuli, Mar. 20, 1933. (Sterling and Summers 1978:62)

Another explanation for the “looking at the knees” translation is related to an incident in the travels of the famous O‘ahu chief Kūali‘i. His attendants wished to relieve the king of his fatigue by pressing his knees (Thrum 1922:87).

While many stories attempt to interpret the meaning behind the place name Nānākuli, there are still others that refute that Nānākuli is the correct spelling, and thus the wrong meaning, for the *ahupua‘a*. Fred Cachola and Lehua Kapaku are two Nānākuli residents who share their beliefs with regard to the spelling of the name. In an interview, Cachola explains how he heard about the meaning when he was a school principal at Nānāikapono Elementary, from longtime resident Mrs. Eli:

So she said that the first principal of that school was Reverend Awai and that he knew that the tradition of that area, Nānākuli, had a Hawaiian hidden meaning which she told me was “Nānā-i-ka-ule.” I was kind of smiling. And she said, “Yeah, because that’s how in the old days this place was known for promiscuity. It got this name from ancient times. And it might have something to do with the mountain range.” Look at your map. Look at your map. The one that you were showing me. Because you can see the *ule* over there. See? There it is. See the testicles over here, and the penis sticking out there. So it could be [in] reference to that... And, that’s one interpretation of the name. And, it’s very Hawaiian. To me, it’s a very Hawaiian thing, very Hawaiian. (McGuire and Hammatt 2000:9)

In another interview, Lehua Kapaku, a resident of Nānākuli since 1960, shared a different story:

The Māui legend names off the various places this side of O‘ahu. Māui had so many brothers and he had two sisters. One was Lualualei and [the other was] his baby sister whom he treasured. The baby sister’s name was Nānāku‘ulei [which means] *look to my pretty lei*. To have the name “Lualualei” which is *sacred wreath*, and, then having a baby sister [whose name means] *looking deaf*, I just didn’t agree. I wasn’t satisfied with that. So, I accepted the Māui legend part where his baby sister was Nānāku‘ulei... This is the only place in the whole State to have a derogatory name, *look deaf*. You look at any other place, they have nice names... Only Nānākuli. So, it may have been a misprint... (McGuire and Hammatt 2000:13)

A major landmark in Nānākuli is Pu‘u Heleakalā, a hill located on the northwestern side of the valley. Not to be confused with the famous “Haleakalā” on Maui, Heleakalā translates to “snare by the sun,” for the *pu‘u* blocks the rays of the sun as it sets (Pukui et al. 1974:44). Pukui offers further insight into the name:

Heleakala Hill

A barren hill in Nanakuli, Waianae. Sometimes called Haleakala which Mrs. Pukui believes is probably wrong.

Hele – snare
a – belonging to
kala – sun

Heleakala meaning, where the sun is snared. This hill faces right into the setting sun and reference is made as to this place being ‘where the sun’s rays are broken.’ (Pukui 1953 in Sterling and Summers 1978:62)

The *pu‘u* is also described in the following historic account, originally printed in the Hawaiian language newspaper *Ka Nupepa Kuokoa*:

....It wasn’t long when we arrived at Nānākuli and then to a place which bears a peculiar name, said to be the one on which the rays of the sun was broken. This is a barren hill as though plants hated all of its sides. I saw the cave in which Hina made tapa cloths on the slope of a hill facing a stream whose mouth was at a place with a peculiar name. (Kuokoa 1899 in Sterling and Summers 1978:62)

Other peaks include Pu‘u Manawahua, Mauna Kapu, and Palikea toward the back of the valley. Pu‘u Manawahua is 2,401 feet (732 m) high, and the name means “great grief hill” or “nausea hill” (Pukui et al. 1974:202). Mauna Kapu separates the Nānākuli and Honouliuli Forest Reserves and can be translated as “sacred mountain” (Pukui et al. 1974:148). Palikea rises 3,098 feet (944 m) high on the Lualualei side of Nānākuli. The name translates to “white cliff” (Pukui et al. 1974:177).

Nānākuli Beach Park is a recent name given by the City and County of Honolulu to the stretch of coastline including Pili o Kahe, Zablan Beach, and Kalaniana‘ole Beach. On the south end of the park is Pili o Kahe, which translates to “clinging to Kahe” (Pukui et al. 1974:185). Next to Pili o Kahe is Zablan Beach, named for a family who is connected with the area (Clark 1977:84). On the north end of the park is Kalaniana‘ole Beach, named after Prince Jonah Kūhiō Kalaniana‘ole, who created the Hawaiian Homes Commission Act of 1920. The beach was given the name in 1940 at the request of the Nānākuli Homestead community.

Nānākuli ‘Ōlelo No‘eau and Mo‘olelo

‘Ōlelo no‘eau and mo‘olelo offer insight into what life may have been like in Nānākuli in ancient Hawai‘i. They also share topics of interest of the time that were meant to be passed down from one generation to the next.

‘Ōlelo No‘eau

Whereas no ‘ōlelo no‘eau were found specifically for Nānākuli, the following sayings relating to the greater Wai‘anae District paint a picture of the region in times past. They describe a mountain goddess, a coconut grove, and also politics and power of the land.

He lokomaika‘i ka manu o Kaiona.

Kind is the bird of Kaiona.

Said of one who helps a lost person find his way home. The goddess Kaiona, who lived the Wai‘anae Mountains of O‘ahu, was said to have pet birds who could guide anyone lost in the forest back to his companion.

(Pukui 1983:85)

Ka wahine hele lā o Kaiona, alualu wai li‘ulā o ke kaha pua ‘ōhai.

The woman, Kaiona, who travels in the sunshine pursuing the mirage of the place where the ‘ōhai blossoms grow.

Kaiona was a goddess of Ka‘ala and the Wai‘anae Mountains. She was a kind person who helped anyone who lost his way in the mountains by sending a bird, a ‘iwa, to guide the lost one out of the forest. In modern times Princess Bernice Pauahi was compared to Kaiona in songs.

(Pukui 1983:177)

E nui ke aho, e ku‘u keiki, a moe i ke kai, no ke kai la ho‘i ka ‘āina.

Take a deep breath, my son, and lay yourself in the sea, for then the land shall belong to the sea.

Uttered by the priest Ka'opulupulu at Wai'anae. Weary with the cruelty and injustice of Kahāhana, chief of O'ahu, Ka'opulupulu walked with his son to Wai'anae, where he told his son to throw himself into the sea. The boy obeyed, and there died. Ka'opulupulu was later slain and taken to Waikīkī where he was laid on the sacrificial altar at Helumoa.
(Pukui 1983:44)

Ka malu niu o Pōkā'i.

The coco-palm shade of Pōkā'i.

Refers to Wai'anae, on O'ahu. At Pōkā'i was the largest and best-known coconut grove on O'ahu, famed in chants and songs.
(Pukui 1983:160)

Kapakahi ka lā ma Wai'anae.

Lopsided is the sun at Wai'anae.

Used to refer to anything lopsided, crooked, or not right. First uttered by Hi'iaka in a rebuke to Lohi'au and Wahine'ōma'o for talking when she had warned them not to.
(Pukui 1983:164)

Malolo kai e! Malolo kai!

Tide is not high! Tide is not high!

Said of a threatening disaster. Robbers once lived at a place in Wai'anae now known as Malolo-kai. Their spies watched for travelers to kill and rob. When there were only a few that could be easily overcome, the spies cried, "Low tide!" which meant disaster for the travelers. But if there were too many to attack, the cry was "High tide!"
(Pukui 1983:232)

Ola Wai'anae i ka makani Kaiaulu.

Wai'anae is made comfortable by the Kaiaulu breeze.

Chanted by Hi'iaka at Ka'ena, O'ahu, after her return from Kaua'i.
(Pukui 1983:272)

Mo'olelo

From the following *mo'olelo* about fishing, we can learn what the social and political life may have been like in pre-contact in Nānākuli.

In the time when Kahekili, ruler of Maui ruled Oahu, after the battle with Kahahana, his own nephew, there lived a man at Nanakuli, Waianae, island of Oahu. He was a man that never thought of nor kept any of the gods of old Hawaii. He was ungodly lazy, poor and simply lived on the charity of his host.

One night, he had a dream. A small stone image spoke to him saying, "Say! Say! Wake up you and come and get me. I am dying of cold where I am. Come and get me. There I am, placed by the small heap of rocks placed on the ridge." The man awoke with a start and found that it was a dream. He thought nothing of this thing, this worthless idea of a stone speaking and fell off to sleep again. After he had fallen asleep again, the stone image bestirred him. He awoke and went where the stone had instructed him. When he got there, he found the stone, carried it home, washed it clean and kept it.

The next night, the stone told that there are visitors at the shore, a school of fish and that he should fetch nets and a canoe. The man looked around and said that he couldn't get any fish because he lacked a canoe and nets. Therefore, he went to speak to the konohiki of the land, "I have been told that there are visitors to the shore. It will be well to get the nets and canoes ready to go to sea."

The konohiki of the land made ready with nets and canoes and set out to sea. On this trip, there were so much fish caught that a stench rose up on the shore. People went from Ewa, Waianae and Waialua to

get some fish but the supply was inexhaustible. The fish kept coming to the same place for several days. When the fish came the keeper of the stone god took one fish and gave it to him because he was told to do so in a dream. Whenever fish was caught, one should be given to him. The keeper did so.

He became a great favorite of the konohiki's and received property, fish nets, canoe and land, such wealth as he have never seen before. The konohiki continued caring for him and they shared their wealth together for a long time.

One day some keepers of gods discovered the man had a stone and so some of them, from Ewa, came and carried it away. The spirit of that stone image went to his keeper to tell him where he had been taken, the land and the house in which it was placed. Then its keeper went and found it in the very place that the stone image described...

(signed) D. Kalakaua

(Kalakaua Ms.:241 in Sterling and Summers 1978:63)

The legendary hero Maui, a significant figure in Hawaiian *mo'olelo*, is associated with several places in Nānākuli, including a rock, a shelter, and a spring:

Site 148. Large rock said to be named Maui, about 1.1 mile from Nanakuli station toward Puu o Hulu.

Northeast of the road on the property of E.P. Fogarty is a rock said to be named after the Hawaiian hero, Maui who is said to have landed here when he first came to the Hawaiian islands from the south. This stone at the time was surrounded by water, and it was here that Maui reposed and sunned himself. In the bluff just northeast of the rock is a shelter in which he lived, and in the vicinity was a spring where he obtained water. The large rock is now split in half and adorned with many small, oddly-shaped rocks. It is said to be bad fortune to build one's house across a line drawn directly from the rock to the shore. J.J. Mathews is said to have collected detailed information in regard to this site. (McAllister 1933:110)

Power and Warfare in Wai'anae

In the 1400s, the Māweke-Kumuhonua line unified O'ahu's rule, Līhu'e (also known as Wai'anae Uka) was the royal center, and oral histories portray this time as peaceful and prosperous. Of the Māweke line, La'akona, who lived in 'Ewa and controlled Wai'anae, reigned until Haka, an evil ruler, assumed power between 1520 and 1540. He was later captured and slain somewhere between the valleys of Mākaha and Wai'anae (Cordy 2002:26).

In the 1600s and 1700s, population grew on O'ahu and the island was ruled under Kala'imanuia (1600–1620), Kākuihewa (1640–1660), Kūali'i (1720–1740), and Peleioholani (1740–1779). Power declined and was built back up several times among these rulers, but by 1778 the Kingdom included Moloka'i, O'ahu, and portions of Kaua'i (Cordy 2002:32).

In 1783 Maui invaded O'ahu after Maui's ruler Kahekili tricked O'ahu's chief Kahāhana into killing his high priest. The O'ahu army was defeated and Kahāhana was caught and killed in 1785. In response, Kahāhana's supporters revolted, but with many losses in 'Ewa, they pulled back to the valleys of Wai'anae where many more were killed. The Maui Kingdom ruled O'ahu for ten years under Kahekili and his son Kalanikūpule until they were defeated by Kamehameha's Hawai'i Kingdom army in 1795.

Land Use and Subsistence

The Wai'anae coast was one of three dry areas on the island of O'ahu (Handy et al. 1972). Due to low rainfall and intermittent streams, there were not many options for agriculture. Sweet potato, or *'uala* (*Ipomoea batatas*), was the staple crop, planted throughout the dry slopes of the Wai'anae region (Handy 1940:156). Throughout the district, a pattern of small coastal villages with farms in the upper valleys was likely the norm (Cordy 2002).

The seas fronting the district were prime fishing grounds, thus fishing and sweet potato cultivation were the main subsistence activities:

Undoubtedly there were also small settlements subsisting mainly on sweet potato, in the valleys where constant streams were lacking (Nanakuli and Makua). Along this coast the fishing is excellent. In famine times, then, there was reef fishing, and the Wai‘anae Mountains had wild banana, *ti*, fern, and other roots that were edible...(Handy et al. 1972:275–276)

Handy (1940) describes a broken platform, pavings, and a house site in Nānākuli, indicating traditional habitation along the stream. Handy also talked with a rancher, however, who stated that “there are no terrace remains anywhere in Nanakuli valley, nor any available water for irrigation, except at the very head of the valley’s head, far up the mountains” (Handy 1940:83). The rancher also mentioned that at the top of the valley there are abandoned terraces, platforms, and orange trees that mark habitation sites.

