

# An Archaeological Inventory Survey of a Roughly 110-acre Portion of the NELHA HOST Park Situated South of Makako Bay Drive

TMKs: (3) 7-3-043:080 (por.), 085, 089 (por.), 090, and 091 (por.)

'O'oma 1st and 2<sup>nd</sup> *ahupua'a*  
North Kona District  
Island of Hawai'i

DRAFT VERSION



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October 2015

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North Kona District  
Island of Hawai'i





## EXECUTIVE SUMMARY

At the request of Gregory Barbour, Executive Director, Natural Energy Laboratory Hawai'i Authority (NELHA), ASM Affiliates has prepared this Archaeological Inventory Survey for a roughly 110-acre portion of the NELHA Hawai'i Ocean and Technology (HOST) Park located south of Makako Bay Drive in 'O'oma 2<sup>nd</sup> *ahupua'a*, North Kona District, Island of Hawai'i (TMKs: (3) 7-3-043: 080 por., 085, 089 por., 090, and 091 por.). A large portion of the land occupied by NELHA (roughly 450 acres, including the current study area in its entirety) was previously the subject of an archaeological reconnaissance survey and data recovery conducted by Barrera (1985a and 1989) that identified forty-five archaeological sites within the overall area, and eight sites within the current study parcels. As the earlier Barrera (1985a, 1989) studies no longer comply with the current regulatory standards, and as additional, previously unrecorded cultural resources are known to exist within the already surveyed areas, to assist in future planning NELHA has proactively contracted ASM Affiliates to complete an archaeological inventory of roughly 343 acres of undeveloped land they administer. The first phase of archaeological investigation at NELHA is ongoing (Clark et al. in prep.) and includes a 210-acre area on the north side of Makako Bay Drive (Phase I). The second phase of archaeological investigation includes this 110-acre study area (Phase 2a), a 1.3-acre coastal lot adjacent to the existing Marine Mammal Center (Phase 2b), and an 11.5 acre coastal area at Ho'ona (Phase 2c). Separate reports are currently being prepared for Phases 2b and 2c.

As a result of the current inventory survey fieldwork fourteen archaeological sites containing a total of twenty features were recorded within the study area. The sites include one (SIHP Site 6432) previously documented by Davis (1977), six (SIHP Sites 2, 10153, 10164, 10165, 10173, and 10178) that were previously documented by Barrera (1985a, 1989), and seven newly identified sites (SIHP Sites 30380, Site 30381, and SIHP Site 30384 to Site 30386). Two sites previously recorded by Barrera (1985a) near the boundary of the current study area (on Parcel 089), consisting of a midden scatter and a stone mound (cairn) and a *pāhoehoe* excavation (SIHP Sites 10151 and 10152), were not relocated, and are thought to have been destroyed by modern disturbance. The archaeological sites encountered within the study area include the Māmalahoa Trail (SIHP Site 2), a core-filled boundary wall and complex of related boundary markers (SIHP Sites 6432 and 10178), three lava blisters (SIHP Sites 30380, 30381, and 30382), five rock rings and a rock alignment (SIHP Sites 10165, 30383, 30385, and 30386), and a cairns (SIHP Site 10153) and a *pāhoehoe* excavations (SIHP Site 10164).

The significance of Sites 2 and 6432 has already been evaluated, and DLNR-SHPD has approved those evaluations. Site 2 (the Māmalahoa Trail; 1847 Government Road) was previously determined significant under Criterion a, c, d, and e (Wolforth 1999), and recommended for preservation. The portions of Site 2 that traverse the NELHA property have been previously addressed in a preservation plan prepared by Rechtman and Clark (2004), and the site currently extends across the NELHA HOST Park within an established preservation easement.

Site 6432 was previously determined significant under Criterion d and e, and has been approved for limited preservation treatment (Monahan et al. 2012; Rechtman and Clark 2012). The position of DLNR-SHPD regarding Site 6432 is that they would like to see, where possible, portions of this wall preserved. To that end, NELHA has already agreed (Rechtman and Clark 2012) to make an effort to preserve sections of this wall where it does not interfere with the road development activities or with the future use of tenant leased parcels. A preservation plan addressing Site 6432 should be prepared in accordance with HAR §13-277 and submitted to DLNR-SHPD for review and approval.

The twelve other sites identified within the study area are assessed as significant solely under Criterion d for information they have provided relative to the history and prehistory of the current study area. Two of the lava blister sites (SIHP Site 30380 and 30381) fall within the right-of-way of a future proposed roadway across the NELHA lands. It is recommended that these two sites uder go archaeological data recovery prior to the occurrence of any ground disturbance actuivities in their vicinity. A data recovery plan addressing Sites 30380 and 30381 should be prepared in accordance with HAR §13-278 and submitted to DLNR-SHPD for review and approval. The remaining ten sites (SIHP Sites 10153, 10164, 10165, 10173, 10178, and 30382 to 30386), which have been fully documented as a result of this study and posses only extremely limited potential for further data collection, are recommended for "No further work".

It is the final recommendation of this study that a qualified archaeological monitor be present during any ground-disturbing activities associated with development within the current study area, and that an archaeological monitoring plan compliant with HAR §13-279 be prepared prior to the commencement of such activities.



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# 1. INTRODUCTION

At the request of Gregory Barbour, Executive Director, Natural Energy Laboratory Hawai'i Authority (NELHA), ASM Affiliates has prepared this Archaeological Inventory Survey for a roughly 110-acre portion of the NELHA Hawai'i Ocean Science and Technology (HOST) Park located south of Makako Bay Drive in 'O'oma 1<sup>st</sup> and 2<sup>nd</sup> *ahupua'a*, North Kona District, Island of Hawai'i (TMKs: (3) 7-3-043: 080 por., 085, 089 por., 090, and 091 por.); Figures 1 and 2). The HOST Park is an innovative green economic development park that is administered by NELHA, a State of Hawai'i agency administratively attached to the Department of Business, Economic Development, and Tourism (DBEDT). NELHA's stated mission is to develop and diversify the Hawai'i economy by providing resources and facilities for energy and ocean-related research, education, and commercial activities in an environmentally sound and culturally sensitive manner. A 2011 Master Plan prepared by Group 70 International, Inc. (Figure 3) sets forth several cultural objectives (codified in the Strategic Plan adopted by the NELHA management in 2012) for future development of the lands administered by NELHA, including (1) Respect the cultural resources, Hawaiian cultural practices, and significance of archaeological sites at NELHA throughout the planning process; (2) Protect and manage cultural sites in a sustainable manner; (3) Protect the opportunities for individuals and groups to engage in cultural practices; (4) Define areas, criteria and support facilities for cultural resources and practices, as applicable, to allow for integrated planning and management; and (5) Preserve the cultural landscape to enhance meaning, relationships, and resources for modern appreciation, research, and practice (2011:1.3.1). The Master Plan acknowledges that, while a number of surveys of historical and archaeological resources have been undertaken within the 870 acres of land that NELHA occupies at Keāhole Point, the standards by which some of these studies were conducted might not meet current best practices.