We know much of Wai‘anae’s cultural history through John Papa ‘Ī‘Ī’s series of articles in the Hawaiian newspaper *Ka Nupepa Kuokoa*. ‘Ī‘Ī was born in 1800 and died in 1870, and his writing was translated by Mary Kawena Pukui in 1959 in a book titled *Fragments of Hawaiian History*. Below are entries that detail his experiences while visiting relatives in Nānākuli:

Ii’s aunt on his father’s side, Kaneiakama, came from Waianae with her husband Paakonia. They visited the family’s houses to rest a while before continuing on to Honolulu to their landlord. These people, who were bracelet-makers and residents of that land of the foamy sea, were well known. They were of chiefly stock and were privileged to place their bundles with those of the chiefs. Their landlord, Pahoa, was in charge of Ka‘ahumanu’s extensive lands, granted her by her husband, Kamehemeha; and there were very few *ahupua‘a* in which she did not have a portion, for she was a great favorite of the king. Ka‘ahumanu was fond of Kaneiakama and admired her skill in composing chants. Because of this, perhaps, the land at Waianae was given to Kaneiakama and her husband. (I‘i 1993:26)

There were three such journeys, one by way of Pohakea, one through Kolekole, and one by a route below Puu o Kapolei. On the first two trips they went to Pahoauka, where his aunt and uncle lived. (I‘i 1993:27)

Ii was eight or nine years old when he was again seized by a desire to go to visit his aunt Kaneiakama, and he was given permission to do so. He had heard that his aunt was at Nanakuli, so he and his attendant departed by way of Puu o Kapolei to Waimanalo and on to Nanakuli. There he found his aunt and her husband who were in charge of the fishing.” (I‘i 1993:29)

During his visit Ii observed how the children of Nanakuli produced a long quavering sound while chanting. This was performed while the children sat on the branches of the breadfruit trees. They sat apart from each other on branches from the base to the top, chanting. When the boy listened carefully to the long, drawn out sound, he could distinguish the words that they were chanting. He asked his aunt to let him join the children, and he quickly saw how the quavery sound was produced. He noted that one of the boys held up two fingers on his right hand and tapped his throat in order to make the quaver. Ii learned the chant at once. This is the chant that they were using:

Kau koli‘i ka la i luna o Maunaloa,	The sun sends a streak of light on Maunaloa,
E ke ao e lele koa,	The clouds go scurrying by,
Halulu i ka mauna	There is a rumble on the mountain top
Kikaha ke kuahiwi o Kona he la‘i,	That echoes from the mountain of Kona, the calm,
Ku papu Hilo i ka ua,	Hilo stands directly in the rain,
Paliloa Hamakua,	Hamakua’s cliffs are tall,
‘Ope‘ope Kohala i ka makani,	Kohala is buffeted by the wind,
Huki Kauiki pa i ka lani, etc.	Kauiki reaches and touches the sky, etc.

This was memorized by all and was chanted in perfect unison, and the boy noticed how pleasing it was. Thus did Ii enjoy himself with the children of Nanakuli, and he continued to spend his spare time with them. (I'i 1993:29)

Heiau

'Ilihune Heiau was a noted religious structure in Nānākuli. Nothing of it remains today, however, as many *heiau* were used as cattle pens, and rocks were moved during the time of ranching. The scant information known for the *heiau* is as follows:

Ahupuaa: Nanakuli

“poor, destitute”

Comments: Site 147. Approximate site of Ilihune heiau, Nanakuli, of which nothing remains. Thrum notes: A small walled heiau of pookanaka class; used about 1860 by Frank Manini as a cattle pen, for which natives prophesied his poverty and death.” (McAllister 1933:110)

On the night of Po Kane there are some who hear a voice of a child calling e-----. This voice trails off and ends up at a place called a heiau by some – a cattle pen by others. (Mrs. Annie Soong, Nov. 1954 in Sterling and Summers 1978:62)

Archaeological research has found a small shrine in the upper valley, but it is hard to determine if there were others due to the disturbance of the ruins (Cordy 2002:84). Another *heiau* overlooking Nānākuli includes one from Honouliuli Ahupua'a:

Puu Kuua Heiau

pu'u ku'ua. PEM: relinquished hill. Honouliuli Ahupua'a

“Site 137. Puu Kuua heiau, Palikea, Honouliuli. The heiau was located on the ridge overlooking Nanakuli, as well as Honouliuli, at the approximate height of 1800 feet. [This is far from Palikea as currently identified.] Most of the stones of the heiau were used for a cattle pen... That portion of the *heiau* which has not been cleared for pineapples has been planted in ironwoods.” Coordinates at 1800 ft. elevation. (McAllister 1933:108)

Nānākuli in the Historic Period

The historic period in Hawai'i begins after Western contact in 1778. In the late 1700s to early 1800s, foreigners and locals provided written accounts of visits and descriptions of what life was like during this period. One of the earliest accounts of the area is from 1798 when George Vancouver sailed along the Wai'anae coast and described what he saw:

From these shores we were visited by some of the natives, in the most wretched canoes I had ever yet seen amongst the South-Sea islanders; they corresponded however with the appearance of the country, which from the commencement of the high land to the wet land of Opooroah, was composed of one barren rocky waste, nearly destitute of verdure, cultivation, or inhabitants, with little variation all the way to the west point of the island. Not far from the s.w. point is a small grove of shabby cocoanut trees, and along those shores are a few straggling fishermen's huts. Nearly in the middle of the side of the island is the only village we had seen westward from Opooroah. In its neighborhood the bases of the mountains retire further from the sea-shore, and a narrow valley, presenting a fertile cultivated aspect, seemed to separate the wind distance through, the hills. The shore here forms a small sandy bay. On its southern side, between the two rocky precipices, in a grove of cocoanut trees is situated the village... The few inhabitants who visited us from the village, earnestly intreated our anchoring, and told us, that if we would stay until morning, their chief would be on board with a number of hogs, and a great quantity of vegetables. (Vancouver 1967:217)

In the early 1800s, John Papa ʻĪʻī visited his aunt in Nānākuli, describing in little detail that ʻulu trees were present and fishing was taking place. There were also reports in 1818 by Hunnewell and 1828 by Chamberlain that there were a number of villages in the area (Cordy 2002:80).

In the early 1800s, many chiefs in Waiʻanae had their people go to the mountains to gather sandalwood, an item in high demand for trade with foreigners (Cordy 2002:41). This new effort changed the traditional way of life, and may have contributed to population decline during this time. By the mid to late 1800s, much of the land was leased for ranching purposes.

In the *1880 Hawaiian Kingdom Statistical and Commercial Directory and Tourist's Guide*, a writer describes his visit to Nānākuli, observing that much of the land was being used for grazing:

Leaving Waianae, a ride of about two miles brought me to the Lualualei Valley, another romantic place opening to the sea and surrounded in every other direction by high mountains. This valle is occupied as a grazing farm by Messrs. Dowsett & Galbraith, who lease some sixteen thousand acres from the Crown. Its dimensions do not differ materially from those of the Waianae Valley, except that it is broader—say, two miles in width by a length of six or seven miles. The hills which inclose [sic] it, however, are not so precipitous as thos at Waianae, and have, therefore, more grazing land on their lower slopes, a circumstance which adds greatly to the value of the property as a stock farm. Although only occupied for grazing purposes at present, there is nothing in the nature of the soil to prevent the cultivation of the sugar cane, Indian corn, etc. Arrangements for irrigation, however, will be a necessary preliminary to cultivation.

From the Lualualei Valley to the Nanakuli Valley I had a rather dreary ride of three miles. The intervening country towards the sea is barren, with a little pasturage at the base of the mountains. The track, however, is in very good order, much better than I expected to find it, looking to the mountainous and rocky character of the country through which it passes. At Nanakuli and Hoaeae, close adjoining, the Messrs. Robinson have cattle ranches. The pasture here cannot be compared with that in the valleys I had just left behind, but inland among the mountain ranges it is much better. This, indeed, is a characteristic of the ranges throughout the island.

During my journey along the western coast of this island, where the road is generally so much more fatiguing to the traveler than that of the windward side, I have often pulled up to give both horse and rider a spell, whilst I entered into a chat with some group of natives whom I have fallen in with, or those whose hamlets I have been passing at the time. More than once, too, I have passed the night at their houses. I have always found them very sociable and thoroughly hospitable....(Bowser 1881:493-494)

Handy's *The Hawaiian Planter*, published in 1940, gives further description of Nānākuli in the late 1800s, including an account from a rancher who had been living and working there for 50 years:

On the south side of the stream, about a quarter of a mile inland from the main coastal road, there is a broken platform (Paepae) built of small rocks with apparently a small paved area below, close to the stream bed. Extending inland along the south bank of the stream bed for about 75 yards there is a rough stone facing from 1 to 2 feet high in general level along the top. This might be judged to be a terrace area were it not that the ground behind the stone facing is not level; however, that might be due to washing out when the stream was in flood. According to Ernest Rankin, a rancher in this and other valleys for years past and now living on a homestead on the ridge north and above this site, the stonework just described was not terracing for taro patches but was built by a man named Whitney 40 years ago when he located a house and cattle shelter at that point. Behind the terrace there are six large old monkeypod trees, indicating earlier habitation. On the north side of the stream at this point, there is a fairly recent habitation site, with several large trees, also papayas and traces of sugar cane plantings. Nearby are a tiny stone paving and the remains of an old Hawaiian house.

According to Rankin there are no terrace remains anywhere in Nanakuli valley, nor any available water for irrigation, except at the very head of the valley's head, far up in the mountains. High in the small gulches at the valley's head there are some abandoned terraces, stone platforms, and orange trees marking the sites of ancient Hawaiian habitations. But as long ago as 1890 when Rankin first frequented the valley as a cowboy, there was not one Hawaiian living there. (Handy 1940:83)

Māhele Land Tenure and Historic Land Use

From 1848 through 1855, the Māhele divided and privatized the land across the islands, and the entire Wai'anae District, aside from Mākaha, was designated as Crown Land. At this time the area was sparsely populated by Hawaiians. For example, only five Māhele land claims were made for all of Nānākuli (LCA 830, 833, 846, 7455, and 8153), and none were awarded (Table 1). The Nānākuli claims mention a *muliwai* and pond in addition to house lots and agricultural plots in *kula* lands and *wauke* plantations in the uplands. It is not clear exactly where the LCAs were located, although Berdy et al. (2002:10) surmise that they were situated in the upper valley where permanent habitation sites have been found. Only a small population of roughly 50 individuals lived in coastal Nānākuli during the mid-1800s (Cordy 1997). By 1881 there were just four Nānākuli residents listed in the Hawaiian Island Directory (Cordy 1997).

Table 1. Māhele Data for Nānākuli

LCA	Claimant	'Ili	Awarded	Description
830	Mahiki		No	3 'āpana, 1 house lot, cairns, streams
833	Kahaanui	Kaape	No	4 'āpana, 1 house lot, cairns, streams
846	Awa		No	5 'āpana, 1 house lot, streams
7455	Kuluahi	Hapai	No	1 'āpana, 1 kula, 1 house lot, wauke, muliwai, pond
8153	Haulula	Kuamokahi	No	1 'āpana, 1 kula, 1 house lot, wauke, 'uala

The Waianae Sugar Plantation was founded in 1878 by H.A. Wiedemann, and the leeward community grew substantially. During the 1890s the O'ahu Railway and Land Co. (O.R.&L.) railroad was constructed to bring crops and animals from the Leeward Coast to Pearl Harbor. This railway would eventually run through all of the Wai'anae District and around Ka'ena Point to Kahuku. Vestiges of the old rail line can still be seen along Farrington Highway.

After the overthrow of the monarchy in 1893, the Crown Lands were combined with the Government Lands. In 1898, when Hawai'i became a U.S. Territory, all lands combined were ceded to the United States. It was not until the passage of the 1920 Hawaiian Homes Commission Act that the ceded lands (roughly 188,000 acres) were set aside to benefit Native Hawaiians (Juvik and Juvik 1998:228). Following this, Native Hawaiian homesteading in Nānākuli ensued, with 241 lots for applicants to choose from. The establishment of the Nānākuli Hawaiian homestead community is described below:

Among the areas designated as Hawaiian homesteads was a hot, stickery portion of Nānākuli. By 1929 this land had been divided into house lots and plans were underway to bring in homesteaders. From the beginning, there was criticism of the project. Frederick Ohrt, manager of the Water Board in Honolulu, said there wasn't enough water in Nānākuli to supply the homesteaders (McGrath et al. 1973:111).

In the early 1900s, a series of parcels were sold in nearby Lualualei, classified as pastoral lands because of the dearth of water. Roughly 40 families settled on the smaller lots, while families such as the Von Holts, McCandlesses, and Dowsetts laid claim to the large parcels there.

In March 1917, 31.36 acres within Nānākuli were set aside as a U.S. military reservation which was designated as Camp Andrews in 1941. A 1943 article in *Paradise of the Pacific* explains how Camp Andrews, an overnight

rest and recreation center, was the answer to relaxation for “fighting men” of the time and had cabins and picnic benches (Allen 1999).

The answer to this problem was construction of a camp accessible to railroad and highway transportation. Camp Andrews resulted—a peaceful haven where there is no routine, no reveille, and where a thousand men and fifty officers can rest after returning from the bloody shambles of the Southwest Pacific.

Camp Andrews... is located at Nanakuli on the south-western shore of Oahu, twenty-six miles from “Pearl.” It had been established early in 1941 by the Hawaiian Detachment but in December of that year it was turned over to Commander Hickey. Dances and USO shows help provide fun for the men during their “away from it all” two days at Camp Andrews. (*Paradise of the Pacific* 1943)

Sugarcane production and military activity dominated the first half of the 20th century on the Leeward Coast. World War II was devastating for the Waianae Sugar Plantation as high paying defense jobs created a labor shortage. All sugarcane production in the Wai‘anae District was eliminated during the 1940s due to labor shortages, water shortages, military procurement of land, and other more productive agricultural regions taking over. The O.R.&L. railway was officially abandoned in 1946.

During World War II, concrete bunkers, pill-boxes and gun emplacements were built along the Leeward Coast. Many of these concrete features are still present today. At times as many as 20,000 troops were training in the Wai‘anae District. McGrath et al. write, “American troops caused more destruction on the Waianae coast than the Japanese” (1973:135–136).

Historic Maps

The earliest map found for Nānākuli is an 1854 Government Survey map (Figure 4). Few details are depicted, but the coastline and mountains can be seen, and two points on the mountains are labeled. “HALEMANU” is on the northwest, and “GREEN HILL” is on the southeast. The expanse to the east of Green Hill is labeled as “J. MEEK’S LAND.” The coastal road is shown, and an old house is illustrated along the shore.

A 1912 Hawaii Territory survey map shows the Nānākuli region in more detail (Figure 5). Several places are named, such as Heleakalā and Manawahua Peaks. Two points half way up the valley are labeled “end of fence,” indicating that a fenceline once stood there. Nānākuli Cemetery is shown adjacent to Haleakalā Avenue, and a “Tank, Pump, and Tunnel Site” are illustrated to the east. An electric transmission line crosses the valley, and the military reservation is shown near the coast. Also along the shoreline are the Government Road, O.R.&L. railroad track, a park, and an area of standing water.

A 1925 Hawaii Territory survey map depicts the 1,101-acre Nānākuli Forest Reserve and surrounding area (Figure 6). Places labeled on the mountains surrounding Nānākuli include Heleakalā Peak, Palikea, Pōhākea, Maunakapu, and Manawahua. The coastal road and shoreline are illustrated, but no other details are shown in Nānākuli.

By 1930, Nānākuli is illustrated as a large community with many residences (Figure 7). A Hawaiian Homelands map shows the Nānākuli subdivision much as it stands today. A feature that appears to be a rock wall runs across the military reservation. Nānākuli Beach Park is depicted with a flooded area near the current highway. Just *makai* of the highway was an “Old Road” and the O.R.&L. railway.

A 1953 USGS map also depicts a modern Nānākuli community (Figure 8). Additions include water tanks at the coast and farther inland, as well as a pipeline and quarry *mauka* of the subdivision. A jeep trail extends the length of the valley into the forest reserve, and the Palikea Trail runs along the ridge.

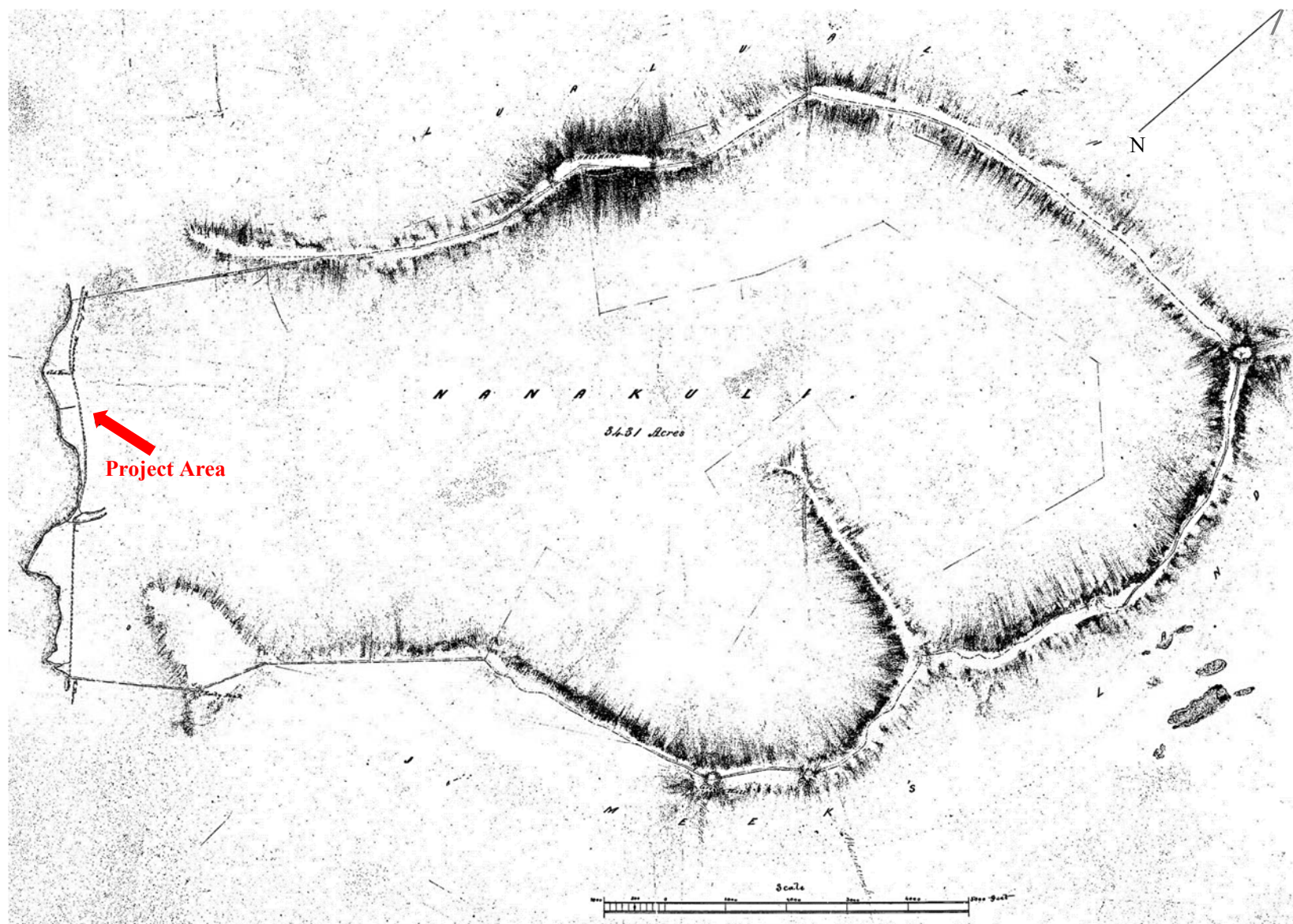


Figure 4. Portion of an 1854 Hawaiian Government Survey map (Webster 1854).

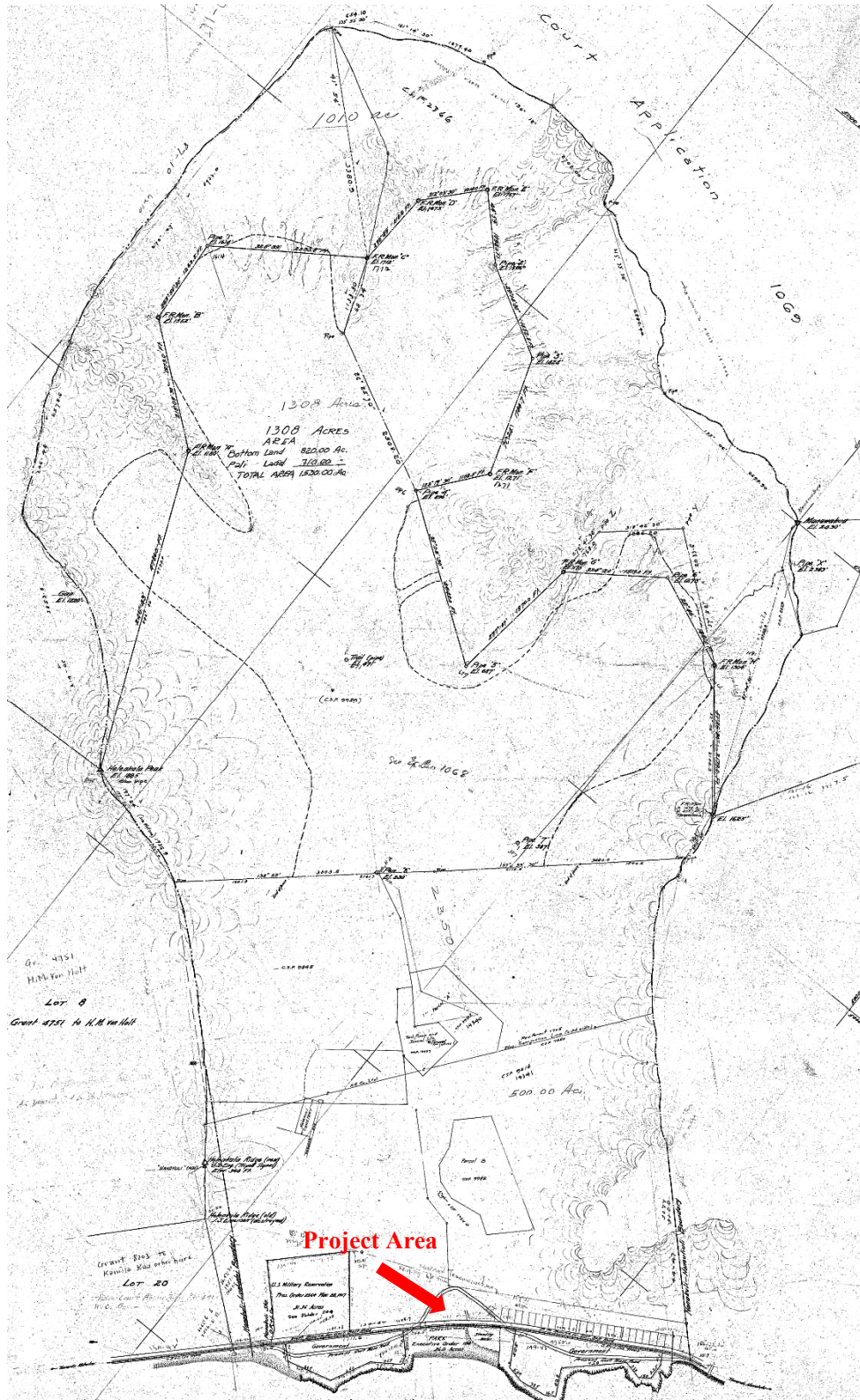


Figure 5. Portion of 1912 Hawai'i Territory Survey Map (Newton 1912).