A large portion of the land occupied by NELHA (roughly 450 acres, including the current study area in its entirety) was previously the subject of an archaeological reconnaissance survey and data recovery conducted by Barrera (1985a and 1989) that identified forty-five archaeological sites within the overall area, and eight sites within the current study parcels. At that time, those investigations were sufficient for meeting the requirements of the County of Hawai'i Planning Department and the Department of Land and Natural Resources (DLNR) with respect to permit approvals for land-altering and development activities. In recent years, however, due to the age of the previous survey, the Department of Land and Natural Resources (DLNR)-State Historic Preservation Division (SHPD) has been recommending updated archaeological inspections of individual lease areas within the NELHA administered lands prior to permit approvals for construction activities (e.g. Rechtman 2010a, 2010b, 2010c, 2012a, 2012b). Also, a recent inventory survey update of proposed road corridors across the previously surveyed area (Rechtman and Clark 2012) documented three sites (all north of the current study area) that were not identified by Barrera (1985a). Given that the earlier archaeological studies no longer comply with the current regulatory standards, and that additional, previously unrecorded cultural resources are presumed to exist within the already surveyed areas, to assist in future planning NELHA has proactively contracted ASM Affiliates to complete an archaeological inventory of roughly 343 acres of undeveloped land they administer. The first phase of archaeological investigation at NELHA is ongoing (Clark et al. in prep.) and includes a 210-acre area on the north side of Makako Bay Drive (Phase I). The second phase of archaeological investigation includes this 110-acre study area (Phase 2a), a 1.3-acre coastal lot adjacent to the existing Marine Mammal Center (Phase 2b), and an 11.5 acre coastal area at Ho'ona (Phase 2c). Separate reports are currently being prepared for Phases 2b and 2c.

The current study was performed in compliance with Hawai'i Administrative Rules (HAR) 13§13-275, and in accordance with the Rules Governing Minimal Standards for Archaeological Inventory Surveys and Reports as contained in HAR 13§13-276. This report documents the findings of the resurvey of the study area and is intended to fulfill the requirements of the County of Hawai'i Planning Department and the Department of Land and Natural Resources with respect to permit approvals for land-altering and development activities. The report contains background information outlining the study area's physical and cultural contexts, a presentation of previous archaeological work in the immediate vicinity of the property, and current survey expectations based on that previous work. Also presented is an explanation of the survey methods, descriptions of the resources encountered, interpretation and evaluation of those resources, and treatment recommendations for the documented sites.

1. Introduction

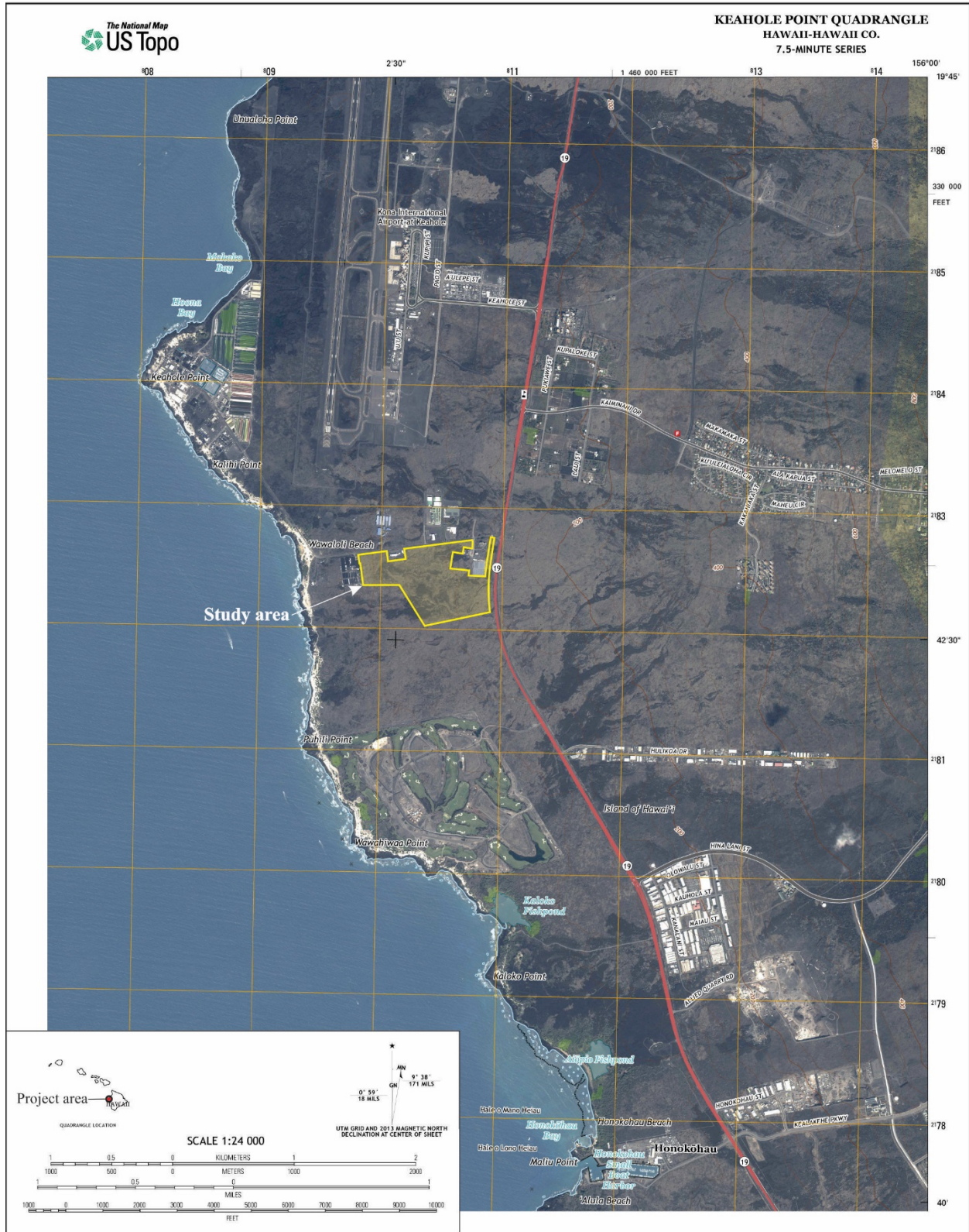


Figure 1. Study area location.