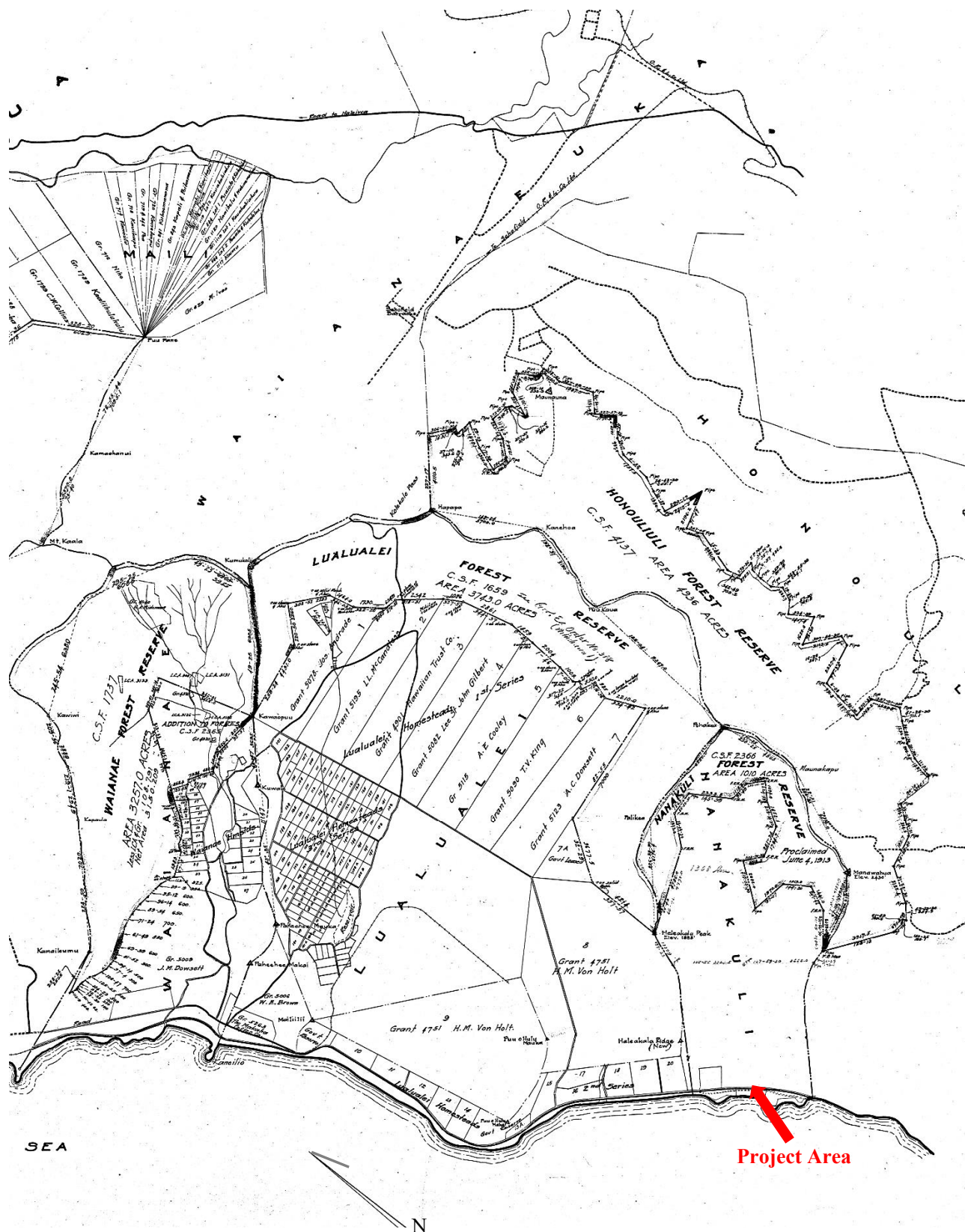


Figure 6. Portion of a 1925 Hawaii Territory Survey map (Wall 1925).

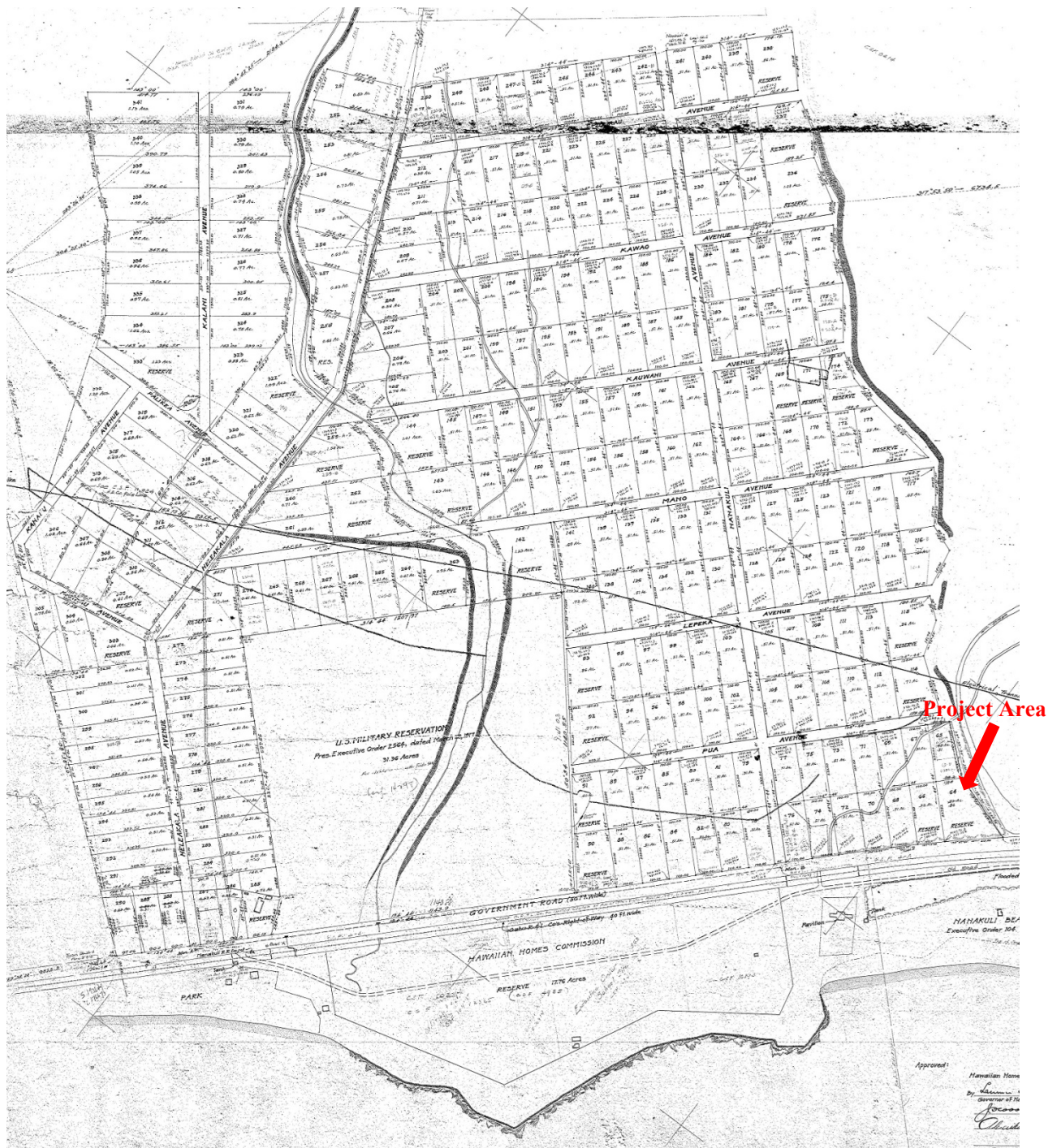
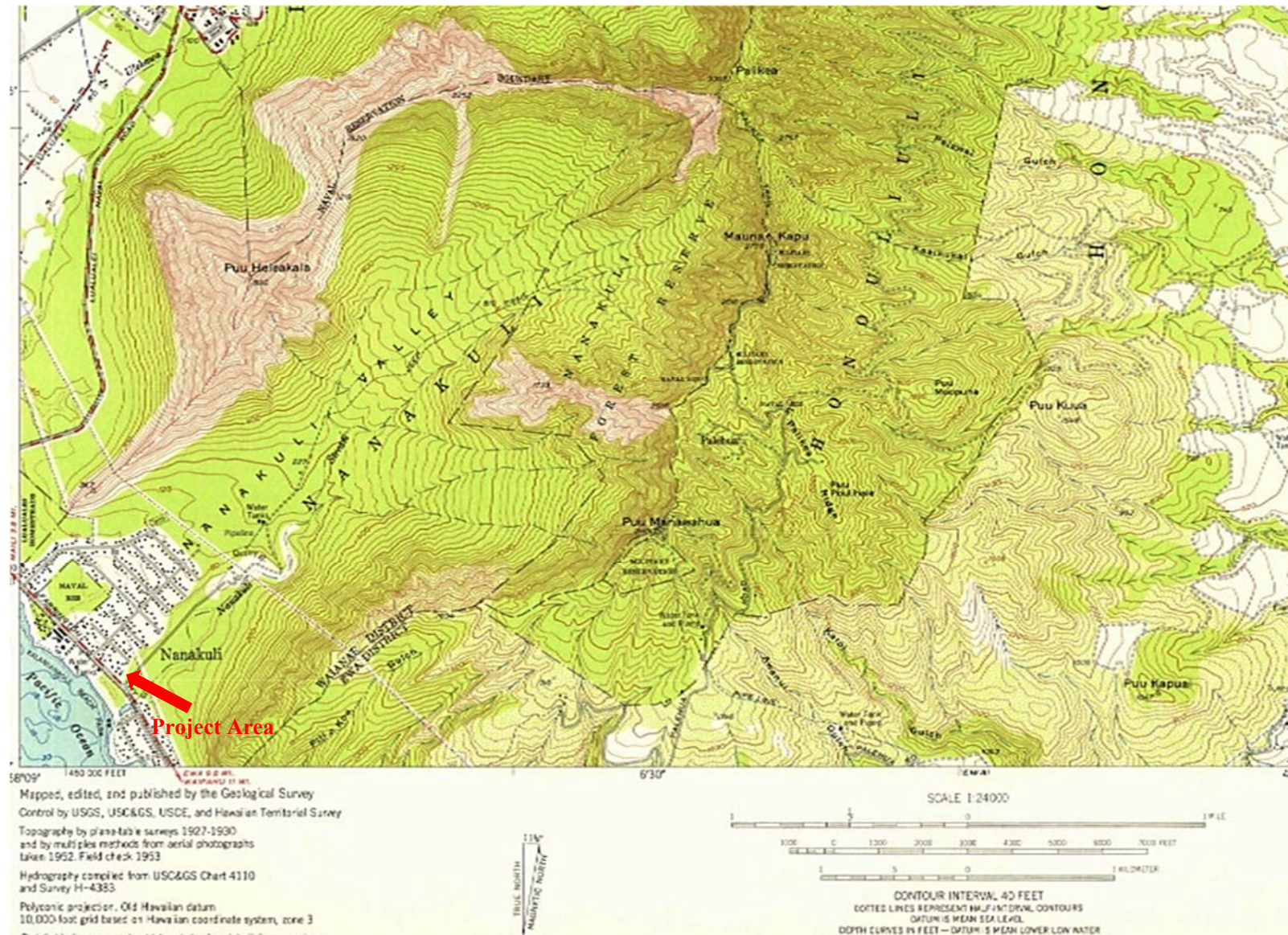


Figure 7. Portion of a 1930 Hawaiian Homes Commission map (Evans 1930).



St. Rita's Church Structures

The St. Rita's main chapel has a long history. A 2012 article states that the structure is 114 years old (Wasowicz 2012), placing its construction at 1898. It was first used as a chapel at Schofield Barracks in Wahiawā before being moved to 'Ewa to serve the plantation village as the Immaculate Conception Church (Kim n.d.). The exact date of this first move is not known, but would have occurred before 1929, when a new chapel was constructed at the 'Ewa location (ICC n.d.). The chapel was finally transported to Nānākuli in 1934, where it was a mission church for Wai'anae Sacred Hearts (O'Hare et al. 2013). The property was backfilled at this time to provide more area for parking (O'Hare et al. 2013). Also at this time, a Quonset hut and 1920s-era rectory were moved onto the property (O'Hare et al. 2013). Details of this early history are provided on the church website:

Saint Rita Catholic Church in Nanakuli began as a mission church of Immaculate Conception parish in Ewa and was administered by the Sacred Hearts Fathers. Legend has it that in 1928, the OR&L train that ran from Honolulu to Haleiwa by way of Kaena Point stopped at the Nanakuli Depot water tank for a refill for its steam engine. (This is the beach site now known as "Depots" by the locals in Nanakuli.) On board that train was Bishop Stephen Alencastre, who was on his way to dedicate the new church at Sacred Hearts Church in Waianae. He was approached at the very back of the train by several native Hawaiians who asked the Bishop to put a Catholic Church in Nanakuli. Among the petitioners were Albert K. Akana and his wife Rita Pangelinan Akana. St. Rita was established and attached to Sacred Hearts as a mission church in June of 1928. (Kim n.d.)

In 1955 the chapel building was enlarged with a new wing on either side of the structure with twin bell towers (Kim n.d.). A devastating fire destroyed much of the church in 1987 (O'Hare et al. 2013). Affected buildings included the kitchen, parish hall, garage, thrift shop, and maintenance shed. A 2008 Environmental Assessment for a new parking lot listed four structures on the property: the 2,108 sq. ft. chapel, the 1,288 sq. ft. rectory, the 792 sq. ft. religious education Quonset hut, and a 220 sq. ft. restroom (Francisco Architect Imata and Associates 2000). The Environmental Assessment does not consider the church buildings as historic properties:

Based upon research and information gathered, the proposed project site is not historical, archeological, or cultural site. A *Nanakuli Development Plan* report prepared by Wilson Okamoto & Associates, Inc. for the State of Hawaii Department of Hawaiian Home Lands in 1985 states that the area is not a historical site. The report also indicated that no archeological sites were identified during a reconnaissance survey conducted by the State. Furthermore, records at State Historic Preservation Division confirms that there are no known historic site at the proposed project locations. An archeological survey conducted in the area located only lithic scatter and modern trash dump, and the survey shows that the area has been heavily disturbed by land clearing in the past. (Francisco Architect Imata and Associates 2000:12, grammatical errors in the original)

It is unclear which State reconnaissance survey and archaeological survey are referred to, as no references are provided in the Environmental Assessment. In sum, every one of the buildings on the church property was moved from elsewhere, aside from the restroom facility. The church building itself moved twice and was modified from the original structure in 1955, and has had several more modifications since then. The rectory was also moved from elsewhere to make way for the H-1 Freeway when it was under construction.

Previous Archaeology

Many archaeological projects have been carried out in Nānākuli (Table 2). The following paragraphs summarize the most relevant studies which lie in the vicinity of the project area. Their locations are illustrated in Figure 9.

The first archaeological work in Nānākuli was done by J.G. McAllister from 1929 to 1930, as part of an island-wide archaeological survey on O'ahu. He identified one site, 'Ilihune Heiau, Site 147, near the mouth of the valley, of which he noted that nothing remained (see *Heiau* section).

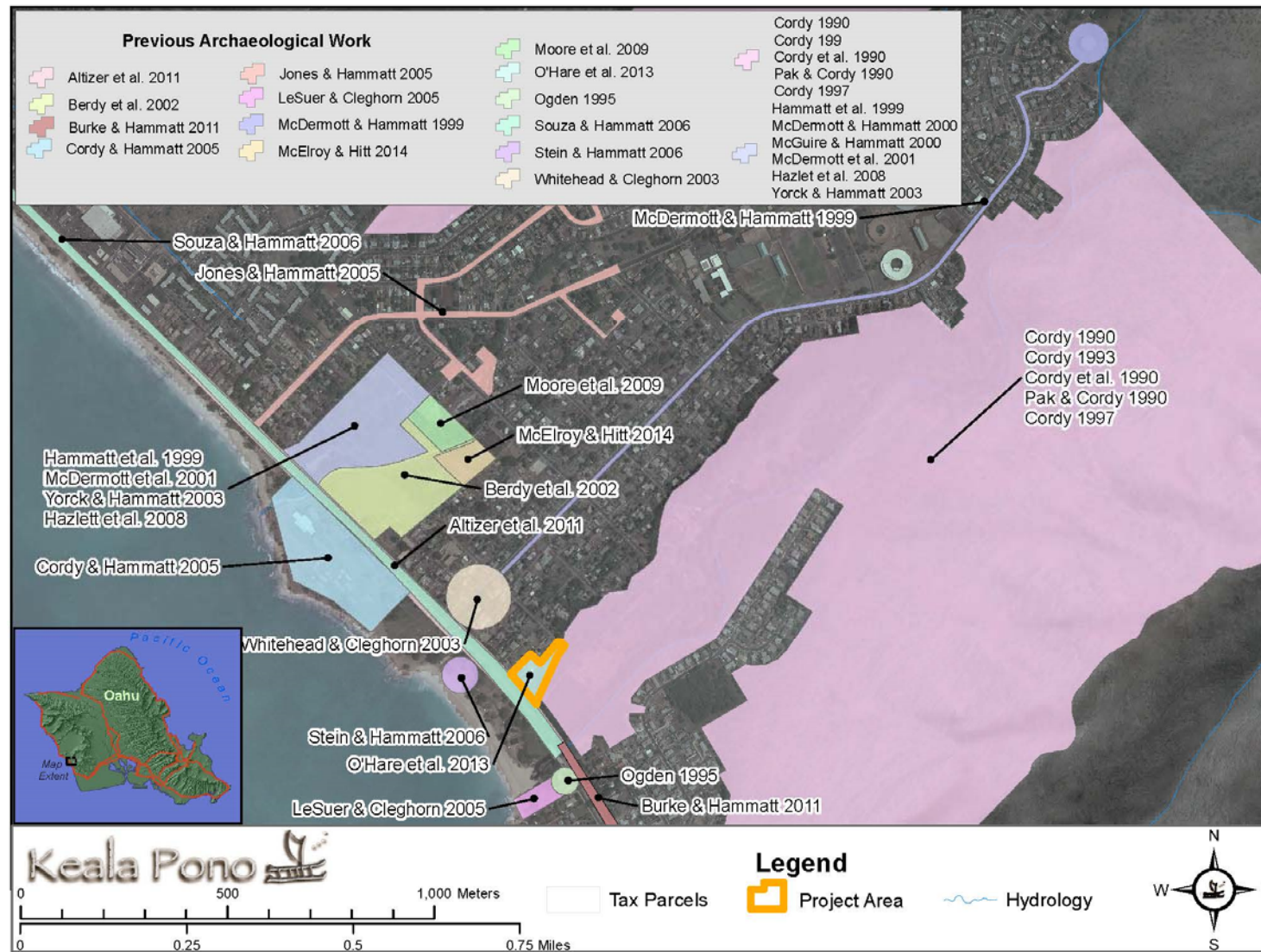


Figure 9. Previous archaeological studies in the vicinity of the project area.

Table 2. Previous Archaeology in Nānākuli

Author and Year	Location	TMK	Type of Study	Findings
McAllister 1933	Island-wide	Multiple	Survey	‘Ilihune Heiau, now destroyed.
Cordy 1990, Cordy et al. 1990, Pak & Cordy 1990, Cordy 1993	Nānākuli Ahupua‘a	Multiple	Survey	Identified agricultural, habitation, and religious sites, mostly in the upper valley. Summarized in Cordy 1997.
Nakamura & Pantaleo 1994	Nānākuli & Lualualei Ahupua ‘a	Multiple	Reconnaissance Survey	Extensive surface disturbance noted; no cultural properties were identified.
Ogden Environmental and Energy Services Company 1995	MILCON-313, Naval Undersea Warfare Engineering Station (NUWES) Facility, Lualualei and Nānākuli	8-9-006:088	Subsurface Testing	No cultural properties were identified.
Cordy 1997	Nānākuli Ahupua‘a	8-9	Inventory Survey	Recorded agricultural sites, scattered habitation sites, and possible religious structures in upper Nānākuli Valley. Few sites were located in the lower valley, although the beach region was not included.
McDermott & Hammatt 1999	Proposed Nānākuli 242 Reservoir Site, and Nānākuli Ave.	8-9-008:003	Inventory Survey	No cultural properties were identified.
Hammatt et al. 1999	Portion of former location of Camp Andrews	8-9-002:065	Assessment	Identified remains of Camp Andrews and numerous sinkholes which may provide additional information on traditional land use, flora and fauna.
McDermott & Hammatt 2000	Proposed Nānākuli IV Elementary Site	8-9-002:065, 023, por. 1	Inventory Survey with Subsurface Testing	Recorded sinkholes containing historic trash, traditional Hawaiian artifacts and midden, paleontological remains, and a human burial.
McGuire & Hammatt 2000	Proposed Nānākuli IV Elementary Site	8-9-002:065, 023, por. 1	Traditional Practices Assessment	Little documentation found for traditional cultural practices; historic land use includes ranching and military recreation. Describes the traditional practice of placing burials within sinkholes found on the subject property.
McDermott et al. 2001	Proposed Nānākuli IV Elementary Site	8-9-002:065, 023, por. 1	Inventory Survey with Subsurface Testing	Identified Site 50-80-07-5946, the remains of Camp Andrews and Site 50-80-07-5947, sinkholes with cultural deposits.
Berdy et al. 2002	Proposed Nanakuli Kokua Ohana Center	8-9-002:001	Inventory Survey with Subsurface Testing	Identified the two previously recorded sites above (5946 and 5947) and extended the boundaries of Site 5946.

Table 2. (cont.)

Author and Year	Location	TMK	Type of Study	Findings
Yorck & Hammatt 2003	Proposed Nānākuli IV Elementary Site	8-9-002:065	Monitoring	No cultural properties were identified.
Whitehead & Cleghorn 2003	Nānākuli Water System Improvements, Nānākuli Ave.	8-9-005	Monitoring	A possible cultural layer consisting of charcoal flecking and a single piece of marine shell was identified; it was not designated as a feature or site.
Cordy & Hammatt 2005	Ka Waihona O Ka Na‘auao Public Charter School	8-9-001:004	Monitoring	No cultural properties were identified.
Jones & Hammatt 2005	Dept. of Hawaiian Homelands Subdivision	Multiple	Monitoring	No cultural properties were identified.
LeSuer & Cleghorn 2005	Nānākuli Beach Park	8-9-006:001	Monitoring	No cultural properties were identified.
Ostroff & Desilets 2005	Farrington Highway	Multiple	Monitoring	Recorded five charcoal deposits, one of which may have been associated with Site 50-80-07-6671 in Lualualei.
Souza & Hammatt 2006	Farrington Highway	8-9-005:007, 8-7-006:013	Monitoring	No cultural properties were identified.
Stein & Hammatt 2006	Nānākuli Beach Park	8-9-001:002	Monitoring	No cultural properties were identified.
Hazlett et al. 2008	Proposed Nānākuli IV Elementary Site	8-9-002:065	Data Recovery	Excavated Sinkholes 1, 4, 9, & 12. Water within the sinkholes was found to be non-potable.
Yucha & Hammatt 2008	Nānākuli Beach Park	8-9-001:002	Monitoring	No cultural properties were identified.
Moore et al. 2009	Boys & Girls Club of Hawaii, Nanakuli Youth Education Town (YET)	8-9-002: 067	Monitoring	Two surface scatters encountered, consisting of basalt flakes, a coral abrader, and midden.
Altizer et al. 2011	Farrington Highway	Multiple	Archaeological Field Inspection and Literature Review	Identified three cultural resources: a section of O.R.&L. Railroad; an historic section of Farrington Highway; and previously recorded subsurface charcoal deposits.
Burke & Hammatt 2011	Farrington Highway	Multiple	Monitoring	No cultural properties were identified.

Table 2. (cont.)

Author and Year	Location	TMK	Type of Study	Findings
O'Hare et al. 2013	St. Rita's Church	8-9-005-001 por.	Archaeological Field Inspection and Literature Review	Recommended no further work.
McElroy & Hitt 2014	Hale Makana o Nānākuli	8-9-002:001	Monitoring	No cultural properties were identified.
McElroy et al. 2014	Proposed Nānākuli Library	8-9-002:065 por.	Archaeological Monitoring Plan	Assigned SIHP 50-80-07-7677 to the coral pillars of Camp Andrews and recommended them for preservation.

Extensive archaeological work has been carried out in undeveloped areas of Nānākuli Valley, just east and northeast of the current area of study (Cordy 1990, Cordy et al. 1990, Pak and Cordy 1990, Cordy 1993, Cordy 1997). These surveys are summarized in Cordy (1997). Archaeological resources recorded include agricultural areas, scattered habitation sites, and possible religious structures in upper Nānākuli Valley. The region up to the Forest Reserve boundary was surveyed, and most sites were located in the upper valley. Few sites were found in the lower valley, although the beach area was not surveyed.

A number of archaeological projects were completed at the former Camp Andrews site, located to the west of the current project area. In 1999 an archaeological assessment was conducted (Hammatt et al. 1999). The only remains found were a concrete bunker and two coral columns at the camp entrance, however an archaeological inventory survey was recommended. This began in 2000 with identification and subsurface testing of additional sinkhole features (McDermott and Hammatt 2000). Although 17 sinkholes were recorded, only the two largest were excavated. They contained historic trash, traditional Hawaiian artifacts and midden, paleontological remains, and a human burial. A traditional practices assessment was also conducted (McGuire and Hammatt 2000). Little information was found for the pre-contact period, and ranching and military recreation were among the historic-era land uses for the parcel.

Additional archaeological inventory survey work was completed in 2001 where traditional artifacts and midden, extinct avifauna, and small amounts of human bone were recovered from the sinkholes (McDermott et al. 2001). Also documented were additional features of Camp Andrews, including road remnants, trash piles, and concrete foundations. Two State Inventory of Historic Places (SIHP) site numbers were designated: 50-80-07-5946 for the historic remnants of Camp Andrews, and 50-80-07-5947 for the sinkhole features. Archaeological monitoring was later conducted for the Nānākuli IV Elementary School (Yorck and Hammatt 2003) and the Boys & Girls Club of Hawai'i Youth Education Town (Moore et al. 2009), both located in the area that was surveyed. The only findings consisted of a few traditional artifacts (basalt flakes and a coral abrader) and midden, all found on the surface (Moore et al. 2009).

Sinkholes 1, 4, 9, and 12 were excavated and extensive laboratory analyses were conducted (Hazlett et al. 2008). The water within the sinkholes was found to be non-potable and the sinkholes were therefore not used as wells. The data gathered added little new information, and no further work was recommended. A later archaeological inventory survey identified portions of the two sites mentioned above (SIHP 50-80-07-5046 and -5947) (Berdy 2002). The boundaries were extended for Site 5046, the remains of Camp Andrews. They now include a concrete pad and fence line in the *makai* portion of TMK: (1) 8-9-002:001. Several sinkholes were also identified. The most recent work (McElroy et al. 2014), an archaeological monitoring plan for the proposed Nānākuli Library, assigned a separate site number for the coral pillars at the entrance of the former Camp Andrews (SIHP 50-80-07-7677) and recommended them for preservation.

Four archaeological monitoring projects were conducted along Farrington Highway. In 2005, five charcoal deposits were found during monitoring, but none were given site numbers (Ostroff and Desilets 2005). A year later, archaeological monitoring conducted for fiber optic installation along much of the same route produced no cultural material or deposits (Souza and Hammatt 2006). A literature review and field inspection were completed for a portion of the same highway corridor (Altizer et al. 2011). Three cultural resources were identified, including a portion of the old O.R.&L. railroad track (Site 50-80-12-9714); a historic section of Farrington Highway (Site 50-80-7-6824); and the subsurface deposits previously recorded by Ostroff and Desilets (2005). In 2011 archaeological monitoring on Farrington Highway to the south of the project area produced no findings (Burke and Hammatt 2011).