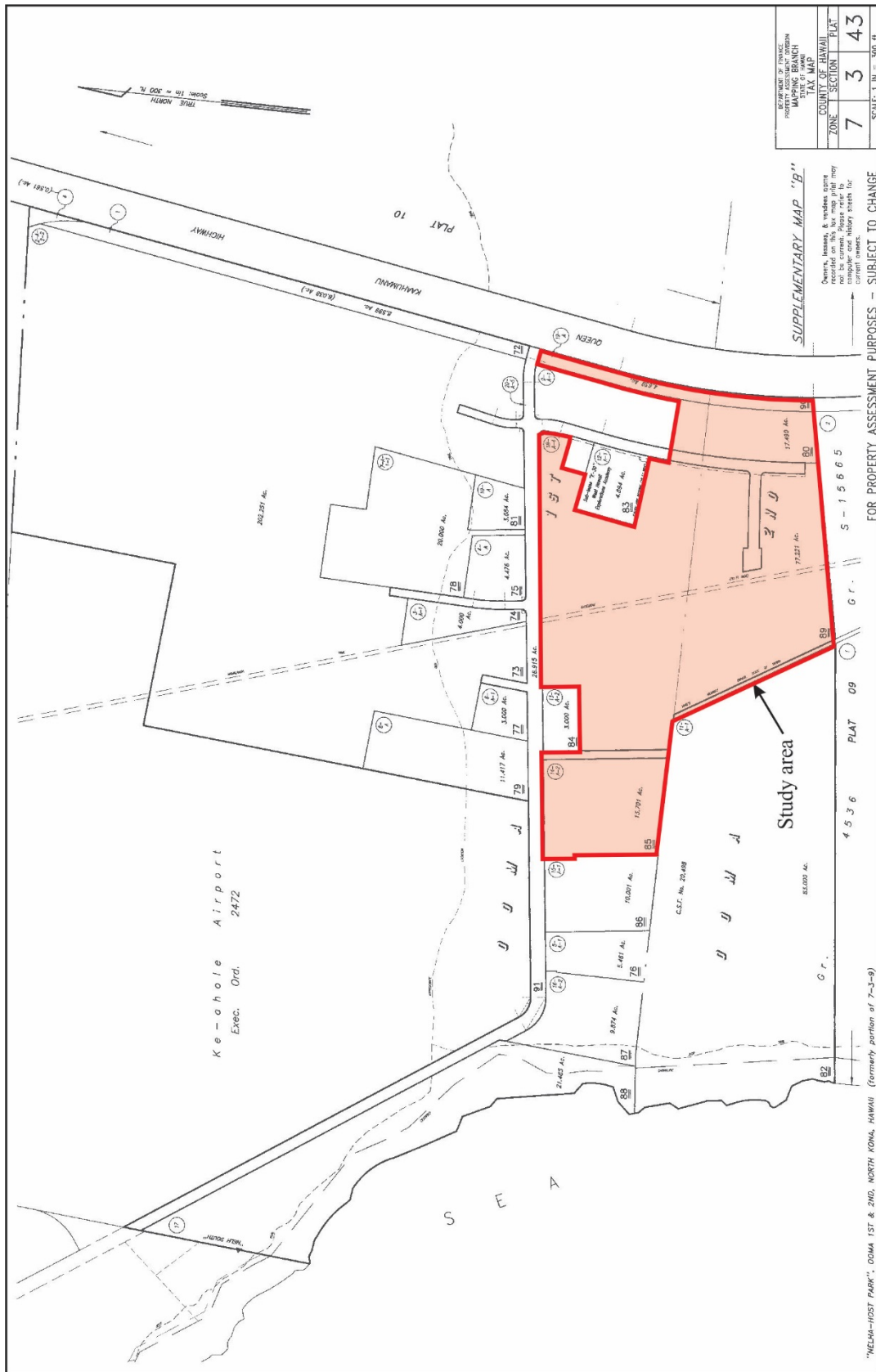


Figure 2. Tax Map Key (TMK): (3) 7-3-043 showing the current study area (outlined in red).



Figure 3. NELHA's Conceptual Master Plan (Group 70 2011).

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## STUDY AREA DESCRIPTION

The current study area encompasses roughly 110 acres of undeveloped land within the NELHA Host Park (TMKs: (3) 7-3-043: 080 por., 085, 089 por., 090, and 091 por.) in ‘O‘oma 1<sup>st</sup> and 2<sup>nd</sup> *ahupua‘a*, North Kona District, Island of Hawai‘i (see Figures 1 and 2). Within Parcel 89, a one acre area at the northwest portion (location of the Goodfellow Bros., Inc reservoir) was excluded from the study area, and the 8.8 acre Keahole Solar Power collector site within Parcel 80 was also omitted from the current study area (Figure 4). The study area is slightly sloped on the western half and is more moderately sloped on the eastern end, and elevation ranges from 35 to 120 feet above sea level. The *Geologic Map of the Island of Hawai‘i* prepared by Wolfe and Morris (1996) shows two distinct lava flow groups crossing this area, with the older lava substrate (h1y – 3,000 to 5,000 years B.P.) occurring in the current study area, and the younger lava substrate (h2 – 1,500 to 3,000 years B.P.) occurring outside the study area to the north (Figure 5); very little soil has accumulated on the surface of these flows. Sato et al. (1973) designate the soils in this area as ‘a‘ā (rLV) and *pāhoehoe* (rLW) lava (Figure 6).

The study area is bound by Queen Kaahumanu Highway along its east edge, Makako Bay Drive along its north edge (Figure 7), and an undeveloped parcel to the south. The Big Island Abalone Corporation (Parcel 86) is present along the study area’s western edge; the Kona Deep Corporation building (Parcel 84), which fronts the south side of Makako Bay Drive, is surrounded by the study area on its west, south, and east sides. The West Hawai‘i Explorations Academy, located on Parcel 83, is bordered by the study area on its north, west, and south sides (see Figure 4). Most of the study area consists of level *pāhoehoe* bedrock (Figure 8), except for a few areas of ‘a‘ā bedrock formations that extends into the central portion of the study area from the east (Figure 9). Situated within the Kekaha region, the principle environmental features are a hot, dry climate, and extensive lava fields with little to no soil accumulation. This region receives roughly 10 inches of rain per year and has a mean annual temperature of 70 to 76 degrees Fahrenheit (Donham 1987). The dominant vegetation is fountain grass (*Pennisetum setaceum*) with an occasional *uhualoa* (*Waltheria indica*), ‘ilima (*Sida fallax*), *noni* (*Morinda citrifolia*), and *maiapilo* (*Capparis sandwichiana*) (Figure 10).

Māmalahoa Trail (SIHP Site 2) runs in a northwest/southeast direction through the central portion of Parcel 089, from Makako Bay Drive to the north and extending beyond the study area through the undeveloped parcel to the south (Figure 11). A preservation plan previously prepared for this section of the trail (Rechtman and Clark 2004), stipulates that no construction or land modification is permitted within this preservation easement, and no buildings or fences will be erected (or ground-altering activity permitted) within an area extending an additional 10 feet on either side of the easement.

A significant amount of the bedrock ground surface within the study area has been altered by the excavation and removal of smooth, flat *pāhoehoe* slabs for modern construction projects in and around the Kona area (Figure 12). These quarried areas have been accessed through informal Jeep trails in the lava fields, often defined by a worn bedrock and crushed cobble surface (Figure 13). Debris left by some rock harvesters include; soda cans, beer bottles, tires, coolers, and other modern rubbish (Figures 14, 15, and 16).



Figure 4. Satellite image showing the current study area and the existing HOST Park infrastructure.