An archaeological field inspection and literature review was conducted for the subject property (O'Hare et al. 2013). No surface archaeological features were identified, and research indicated that "the area was not a focus for pre-Contact or early historic habitation or agriculture" (O'Hare et al. 2013:40). No further work was recommended, although it was noted that consultation with the SHPD architecture branch should take place if the historic church structures are to be modified.

Other work in the vicinity of the project area did not produce any significant finds (see Table 2). These include an archaeological survey and assessment (McDermott and Hammatt 1999), monitoring (Whitehead and Cleghorn 2003, Cordy and Hammatt 2005, LeSuer and Cleghorn 2005, McElroy and Hitt 2014), and subsurface testing (Ogden 1995).

Settlement Patterns and Anticipated Finds

Settlement patterns in Nānākuli were likely similar to the rest of the Wai'anae District (e.g., Cordy 2002). Initial settlement probably began with small groups of people living near the coast to take advantage of the abundant marine resources. The population then spread farther inland behind the coastal dunes and along the coastal trail which is roughly the route of today's Farrington Highway. Finally, the back valley areas were settled as people began to utilize more agriculturally productive zones. Archaeological evidence has shown that the upper valley currently hosts many house sites and dryland agricultural terraces. Early descriptions of Nānākuli depict a barren land with few houses and an area that lacks water and agricultural resources. However, the land may have appeared desolate from the coast because many of the people lived in the upper valley, and this was not visible from the shore.

Based on previous archaeological work nearby at the former Camp Andrews, anticipated finds include sinkholes and historic military remnants. Sinkholes may house human burials, traditional Hawaiian artifacts, and midden, and it is possible that these might be found during subsurface testing. The O.R.&L. railroad tracks are located across the highway from the project area, and the historic St. Rita's Church building still remains on the property. As the project area is mostly paved, however, it is not likely that other structural remnants or surface archaeological features will be found. It is possible that historic material may be encountered during subsurface testing. This may take the form of concrete slabs, walls, or foundations; metal, wood, or glass building materials; or bottles, ceramics, and other such items typically recovered from historic-era sites in Hawai'i.

Research Questions

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

1. Is there any evidence of pre-contact use of the property and what is the nature of that use? The project area is located in a coastal environment, a context favored for human burial in traditional Hawai'i. Burials have been found in sinkholes and other contexts in Nānākuli, thus it is possible that human remains will be encountered during the survey. Other evidence of traditional Hawaiian use of the study area might include isolated artifacts, midden deposits, and/or buried cultural layers.
2. Are there vestiges of historic use of the property? Remnants of historic-era land use would likely be related to historic use of the church or the nearby O.R.&L railway, and might include structural remnants, walls, and/or historic artifacts. WWII-era use of the area might be evident in military structures or military-related artifacts.
3. What time periods are represented by the archaeological remains on the properties? If fire pits or other datable archaeological features are encountered, radiocarbon

dating may inform on the period of use for the area. Wood taxa identification should be performed prior to dating, and only material suitable for dating should be submitted for analysis. Historic occupation may be dated by material remains such as bottles or ceramics.

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

METHODS

Pedestrian survey and subsurface testing were conducted on December 15, 2014 by Windy McElroy, PhD and Dietrix Duhaylonsod, BA. McElroy served as Principal Investigator, overseeing all aspects of the project. The survey was completed in one day.

For the pedestrian survey, the ground surface was visually inspected for surface archaeological remains, with transects walked between the existing structures and in the parking lot. Of the 1.81-acre (.73 ha) survey area, 100% was covered on foot. Vegetation was mostly light to non-existent and did not hinder the survey. Because of the high visibility, the spacing between archaeologists was wide, with archaeologists spread approximately 10 m apart in the parking lot, with closer spacing between the buildings. Archaeological sites and their boundaries were identified visually, with any feature possibly made or used by humans and more than 50 years old considered a site, although none were found aside from the historic buildings.

Test trenches (TR) were excavated in five locations throughout the survey area. A backhoe was used for digging of the trenches (Figure 10). Vertical provenience was measured from the surface, and trenches were excavated to a depth well below the estimated 3 ft. (.9 m) depth proposed for construction. Profiles were drawn and photographed, and sediments were described using Munsell soil color charts and a sediment texture flowchart (Thien 1979). Trench locations were recorded with a 3 m-accurate Garmin GPSmap 62st, and all trenches were backfilled after excavation.

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



Figure 10. Excavation of TR 2 with backhoe. Orientation is to the west.

RESULTS

Pedestrian survey and subsurface testing were conducted in the 1.81-acre (.73 ha) project area. No archaeological sites were found. Excavation of five test trenches did not yield any evidence of subsurface cultural material or features.

Pedestrian Survey

The surface survey included 100% of the 1.81-acre (.73 ha) parcel. The property is mostly paved on the east side, and structures or landscaped lawns occur within the unpaved areas on the west. The history of the structures on the St. Rita's Church property is discussed in the historic background section of this report. Some of the structures are more than 50 years old, although the Environmental Assessment for the church does not consider the buildings as historic properties. Their treatment during construction may be determined in consultation with the architecture branch of SHPD. The O.R.&L. railroad tracks were observed across Farrington Highway from the subject property, well outside the project boundaries. No other surface archaeological remains were identified.

Subsurface Testing

A total of five trenches were excavated throughout the property to determine the presence or absence of subsurface cultural deposits or material (Table 3, see Figure 11). Trenches were placed in unpaved areas and distributed so that stratigraphy could be seen in different areas of the parcel. Stratigraphy generally consisted of several layers of fill, sometimes above a natural sand layer.

TR 1 was excavated on the west side of the parcel in the grassy lawn fronting the large banyan tree (see Figure 11). The trench measured 5.2 m long and generally .65 m wide, although the width was as great as 1.6 m in caved-in areas. The trench was excavated to 170 cm below surface (cmbs) to a depth well below the proposed construction. Excavation could not continue further because the trench kept caving in. Stratigraphy consisted of two layers of fill atop a culturally-sterile A-horizon, with a natural marine sand deposit below (Figure 12). The A-horizon consisted of a darkened sand layer, darker in some areas than others, although no charcoal fragments were observed. No cultural deposits or material were identified.

TR 2 was placed in an unpaved island within the parking lot, on the south side of the property (see Figure 11). The trench measured 3.4 m long and typically .67 m wide, but extended to 1.2 m where there were cave-ins. It was excavated to 180 cmbs, well below the depth proposed for construction. Excavation could not continue further because the trench kept caving in. Stratigraphy consisted entirely of fill (Figure 13). No cultural material or deposits were found.

TR 3 was located on the east side of the property, just outside the paved parking lot (see Figure 11). It measured 3.1 m long and 1.06 m wide. The trench was excavated to 205 cmbs, well below the depth of the proposed construction. Excavation could not continue further because the trench kept caving in. Stratigraphy consisted entirely of fill (Figure 14). No cultural deposits or material were identified.

TR 4 was placed on the northeast side of the parcel, just outside the paved parking lot (see Figure 11). The trench measured 3.05 m long, .8 m wide, and 165 cm deep, well below the depth proposed for construction. Excavation could not continue further because the trench kept caving in. Stratigraphy consisted of five layers of fill, a buried road pavement, and a basal deposit of natural marine sand (Figure 15). No cultural deposits or material were identified.



0 5 10 20 30 40 Meters

Figure 11. Location of Trenches 1–5.

Table 3. Sediment Descriptions

Location	Layer	Depth (cmbs)	Color	Description	Interpretation
TR 1	I	0–16	10YR 3/3	Sandy clay loam; 60% roots; 2% basalt gravel; sprinkler line at 12 cmbs; smooth, very abrupt boundary.	Fill
	II	16–40	10YR 6/3 mottled	Medium sand; 40% roots; smooth, very abrupt boundary.	Fill
	III	40–50	10YR 4/4–10YR 2/1	Medium sand; 20% roots; smooth, very abrupt boundary.	A Horizon
	IV	50–170+	10YR 8/3	Medium sand; base of excavation.	Natural
TR 2	I	0–19	2.5YR 3/4	Clay loam; 10% roots; 10% basalt gravel; modern debris; smooth, very abrupt boundary.	Fill
	II	19–36	10YR 4/1	Medium sand; 5% roots; 90% basalt gravel; modern debris; smooth, very abrupt boundary.	Gravel Base Course
	III	36–83	10YR 5/3	Medium sand; 2% roots; 50% basalt gravel; modern debris; smooth, very abrupt boundary.	Fill
	IV	83–180+	10YR 4/3 mottled	Medium sand; 10% basalt gravel; base of excavation.	Fill
TR 3	I	0–75	10YR 4/3	Sandy clay loam; 1% roots; 60% basalt gravel; modern debris; smooth, very abrupt boundary.	Fill
	II	75–110	5YR 4/3	Silt loam; 60% basalt gravel; modern debris; smooth, very abrupt boundary.	Fill
	III	110–205+	10YR 2/2	Silt loam; 60% basalt gravel; base of excavation.	Fill
TR 4	I	0–10	7.5YR 8/1	Sandy clay loam; 25% roots; 50% basalt gravel; modern debris; smooth, very abrupt boundary.	Fill
	II	10–55	7.5YR 5/2	Silt loam; 5% roots; 70% basalt gravel; modern debris; smooth, very abrupt boundary.	Fill
	III	55–60	2.5YR 2.5/4	Silt loam; 70% basalt gravel; modern debris; smooth, very abrupt boundary.	Fill
	IV	60–80	5YR 2.5/2	Silt loam; 70% basalt gravel; modern debris; smooth, very abrupt boundary.	Fill
	V	80–94	N/A	Asphalt, smooth, very abrupt boundary.	Former Paved Road
	VI	94–140	5YR 2.5/2	Silt loam; 70% basalt gravel; modern debris; smooth, very abrupt boundary.	Fill
	VI	140–165+	7.5 YR 7/4	Sandy clay; base of excavation.	Natural
TR 5	I	0–28	10R 3/4	Sandy clay loam; 50% roots; 50% basalt gravel; modern debris; smooth, very abrupt boundary.	Fill
	II	28–60	7.5YR 4/2	Silt loam; 10% basalt gravel; modern debris; smooth, very abrupt boundary.	Fill
	III	60–80	10YR 6/6, mottled	Medium sand; smooth, very abrupt boundary.	Disturbed Sand
	IV	80–175+	10YR 8/3	Medium sand; base of excavation.	Natural

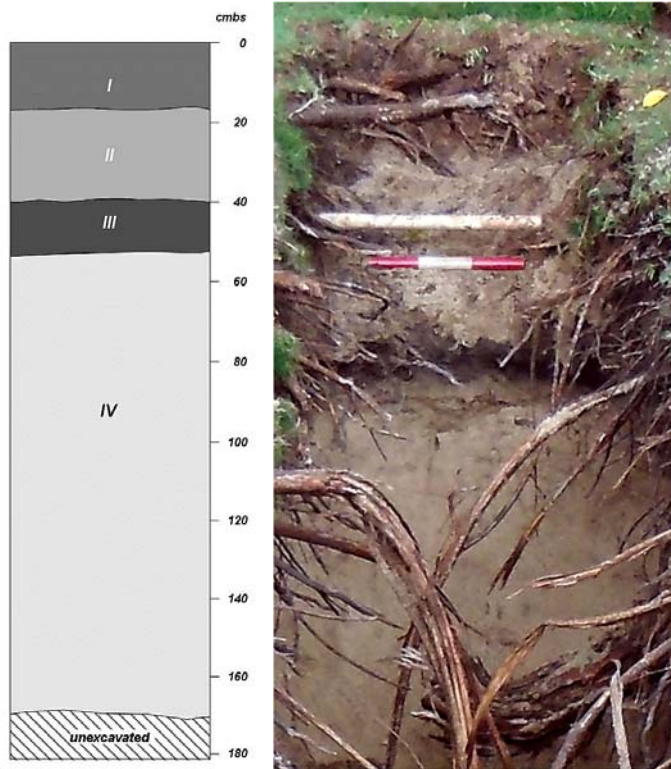


Figure 12. TR 1 northwest face profile drawing (left) and photo (right).

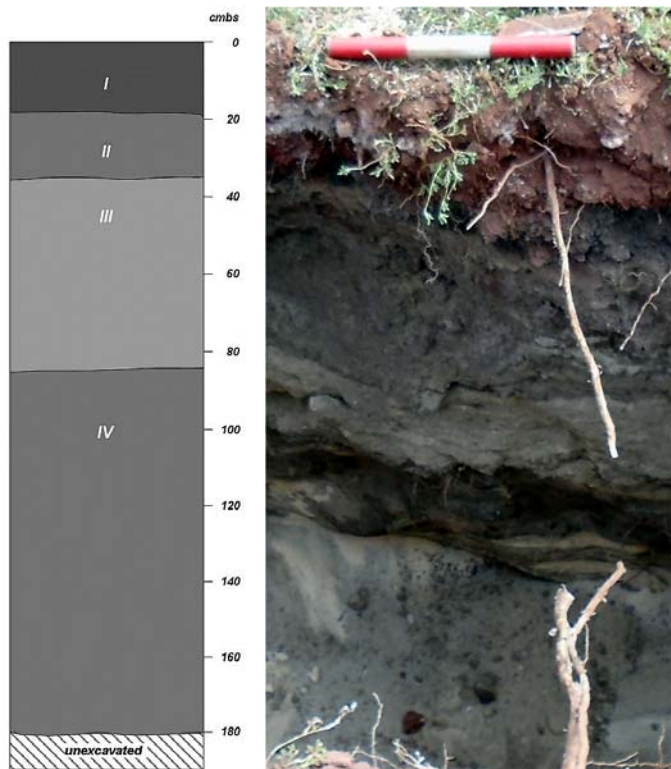


Figure 13. TR 2 east face profile drawing (left) and photo (right).

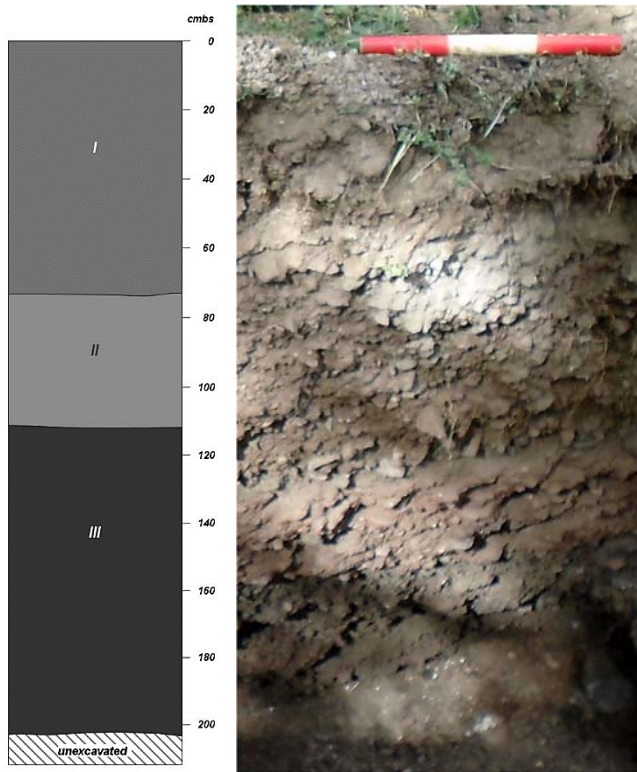


Figure 14. TR 3 west face profile drawing (left) and photo (right).

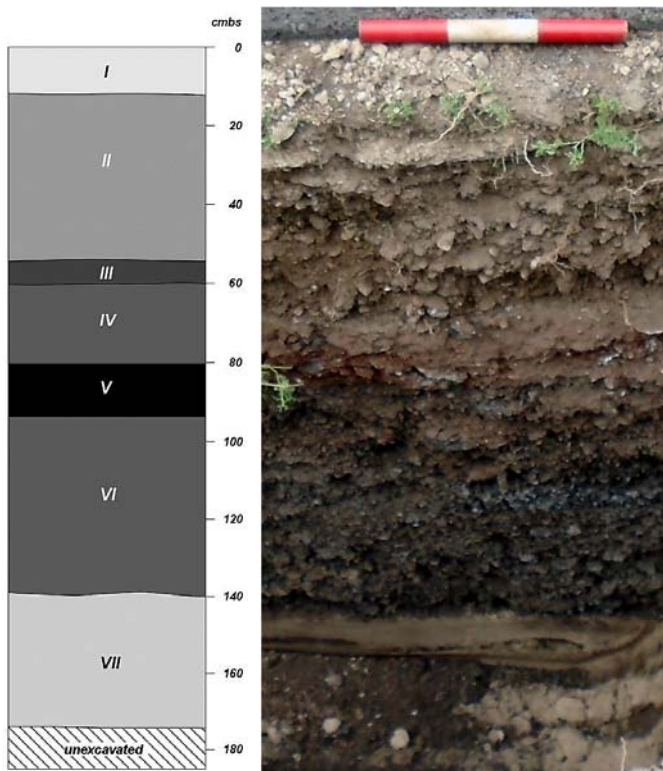


Figure 15. TR 4 northwest face profile drawing (left) and photo (right).

TR 5 was placed on the northwest side of the property, just outside the paved parking lot (see Figure 11). The trench measured 2.7 m long and .8 m wide. It was excavated to 175 cmbs, well below the depth of the proposed construction. Excavation could not continue further because the trench kept caving in. Stratigraphy consisted of two layers of fill and a basal layer of natural marine sand which was disturbed in the upper 20 cm (Figure 16). A linear darkened smear occurred within the second layer of fill at 45 cmbs. The sediment was darkened in this area, but no charcoal fragments, fire cracked rock, or other remnants indicative of a fire feature were identified. No cultural material or deposits were found in the trench.

Summary of Findings

Pedestrian survey of TMK: (1) 8-9-005:001 did not yield any evidence of former use of the parcel. Much of the property is either paved or occupied by structures. Subsurface testing was conducted in five locations throughout the church grounds to determine the presence or absence of subsurface cultural material or deposits, and none were found. Stratigraphy consists mostly of fill, with some areas of natural marine sand exposed. The entire property appears to have been disturbed to a depth of 40 cmbs and greater, possibly by the 1930s-era filling of the parcel mentioned in the literature (O'Hare et al. 2013). The three research questions developed at the onset of the project were all answered negatively, as no surface or subsurface archaeological remains were found. Prior to initiation of the project, the landowner or their representative will consult with the SHPD Architecture Branch regarding whether any of the buildings are significant historic properties and, if so, their appropriate treatment.

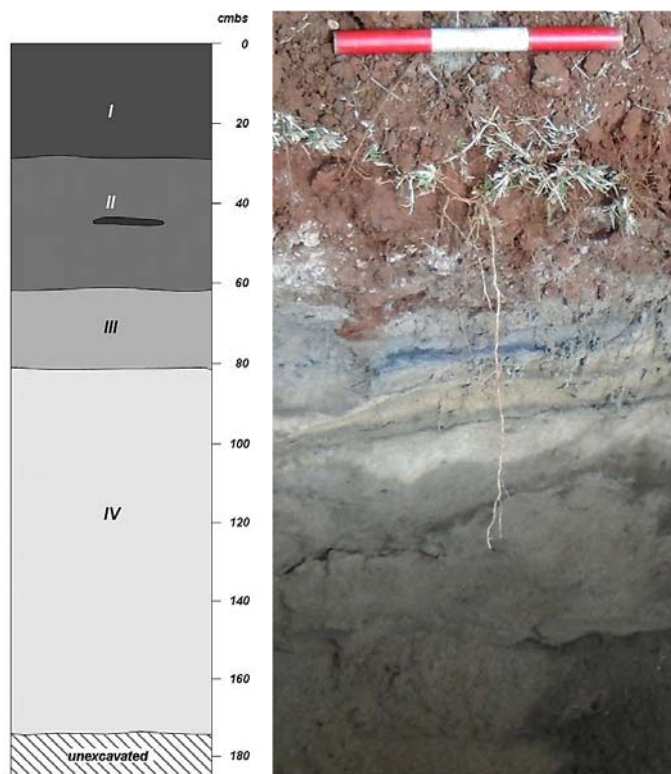


Figure 16. TR 5 northeast face profile drawing (left) and photo (right).

SUMMARY AND RECOMMENDATIONS

An archaeological inventory survey (AIS) was conducted for TMK: (1) 8-9-005:001 in Nānākuli Ahupua‘a, Wai‘anae District, on the Island of O‘ahu. Due to negative findings, the AIS results are presented as an archaeological assessment (AA). The AIS was conducted in preparation for ground disturbance associated with church improvements, including demolishing some of the current structures and constructing new buildings. Excavations for the proposed construction are expected to reach a depth no greater than 3 feet (.9 m). The archaeological assessment included pedestrian survey that covered 100% of the property, as well as test excavations consisting of five trenches.

No surface archaeological remains were found during pedestrian survey of the parcel. The entire property has been disturbed by development, including paving of the parking lot, construction of the current buildings, and landscaping of the lawns. Likewise, subsurface testing did not yield any evidence of subsurface cultural material or deposits. Stratigraphy generally consisted of several layers of fill, sometimes above a natural sand layer. Some of the structures are more than 50 years old, although the Environmental Assessment for the church does not consider the buildings as historic properties. Prior to initiation of the project, the landowner or their representative will consult with the SHPD Architecture Branch regarding whether any of the buildings are significant historic properties and, if so, their appropriate treatment.

In sum, archaeological survey was conducted at TMK: (1) 8-9-005:001 in Nānākuli, and no archaeological remains were found. Construction associated with church improvements will have no effect on archaeological sites because no archaeological sites occur there. Archaeological monitoring is recommended because of the possibility of encountering sinkholes with archaeological material or human remains. Isolated human burial remains may be discovered during construction activities, even though no evidence of human burials was found during the survey. Should human burials or displaced human remains be discovered during construction activities, work in the vicinity of the remains shall cease immediately, the area shall be secured, and the SHPD and Honolulu Police Department (HPD) shall be notified.

GLOSSARY

<i>ahupua‘a</i>	Traditional Hawaiian land division usually extending from the uplands to the sea.
<i>‘āina</i>	Land.
<i>‘āpana</i>	Piece, slice, section, part, land segment, lot, district.
<i>heiau</i>	Place of worship and ritual in traditional Hawai‘i.
<i>‘ili</i>	Land division, next in importance to <i>ahupua‘a</i> and usually a subdivision of an <i>ahupua‘a</i> .
<i>inoa</i>	Name, title, or namesake.
<i>kiawe</i>	The algaroba tree, <i>Prosopis</i> sp., a legume from tropical America, first planted in 1828 in Hawai‘i.
<i>koa haole</i>	The small tree <i>Leucaena glauca</i> , historically-introduced to Hawai‘i.
<i>kula</i>	Plain, field, open country, pasture, land with no water rights.
<i>kuleana</i>	Right, title, property, portion, responsibility, jurisdiction, authority, interest, claim, ownership.
Māhele	The 1848 division of land.
<i>makai</i>	Toward the sea.
<i>mauka</i>	Inland, upland, toward the mountain.
<i>mele</i>	Song, chant, or poem.
midden	A heap or stratum of refuse normally found on the site of an ancient settlement. In Hawai‘i, the term generally refers to food remains, whether or not they appear as a heap or stratum.
<i>moku</i>	District, island.
<i>mo‘olelo</i>	A story, myth, history, tradition, legend, or record.
<i>muliwai</i>	River mouth, estuary, or pool near the mouth of a stream, enlarged by ocean water left there at high tide.
<i>‘ōlelo no‘eau</i>	Proverb, wise saying, traditional saying.
<i>oli</i>	Chant.
<i>‘opihi</i>	Limpets, four types of which are endemic to Hawai‘i: <i>Cellana exarata</i> (‘opihi <i>makaiauli</i>), <i>C. sandwicensis</i> (‘opihi <i>alinalina</i>), <i>C. talcosa</i> (‘opihi <i>ko‘ele</i>), and <i>C.</i>

melanostoma (no Hawaiian name). ‘*Opihi* are a prized food in Hawai‘i and considered a rare treat today.

pre-contact Prior to A.D. 1778 and the first written records of the Hawaiian Islands made by Captain James Cook and his crew.

pu‘u Hill, mound, peak.

‘uala The sweet potato, or *Ipomoea batatas*, a Polynesian introduction.

‘ulu The Polynesian-introduced tree *Artocarpus altilis*, or breadfruit.

wauke The paper mulberry, or *Broussonetia papyrifera*, which was made into tapa cloth in traditional Hawai‘i.

REFERENCES

- Allen, G.
1999 *Hawaii's War Years 1941–1945*. University of Hawaii Press, Honolulu.
- Altizer, K., M. McDermott, and H.H. Hammatt
2011 *Archaeological Field Inspection and Literature Review for the Farrington Highway Intersection Improvements at Nānākuli Avenue and Haleakalā Avenue, Nānākuli and Lualualei Ahupua'a, Wai'anae District, O'ahu Island, Multiple TMKs*. Cultural Surveys Hawaii, Kailua, Hawai'i.
- Berdy, C., M. Elmore, and J. Kennedy
2002 *An Archaeological Inventory Survey with Subsurface Testing Report for the Property Located at TMK: 8-9-002:001 in Nanakuli Ahupua'a, Wai'anae District, Island of O'ahu*. Archaeological Consultants of the Pacific, Inc., Hale'iwa, Hawai'i.
- Bowser, G.
1881 *Hawaiian kingdom statistical and commercial directory and tourists' guide 1880/1881*. Honolulu.
- Burke, K. and H. Hammatt
2011 *Archaeological Monitoring Report for the Farrington Highway Part I, Phases A and B, 12" and 24" Water Main Installation Project, Nānākuli and Honouliuli Ahupua'a, Wai'anae and 'Ewa Districts, Island of O'ahu, TMK: [1] 8-9-01, 02, 05 through 07 and [1] 9-2-03*. Cultural Surveys Hawai'i, Inc, Kailua, Hawai'i.
- Clark, J.
1977 *the Beaches of Oah'u*. University of Hawai'i Press, Honolulu.
- Cordy, D.L. and H.H. Hammatt
2005 *Archaeological Monitoring Report for the Installation of Fiber Optic Cable at Ka Wai'hona O Ka Na'auau Public Charter School, Nānākui Ahupua'a, Wai'anae, O'ahu TMK: 1-8-9-001:004*. Cultural Surveys Hawaii, Kailua, Hawai'i.
- Cordy, R.
1990 *Basic Planning Information from DLNR 1988-1990 Archeological Survey of the DHHL Nanakuli Lands*. State Historic Preservation Division, Department of Land and Natural Resources, Kapolei, Hawai'i.