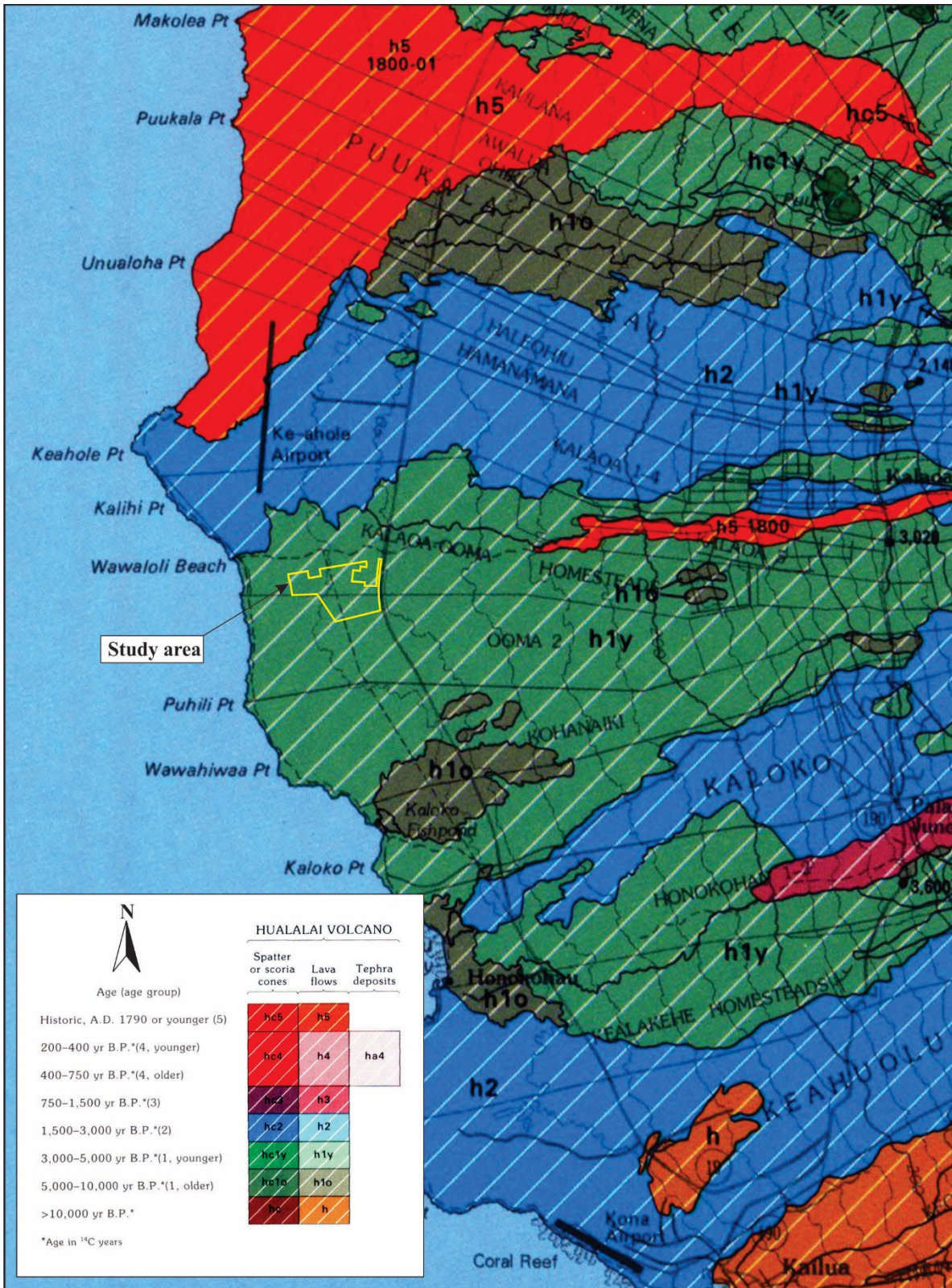


Figure 5. Portion of the *Geologic Map of the Island of Hawai'i* (Wolfe and Morris 1996) showing the current study area.



Figure 6. Soil map of the NELHA lands (from Group 70 2011).



Figure 7. Makako Bay Drive at the entrance to the NELHA HOST Park (Gateway Visitor Center and study area on the left), view to the west.

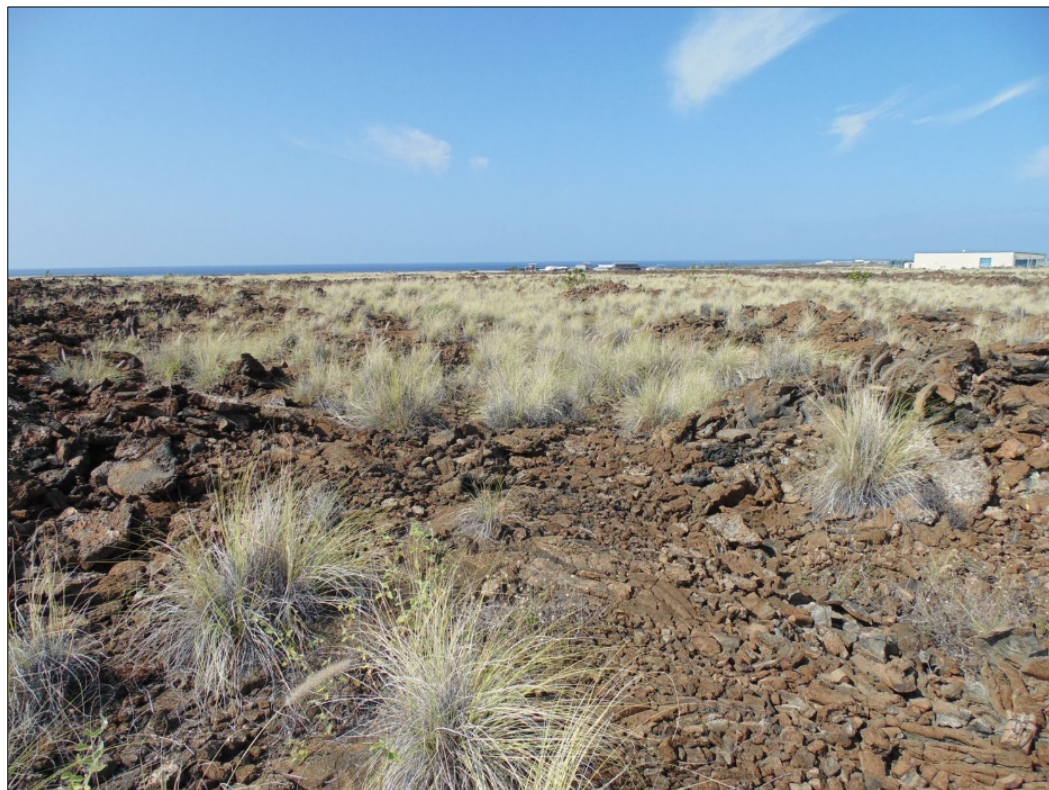


Figure 8. Typical ground surface found throughout most of the study area, view to the west.



Figure 9. 'A'ā bedrock formation within the central portion of the study area, extending from the east, view to the west.



Figure 10. Typical vegetation found throughout the study area, view to the west.



Figure 11. A portion of the Māmalahoa Trail (SIHP Site 2) leading into the study area from the southeast, view to the northwest.

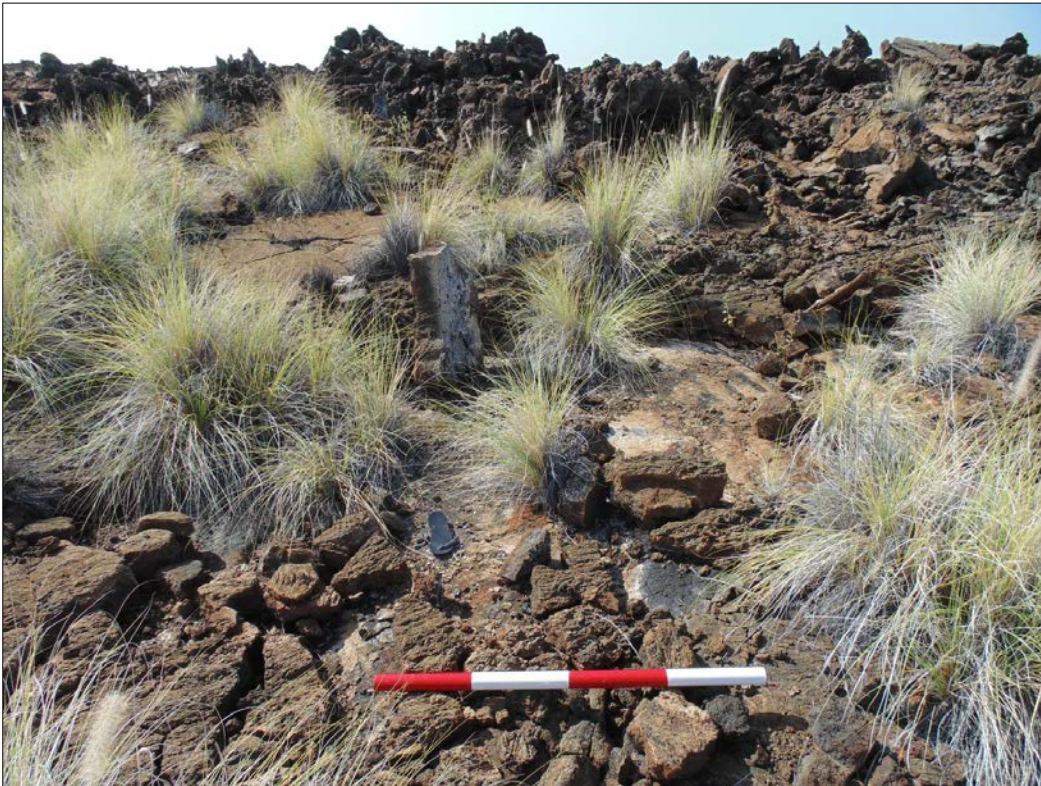


Figure 12. Typical excavation found throughout the level *pāhoehoe* portions of the study area, view to the east.



Figure 13. Informal jeep trail created to access bedrock excavation areas, view to the southeast.



Figure 14. Example of can and bottle debris observed sporadically throughout the study area.



Figure 15. Tire debris associated with the roads used to access the excavation areas.

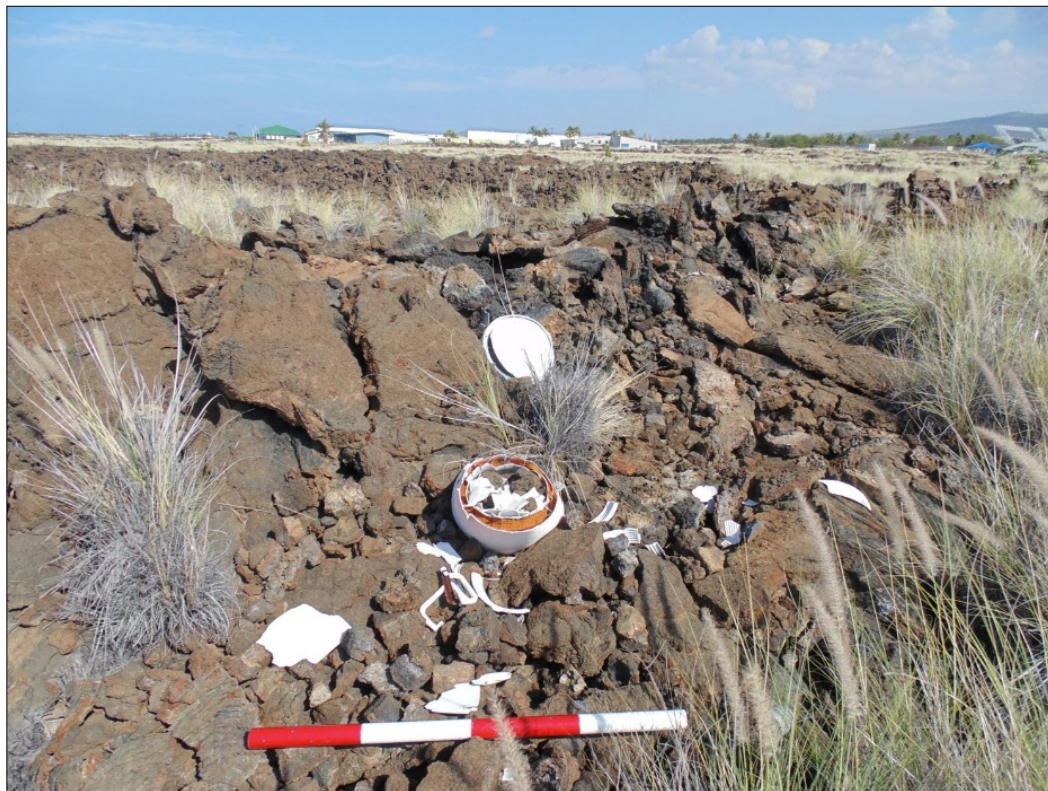


Figure 16. Miscellaneous debris associated with the *pāhoehoe* excavation activities.

## 2. BACKGROUND

To generate a set of expectations regarding the nature of historic properties that might be encountered within the study area, and to establish an environment within which to assess the significance of any such resources, a general historical context for the region and archaeological studies previously conducted in the vicinity of the current study area are summarized.

### CULTURE-HISTORICAL CONTEXT

One of the potential shortcomings of the earlier archaeological studies conducted by Barrera (1985a; 1989) within the NELHA's HOST Park lands, given current regulatory standards and practices, was in not providing sufficiently detailed cultural and historical contexts. While the physical study area for the current project is limited to a roughly 110-acre portion of 'O'oma 1<sup>st</sup> and 2<sup>nd</sup> *ahupua'a* identified as TMK: (3) 7-3-043: 085, 090, and 080, 089, and 091, in an effort to provide a comprehensive and holistic understanding of the current study area, this section of the report examines the entire *ahupua'a* and their relationship to neighboring lands within the larger Kekaha region.

Rechtman and Maly (2003) and Rechtman (2006) previously prepared a Cultural Impact Assessments for this general region of North Kona. Extensive research for the Rechtman and Maly (2003) study was conducted by Kepā and Onaona Maly of Kumu Pono Associates using archival-historical resources found in the collections of the Hawai'i State Archives (HSA), State Land Division (LD), State Survey Division (SD), and State Bureau of Conveyances (BoC); the Bishop Museum Archives (BPBM); Hawaiian Historical Society (HHS); University of Hawai'i-Hilo Mo'okini Library; private family collections; and in the collection of Kumu Pono Associates. The Malys reviewed archival-historical literature from both Hawaiian and English language sources, including an examination of Hawaiian Land Commission Award records from the *Māhele 'Āina* (Land Division) of 1848; survey records of the Kingdom and Territory of Hawai'i; and historical texts authored or compiled by Malo (1951), I'i (1959), Kamakau (1961, 1964, 1976, and 1991), Ellis (1963), Fornander (1916-1919 and 1996), Thrum (1908), Stokes and Dye (1991), Beckwith (1970), Reinecke (n.d.); and Handy and Handy with Pukui (1972). Also reviewed were several native accounts from Hawaiian language newspapers (compiled and translated from Hawaiian to English, by Kepā Maly), and historical narratives authored by eighteenth and nineteenth century visitors to the region. The information was presented within thematic categories and ordered chronologically by the date of publication.

Much of the following discussion of culture-historical context for the Kekaha region is reproduced (modified and reorganized slightly) from the comprehensive background sections presented in the Rechtman and Maly (2003) and Rechtman (2006) cultural impact studys. Additional information and emphasis has been added in some sections to elucidate and highlight people, places, and events associated specifically with the current study area. It is a comprehension of this background information that facilitates a more complete understanding of the potential significance of the resources that exist within the current study area.