1993 *Basic Planning Information from DLNR 1988-1990 Archeological Survey of the DHHL Nanakuli Lands*. State Historic Preservation Division, Department of Land and Natural Resources, Kapolei, Hawai'i.

1997 *Learning about Nanakuli's Past: the 1988–1991 Archaeological Survey of Nanakuli*. State Historic Preservation Division, Department of Land and Natural Resources. Manuscript on file at the Kapolei, O'ahu Office of the State Historic Preservation Division.

2002 *An Ancient History of Wai'anae*. Mutual Publishing, Honolulu.

- Cordy, R., N. Pak, C. Johnson, M.J. Lee, and M. McFarden
1990 *Nanakuli: A Leeward O'ahu Valley. Detailed archaeological survey report: Report 3 DHHL-DLNR*. State Historic Preservation Division, Department of Land and Natural Resources, Kapolei, Hawai'i.
- Evans, T.J.K.
1930 "Nanakuli Residence Lots First Series." Hawaiian Homes Commission, March–July, 1930. Scale 1 inch = 100 feet.
- Foote, D., E. Hill, S. Nakamura, and F. Stephens
1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*. United States Department of Agriculture, Soil Conservation Service. Published in cooperation with the University of Hawaii Agricultural Experiment Station, Washington, D.C.
- Francisco Architect Imata and Associates, Inc.
2000 *Final Environmental Assessment for St. Rita Catholic Church Proposed New Parking Lot*. Francisco Architect Imata and Associates, Inc., Honolulu
- Hammatt, H.H., M. McDermott, and R. Chiogioji
1999 *Archaeological Assessment of an Approximately 15-Acre Parcel, Ahupua'a of Nānākuli, Wai'anae District, Island of O'ahu*. Cultural Surveys Hawaii, Inc. Kailua, Hawai'i.
- Handy, E.S.C.
1940 *The Hawaiian Planter, Volume 1*. Bishop Museum Bulletin No. 161, Bishop Museum, Honolulu.
- Handy, E.S., E.G. Handy, and M.K. Pukui
1972 *Native Planters in Old Hawaii; Their Life, Lore, and Environment*. Bernice P. Bishop Museum Bulletin 23, Bishop Museum Press, Honolulu.
- Hazlett, A., D.W. Shideler, O.L. O'Leary, C.R. O'Hare, J.E. Dockall, and H.H. Hammatt
2008 *Data Recovery Report for Site 50-80-07-5947, Nānākuli Ahupua'a, Wai'anae District, O'ahu*. Cultural Surveys Hawaii, Inc. Kailua, Hawai'i.
- I'i, J.P.
1993 *Fragments of Hawaiian History*. Bishop Museum Press, Honolulu.
- ICC (Immaculate Conception Church)
n.d. *History* <<http://www.immaculateconceptionewa.com/about/>> Accessed 12/23/14.
- Jones, C.K. and H.H. Hammatt
2005 *Archaeological Monitoring Report for the Fiber Optic Cable Installation of the DHHL Subdivision in Nānākuli Ahupua'a, Wai'anae District, Island of O'ahu TMK [1] 8-9; 8-9-02-23, 36, 38; 8-9-03:63; 8-9-04:78, por. 79; 8-9-07:01*. Cultural Surveys Hawaii, Kailua, Hawai'i.
- Juvik, S. and J. Juvik (editors)
1998 *Atlas of Hawai'i* (Third ed.). University of Hawai'i Press, Honolulu.
- Kamakau, S.M.
1992 *Ruling Chiefs of Hawai'i*. The Kamehameha Schools Press, Honolulu.

- Kim, A.
n.d. *Our History*. <<http://stritananakuli.org/history.html>> Accessed 12/23/14.
- Le Suer, C.C. and P. Cleghorn
2005 *Archaeological Monitoring for Nānākuli Beach Park (Zablan Beach Park) Parking Lot Improvements Project, Nānākuli, O'ahu Island, Hawai'i (TMK 8-9-06:01)*. Pacific Legacy, Inc., Kailua, Hawai'i.
- Macdonald, G.A., A.T. Abbott, and F.L. Peterson
1983 *Volcanoes in the Sea: The Geology of Hawaii*. University of Hawaii Press, Honolulu.
- McAllister, J.G.
1933 *Archaeology of O'ahu*. Bishop Museum, Bulletin 104, Honolulu.
- McDermott, M., R. Chiogioji, and K. McGuire
2001 *Archaeological Inventory Survey of the Proposed 15-Acre Nanakuli IV Elementary School Site (A portion of the Former Camp Andrews), Nanakuli Ahupua'a, Wai'anae District, Island of O'ahu (TMK: 8-0-02:65)*. Cultural Surveys Hawaii, Kailua, Hawai'i.
- McDermott, M. and H.H. Hammatt
1999 *Archaeological Inventory Survey of the Proposed Nanakuli 242 Reservoir Site, with Archaeological Assessment of the Proposed 20" Transmission Main Along Nanakuli Avenue, Nanakuli, Wai'anae District, Island of O'ahu (TMK 8-9-8:03)*. Cultural Surveys Hawaii, Kailua, Hawai'i.

2000 *End-of-Fieldwork Results for the location of Sink Features (for Land Surveyor Recording) and Excavation of Two Large Sink Features BA Subset of the Work for the Archaeological Inventory Survey for the Proposed Nanakuli IV Elementary School, Nanakuli, Wai'anae, O'ahu (TMK 8-9-02: por. 01)*. Cultural Surveys Hawaii, Kailua, Hawai'i.
- McElroy, W.K., D. Duhaylonsod, and C. Hitt
2014 *Archaeological Monitoring Plan for the Proposed Nānākuli Library, Nānākuli Ahupua'a, Wai'anae District, Island of O'ahu, Hawai'i*. Keala Pono Archaeological Consulting, Kāne'ohe, Hawai'i.
- McElroy, W.K. and C.Hitt
2014 *DRAFT—Archaeological Monitoring for the Construction of Hale Makana o Nānākuli, Nānākuli Ahupua'a, Wai'anae District, Island of O'ahu, Hawai'i*. Keala Pono Archaeological Consulting, Kāne'ohe, Hawai'i.
- McGrath, E.J. Jr., K.M. Brewer and R. Krause
1973 *Historic Wai'anae, a Place of Kings*. Island Heritage Limited, Norfolk Island, Australia.
- McGuire, K. and H.H. Hammatt
2000 *A Traditional Practices Assessment for the Proposed Nanakuli IV Elementary School Site, Nanakuli, Wai'anae District, Island of O'ahu (TMK 8-9-02: 65, 23, por. 1)*. Cultural Surveys Hawaii, Kailua, Hawai'i.

- Moore, J.R., E. Yoshifuku, and J. Kennedy
2009 *An Archaeological Monitoring Report for a Property Located at TMK: (1) 8-9-02:067 in Nanakuli Ahupua'a, Wai'anae District, Island of O'ahu*. Archaeological Consultants of the Pacific, Hale'iwa, Hawai'i.
- Nakamura, B. and J. Pantaleo
1994 *Aspects of the History of Lualualei and Nanakuli, Wai'anae, O'ahu*. Aki Sinoto Consulting, Honolulu.
- Newton, H.E.
1912 "Nanakuli Waianae, Oahu." Hawaii Territory Survey, February 1912. Scale 1 inch = 500 feet.
- O'Hare, C.R., D.W. Shideler, and H.H. Hammatt
2013 *Draft Archaeological Literature Review and Field Inspection for the St. Rita's Catholic Church Improvements Project, Nānākuli Ahupua'a, Wai'anae District, O'ahu TMK: [1] 8-9-005:001 por.* Cultural Surveys Hawaii, Kailua, Hawai'i.
- Ogden Environmental and Energy Services Co., Inc.
1995 *Archaeological Subsurface Testing in Conjunction with Milcon P-313, Range Operations Center Naval Undersea Warfare Engineering Station Detachment, Lualualei at Nanakuli, O'ahu Island, Hawai'i, Pre-Final Report*. Honolulu.
- Ostroff, B. and M. Desilets
2005 *Archaeological Monitoring Results for the Installation of a Waterline along Farrington Highway between Hakimo Road and Haleakala Avenue Intersections, Nanakuli and Lualualei Ahupua'a, District of Wai'anae, O'ahu Island, Hawai'i*. Garcia and Associates, Kailua, Hawai'i.
- Pak, N. and R. Cordy
1990 *Status Report 4 DHHL-DLNR Nanakuli, Archaeological Inventory Survey (TMK 8-4-04:08)/(TMK 8-9-07:08)*. State Historic Preservation Division, Department of Land and Natural Resources, Kapolei, Hawai'i.
- Paradise of the Pacific*
1943 "Providing Fun for Fighting Men." December 1943:62–63.
- Pukui, M.K.
1983 *Ōlelo No 'eau; Hawaiian Proverbs and Poetical Sayings*. Bernice P. Bishop Museum Special Publication No. 71. Bishop Museum Press, Honolulu.
- Pukui, M.K., S.H. Elbert and E.T. Mookini
1974 *Place Names of Hawai'i*. University of Hawaii, Honolulu.
- Schoeneberger, P.J., D.A. Wysocki, E.C. Benham, and W.D. Broderson (editors)
2002 *Field Book for Describing and Sampling Soils, Version 2.0*. Natural Resources Conservation Service, National Soil Survey Center, Lincoln, Nebraska.
- Souza, T. and H.H. Hammatt
2006 *Archaeological Monitoring Report For the Fiber Optic Duct Line Phase 1 from Nānākuli Avenue to Hakimo Road in Nānākuli Ahupua'a, Wai'anae District, O'ahu TMK [1] 8-9-005:007, 8-7-006:013*. Cultural Surveys Hawaii, Kailua, Hawai'i.

- Stein, E. and H.H. Hammatt
 2006 *Archaeological Monitoring Report for the Nānākuli Beach Park Sewer Connection for the Recreation Center Project, Nānākuli Ahupua‘a, Wai‘anae District, O‘ahu Island [TMK: (1) 8-9-001:002]*. Cultural Surveys Hawaii, Kailua, Hawai‘i.
- Sterling, E.P. and C.C. Summers
 1978 *Sites of Oahu*. Bishop Museum Press, Honolulu.
- Thien, S.
 1979 A Flow Diagram for Teaching Texture-By-Feel Analysis. *Journal of Agronomic Education* 8:54–55.
- Thrum, T.G.
 1922 *Hawaiian Annual*. Honolulu.
- United States Geological Survey (USGS)
 1953 “Schofield Barracks, Hawaii.” Contour interval 40 feet. Scale 1:24,000.
- Vancouver, G.
 1967 *A Voyage of Discovery to the North Pacific Ocean and Round the World*. Amsterdam, N. Israel: Da Capo Press, New York.
- Wall, W.E.
 1925 “Honouliuli Forest Reserve.” Hawaii Territory Survey, September 1925. Scale 1 inch = 2,000 feet.
- Wasowicz, L.
 2012 *Marin woman works to save Hawaiian church*. <<http://www.catholic-sf.org/ns.php?newsid=24&id=60214>> Accessed 12/23/14.
- Webster, W.
 1854 “Nanakuli, Waianae, Oahu (Crown Land).” Hawaiian Government Survey Register No. 113. Honolulu 27th May, 1854. Scale 1:12,000.
- Whitehead, B. and P.L. Cleghorn
 2003 *Archaeological Monitoring of Nānākuli Water System Improvements, Nānākuli Avenue, Nānākuli, Island of O‘ahu (TMK: 8-9-005)*. Pacific Legacy, Inc., Kailua, Hawai‘i.
- Yorck, J. and H.H. Hammatt
 2003 *Archaeological Monitoring Report for the Nānākuli IV Elementary School Project, Nānākuli Ahupua‘a, Wai‘anae District, Island of O‘ahu [TMK (1) 8-9-02: 65]*. Cultural Surveys Hawaii, Kailua, Hawai‘i.
- Yucha, T. and H.H. Hammatt
 2008 *Archaeological Monitoring Report for the Nānākuli Beach Park (Cove Location) Sewer Connection, Nānākuli Ahupua‘a, Wai‘anae District, O‘ahu Island [TMK (1) 8-9-006: 001]*. Cultural Surveys Hawaii, Kailua, Hawai‘i.