### Natural and Cultural Resources in a Hawaiian Context

In Hawaiian society, natural and cultural resources are one and the same. Native traditions describe the formation (the literal birth) of the Hawaiian Islands and the presence of life on and around them in the context of genealogical accounts. All forms in the natural environment, from the skies and mountain peaks, to the watered valleys and lava plains, and to the shoreline and ocean depths were believed to be embodiments of Hawaiian deities. One Hawaiian genealogical account, records that Wākea (the expanse of the sky—father) and Papa-hānau-moku (Papa—Earth-mother who gave birth to the islands)—also called Haumea-nui-hānau-wā-wā (Great Haumea—Woman-earth born time and time again)—and various gods and creative forces of nature, gave birth to the islands. Hawai'i, the largest of the islands, was the first-born of these island children. As the Hawaiian genealogical account continues, we find that these same god-beings, or creative forces of nature who gave birth to the islands, were also the parents of the first man (Hāloa), and from this ancestor, all Hawaiian people are descended (cf. Beckwith 1970; Malo 1951:3; Pukui and Korn 1973). It was in this context of kinship, that the ancient Hawaiians addressed their environment and it is the basis of the Hawaiian system of land use.

### An Overview of Hawaiian Settlement

Archaeologists and historians describe the inhabiting of these islands in the context of settlement that resulted from voyages taken across the open ocean. For many years, researchers have proposed that early Polynesian settlement voyages between Kahiki (the ancestral homelands of the Hawaiian gods and people) and Hawai'i were underway by A.D. 300, with long distance voyages occurring fairly regularly through at least the thirteenth century. It has been



generally reported that the sources of the early Hawaiian population—the Hawaiian Kahiki—were the Marquesas and Society Islands (Cordy 2000; Emory in Tatar 1982:16-18). More recently, Kirch (2011) has suggested that initial settlement of Hawaii may not have occurred until about A.D. 1000.

For generations following initial settlement, communities were clustered along the watered, windward (*ko'olau*) shores of the Hawaiian Islands. Along the *ko'olau* shores, streams flowed and rainfall was abundant, and agricultural production became established. The *ko'olau* region also offered sheltered bays from which deep sea fisheries could be easily accessed, and near shore fisheries, enriched by nutrients carried in the fresh water, could be maintained in fishponds and coastal waters. It was around these bays that clusters of houses where families lived could be found (McEldowney 1979:15). In these early times, Hawai'i's inhabitants were primarily engaged in subsistence level agriculture and fishing (Handy et al. 1972:287).

Following the initial settlement period, areas with the richest natural resources became populated and perhaps crowded, and by about A.D. 1200, the population began expanding to the *kona* (leeward side) and more remote regions of the island (Cordy 2000:130). In Kona, communities were initially established along sheltered bays with access to fresh water and rich marine resources. The primary “chiefly” centers were established at several locations—the Kailua (Kaiakeakua) vicinity, Kahalu'u-Keauhou, Ka'awaloa-Kealakekua, and Hōnaunau. The communities shared extended familial relations, and there was an occupational focus on the collection of marine resources. By the fourteenth century, inland elevations to around the 3,000-foot level were being turned into a complex and rich system of dryland agricultural fields (today referred to as the Kona Field System). By the fifteenth century, residency in the uplands was becoming permanent, and there was an increasing separation of the chiefly class from the common people. In the sixteenth century the population stabilized and the *ahupua'a* land management system was established as a socioeconomic unit (see Ellis 1963; Handy et al. 1972; Kamakau 1961; Kelly 1983; and Tomonari-Tuggle 1985).

In Kona, where there were no regularly flowing streams to the coast, access to potable water (*wai*), was of great importance and played a role in determining the areas of settlement. The waters of Kona were found in springs and caves (found from shore to the mountain lands), or procured from rain catchments and dewfall. Traditional and historic narratives abound with descriptions and names of water sources, and also record that the forests were more extensive and extended much further seaward than they do today. These forests not only attracted rains from the clouds and provided shelter for cultivated crops, but also in dry times drew the *kēhau* and *kēwai* (mists and dew) from the upper mountain slopes to the low lands.

In the 1920s-1930s, Handy et al. (1972) conducted extensive research and field interviews with elder native Hawaiians. In lands of North and South Kona, they recorded native traditions describing agricultural practices and rituals associated with rains and water collection. Primary in these rituals and practices was the lore of Lono—a god of agriculture, fertility, and the rituals for inducing rainfall. Handy et al., observed:

The sweet potato and gourd were suitable for cultivation in the drier areas of the islands. The cult of Lono was important in those areas, particularly in Kona on Hawai'i . . . there were temples dedicated to Lono. The sweet potato was particularly the food of the common people. The festival in honor of Lono, preceding and during the rainy season, was essentially a festival for the whole people, in contrast to the war rite in honor of Ku which was a ritual identified with Ku as god of battle. (Handy et al. 1972:14)

Handy et al. (1972) noted that the worship of Lono was centered in Kona. Indeed, it was while Lono was dwelling at Keauhou, that he is said to have introduced taro, sweet potatoes, yams, sugarcane, bananas, and *'awa* to Hawaiian farmers (Handy et al. 1972:14). The rituals of Lono “The father of waters” and the annual *Makahiki* festival, which honored Lono and which began before the coming of the *kona* (southerly) storms and lasted through the rainy season (the summer months), were of great importance to the native residents of this region (Handy et al. 1972: 523). The significance of rituals and ceremonial observances in cultivation and indeed in all aspects of life was of great importance to the well being of the ancient Hawaiians, and cannot be overemphasized, or overlooked when viewing traditional sites of the cultural landscape.

### **Hawaiian Land Use and Resource Management Practices**

Over the generations, the ancient Hawaiians developed a sophisticated system of land and resources management. By the time 'Umi-a-Liloa rose to rule the island of Hawai'i in ca. 1525, the island (*moku-puni*) was divided into six districts or *moku-o-loko* (cf. Fornander 1973–Vol. II:100-102). On Hawai'i, the district of Kona is one of six major *moku-o-loko* within the island. The district of Kona itself, extends from the shore across the entire volcanic mountain of Hualālai, and continues to the summit of Mauna Loa, where Kona is joined by the districts of Ka'ū, Hilo, and Hāmākua. One traditional reference to the northern and southern-most coastal boundaries of Kona tells us of the district's extent:

*Mai Ke-ahu-a-Lono i ke 'ā o Kani-kū, a hō 'ea i ka 'ūlei kolo o Manukā i Kaulanamauna e pili aku i Ka'ū!*—From Keahualono [the Kona-Kohala boundary] on the rocky flats of Kanikū, to Kaulanamauna next to the crawling (tangled growth of) 'ūlei bushes at Manukā, where Kona clings to Ka'ū! (*Ka'ao Ho'oniua Pu'uwai no Ka-Miki in Ka Hōkū o Hawai'i*, September 13, 1917; Translated by Kepā Maly)

Kona, like other large districts on Hawai'i, was further divided into 'okana or kalana (regions of land smaller than the *moku-o-loko*, yet comprising a number of smaller units of land). In the region now known as Kona 'akau (North Kona), there are several ancient regions (*kalana*) as well. The southern portion of North Kona was known as "Kona kai 'ōpua" (interpretively translated as: Kona of the distant horizon clouds above the ocean), and included the area extending from Lanihau (the present-day vicinity of Kailua Town) to Pu'uohau (now known as Red Hill). The northern-most portion of North Kona was called "Kekaha" (descriptive of an arid coastal place). Native residents of the region affectionately referred to their home as *Kekaha-wai-'ole o nā Kona* (Waterless Kekaha of the Kona District), or simply as the *āina kaha*. It is within this region of Kekaha, that the lands of 'O'oma and Kalaoa are found.

The *ahupua'a* were also divided into smaller individual parcels of land (such as the *'ili, kō'ele, māla, and kīhāpai*, etc.), generally oriented in a *mauka-makai* direction, and often marked by stone alignments (*kuaiwi*). In these smaller land parcels the native tenants tended fields and cultivated crops necessary to sustain their families, and the chiefly communities with which they were associated. As long as sufficient tribute was offered and *kapu* (restrictions) were observed, the common people, who lived in a given *ahupua'a* had access to most of the resources from mountain slopes to the ocean. These access rights were almost uniformly tied to residency on a particular land, and earned as a result of taking responsibility for stewardship of the natural environment, and supplying the needs of the *ali'i* (see Kamakau 1961:372-377 and Malo 1951:63-67).

Entire *ahupua'a*, or portions of the land were generally under the jurisdiction of appointed *konohiki* or lesser chief-landlords, who answered to an *ali'i-'ai-ahupua'a* (chief who controlled the *ahupua'a* resources). The *ali'i-'ai-ahupua'a* in turn answered to an *ali'i 'ai moku* (chief who claimed the abundance of the entire district). Thus, *ahupua'a* resources supported not only the *maka'āinana* and *'ohana* who lived on the land, but also contributed to the support of the royal community of regional and/or island kingdoms. This form of district subdividing was integral to Hawaiian life and was the product of strictly adhered to resources management planning. In this system, the land provided fruits and vegetables and some meat in the diet, and the ocean provided a wealth of protein resources. Also, in communities with long-term royal residents, divisions of labor (with specialists in various occupations on land and in procurement of marine resources) came to be strictly adhered to. It is in this cultural setting that we find the present study area.

The *ahupua'a* of 'O'oma (historically, 'O'oma 1st and 2nd) and Kalaoa (historically, Kalaoa 1st – 5th) are two of some twenty ancient *ahupua'a* within the 'okana of Kekaha-wai-'ole. The place name 'O'oma can be literally translated as concave. The place name Kalaoa can be literally translated as "the choker (as a stick for catching eels)" (Pukui et al. 1974:75). To date, no tradition explaining the source of the place names has been located. A few place names within 'O'oma were discussed in traditional accounts, thus we have some indication of the histories associated with that land.

While there are only limited native accounts that have been recorded about 'O'oma, we do know that the land was so esteemed, that during the youth of Kauikeaouli (later known as Kamehameha III), the young prince—son of Kamehameha I and his sacred wife Keōpūolani—was taken to be raised near the shore of 'O'oma under the care of his stewards from infancy until he was five years old (Kamakau 1961:263-264). Again, this is a significant part of the history of this land, as great consideration went into all aspects of the young king's upbringing (see I'i 1959 and Kamakau 1961).

### *The Environmental Setting of 'O'oma (1<sup>st</sup> and 2<sup>nd</sup>)*

The *ahupua'a* of 'O'oma 1<sup>st</sup> and 2<sup>nd</sup> cross several environmental zones that are generally called *wao* in the Hawaiian language. These environmental zones include the near-shore fisheries and shoreline strand (*kahakai*) and the *kula kai/kula uka* (shoreward/inland plains). These regional zones were greatly desired as places of residence by the natives of the land.

While the *kula* region is now likened to a volcanic desert, native and historic accounts describe or reference groves of native hardwood shrubs and trees such as *'ūlei (Osteomeles anthyllidifolia)*, *ēlama (Diospyros ferrea)*, *uhiuhi (Caesalpinia kawaiensis)*, and *ohe (Reynoldsia sandwicensis)* extending across the land and growing some distance shoreward. The few rare and endangered plants found in the region, along with small remnant communities of native dryland forest (Char 1991) give an indication that there was a significant diversity of plants growing upon the *kula* lands prior to the introduction of ungulates.

The lower *kula* lands receive only about 10 to 20 inches of rainfall annually, and it is because of their dryness, the larger region of which ‘O‘oma is a part, is known as “Kekaha.” While on the surface, there appears to be little or no potable water to be found, the very lava flows which cover the land contain many underground streams that are channeled through subterranean lava tubes which feed the springs, fishponds and anchialine ponds on the *kula kai* (coastal flats). Also in this region, on the flat lands, about a half-mile from the shore, is the famed *Alanui Aupuni* (Government Trail), built in 1847, at the order of Kamehameha III. This trail or government roadway, was built to meet the needs of changing transportation in the Hawaiian Kingdom, and in many places it overlays the older near shore *ala loa* (ancient foot trail that encircled the island).

Continuing into the *kula uka* (inland slopes), the environment changes as elevation increases. This zone is called the *wao kanaka* (region of man) and *wao nahele* (forest region). Rainfall increases to 30 or 40 inches annually, and taller forest growth occurred. This region provided native residents with shelter for residential and agricultural uses, and a wide range of natural resources that were of importance for religious, domestic, and economic purposes. In ‘O‘oma 1<sup>st</sup> and 2<sup>nd</sup>, this region is generally between the 1,200 to 2,200 foot elevation, and is crossed by the present-day Māmalahoa Highway. The highway is situated not far below the ancient *ala loa*, or foot trail, also known as *Ke-ala‘ehu*, and was part of a regional trail system passing through Kona from Ka‘ū and Kohala.

The ancient Hawaiians saw (as do many Hawaiians today) all things within their environment as being interrelated. That which was in the uplands shared a relationship with that which was in the lowlands, coastal region, and even in the sea. This relationship and identity with place worked in reverse as well, and the *ahupua‘a* as a land unit was the thread that bound all things together in Hawaiian life. In an early account written by Kihe (in *Ka Hōkū o Hawai‘i*, 1914-1917), with contributions by John Wise and Steven Desha Sr., the significance of the dry season in Kekaha and the custom of the people departing from the uplands for the coastal region is further described:

...‘Oia ka wā e ne‘e ana ka lā iā Kona, hele a malo‘o ka ‘āina i ka ‘ai kupakupa ‘ia e ka lā, a o nā kānaka, nā li‘i o Kona, pūhe‘e aku la a noho i kahakai kāhi o ka wai e ola ai nā kānaka – It was during the season, when the sun moved over Kona, drying and devouring the land, that the chiefs and people fled from the uplands to dwell along the shore where water could be found to give life to the people. (*Ka Hōkū o Hawai‘i*, April 5, 1917 translated by Kepā Maly)

It appears that the practice of traveling between upland and coastal communities in the ‘O‘oma *ahupua‘a* greatly decreased by the middle nineteenth century. Indeed, the only claimant for *kuleana* land in ‘O‘oma, during the *Māhele ‘Āina* of 1848—when native tenants were allowed to lay claim to lands on which they lived and cultivated—noted that he was the only resident in ‘O‘oma at the time (see *Helu* 9162 to Kahelekahi, in this study). This is perhaps explained by the fact that at time of the *Māhele* there was a significant decline in the Hawaiian population, and changes in Hawaiian land tenure led to the relocation of many individuals from various lands.

### Native Traditions and Historical Accounts of ‘O‘oma and the Kekaha Region

This section of the study presents *mo‘olelo*—native traditions and historical accounts (some translated from the original Hawaiian by Kepā Maly)—of the Kekaha region that span several centuries. There are very few accounts that have been found to date, that specifically mention ‘O‘oma. Thus, narratives that describe neighboring lands within the Kekaha region help provide an understanding of the history of these *ahupua‘a*, describing features and the use of resources that were encountered on the land.

It may be, that the reason there are so few accounts for ‘O‘oma is that it may have been considered a marginal settlement area, occupied only after the better situated lands of Kekaha—those lands with the sheltered bays, and where fresh water could be easily obtained—were populated. As the island population grew, so too did the need to expand to more remote or marginal lands. This thought is found in some of the native traditions and early historic accounts below. However, as people populated the Kekaha lands, they came to value its fisheries—those of the deep sea, near shore, and inland fishponds.

#### *Punia: A Tale of Sharks and Ghosts of Kekaha*

The native account of Punia (also written Puniaki – cf. Kamakau 1964), is perhaps among the earliest accounts of the Kekaha area, and in it is found a native explanation for the late settlement of Kekaha. The following narratives are paraphrased from Fornander’s *Hawaiian Antiquities and Folklore* (Fornander 1959):

Punia was born in the district of Kohala, and was one of the children of Hina. One day, Punia desired to get lobster for his mother to eat, but she warned him of Kai‘ale‘ale and his hoards of sharks who guarded the caves in which lobster were found. These sharks were greatly feared by all who lived along, and fished the shores of Kohala for many people had been killed by the sharks. Heeding his

mother's warning, Punia observed the habits of the sharks and devised a plan by which to kill each of the sharks. Setting his plan in motion, Punia brought about the deaths of all the subordinate sharks, leaving only Kai'ale'ale behind. Punia tricked Kai'ale'ale into swallowing him whole. Once inside Kai'ale'ale, Punia rubbed two sticks together to make a fire to cook the sweet potatoes he had brought with him. He also scraped the insides of Kai'ale'ale, causing great pain to the shark. In his weakened state, Kai'ale'ale swam along the coast of Kekaha, and finally beached himself at Alula, near the point of Maliu in the land of Kealakehe. The people of Alula, cut open the shark and Punia was released.

At that time Alula was the only place in all of Kekaha where people could live, for all the rest of the area was inhabited by ghosts. When Punia was released from the shark, he began walking along the trail, to return to Kohala. While on this walk, he saw several ghosts with nets all busy tying stones for sinkers to the bottom of the nets, and Punia called out in a chant trying to deceive the ghosts and save himself:

<i>Auwe no hoi kuu makuakane o keia kaha e!</i>	Alas, O my father of these coasts!
<i>Elua wale no maua lawaia o keia wahi.</i>	We were the only two fishermen of this place (Kaha).
<i>Owau no o ko'u makuakane,</i>	Myself and my father,
<i>E hoowili aku ai maua i ka ia o ianei,</i>	Where we used to twist the fish up in the nets,
<i>O kala, o ka uhu, o ka palani,</i>	The kala, the uhu, the palani,
<i>O ka ia ku o ua wahi nei la,</i>	The transient fish of this place.
<i>Ua hele wale ia no e maua keia kai la!</i>	We have traveled over all these seas,
<i>Pau na kuuna, na lua, na puka ia.</i>	All the different place, the holes, the runs.
<i>Make ko'u makuakane, koe au.</i>	Since you are dead, father, I am the only one left.

Hearing Punia's wailing, the ghosts said among themselves, "Our nets will be of some use now, since here comes a man who is acquainted with this place and we will not be letting down our nets in the wrong place." They then called out to Punia, "Come here." When Punia went to the ghosts, he explained to them, the reason for his lamenting; "I am crying because of my father, this is the place where we used to fish. When I saw the lava rocks, I thought of him." Thinking to trick Punia and learn where all the ku'una (net fishing grounds) were, the ghosts told Punia that they would work under him. Punia went into the ocean, and one-by-one and two-by-two, he called the ghosts into the water with him, instructing them to dive below the surface. As each ghost dove into the water, Punia twisted the net entangling the ghosts. This was done until all but one of the ghosts had been killed. That ghost fled and Kekaha became safe for human habitation. (Fornander 1959:9-17)

One of the earliest datable accounts that describes the importance of the Kekaha region fisheries comes from the mid-sixteenth century, following 'Umi-a-Liloa's unification of the island of Hawai'i under his rule. Writing in the 1860s, native historian, Samuel Mānaiakalani Kamakau (1961) told readers about the reign of 'Umi, and his visits to Kekaha:

'Umi-a-Liloa did two things with his own hands, farming and fishing...and farming was done on all the lands. Much of this was done in Kona. He was noted for his skill in fishing and was called Pu'ipu'i a ka lawai'a (a stalwart fisherman). Aku fishing was his favorite occupation, and it often took him to the beaches (Ke-kaha) from Kalahuipua'a to Makaula<sup>1</sup>. He also fished for 'ahi and kala. He was accompanied by famed fishermen such as Pae, Kahuna, and all of the chiefs of his kingdom. He set apart fishing, farming and other practices... (Kamakau 1961:19-20)

In his accounts of events at the end of 'Umi's life, Kamakau (1961) references Kekaha once again. He records that Ko'i, one of the faithful supporters and a foster son of 'Umi, sailed to Kekaha, where he killed a man who resembled 'Umi. Ko'i then took the body and sailed to Maka'eo in the *ahupua'a* of Keahuolu. Landing at Maka'eo in the night, Ko'i took the body to the cave where 'Umi's body lay. Replacing 'Umi's body with that of the other man, Ko'i then crossed the lava beds, returning to his canoe at Maka'eo. From there, 'Umi's body was taken to its' final resting place... (Kamakau 1961:32-33).

As a child in ca. 1812, Hawaiian historian John Papa I'i passed along the shores of Kekaha in a sailing ship, as a part of the procession by which Kamehameha I returned to Kailua-Kona from his residency on O'ahu. In his narratives, I'i described the shiny lava flows and fishing canoe fleets of the "Kaha" (Kekaha) lands:

<sup>1</sup> Kalāhuipua'a is situated in the district of Kohala, bounding the northern side of Pu'uanahulu in Kekaha. Maka'ula is situated a few *ahupua'a* north of 'O'oma.

The ship arrived outside of Kaelehuluhulu, where the fleet for aku fishing had been since the early morning hours. The sustenance of those lands was fish.

When the sun was rather high, the boy [I'i] exclaimed, "How beautiful that flowing water is!" Those who recognized it, however, said, "That is not water, but pahoehoe. When the sun strikes it, it glistens, and you mistake it for water..."

Soon the fishing canoes from Kawaihae, the Kaha lands, and Ooma drew close to the ship to trade for the pa'i'ai (hard poi) carried on board, and shortly a great quantity of aku lay silvery-hued on the deck. The fishes were cut into pieces and mashed; and all those aboard fell to and ate, the women by themselves.

The gentle Eka sea breeze of the land was blowing when the ship sailed past the lands of the Mahaiulas, Awalua, Haleohiu, Kalaoas, Hoona, on to Oomas, Kohanaiki, Kaloko, Honokohaus, and Kealakehe, then around the cape of Hiiakanoholae... (I'i 1959:109-110)

### *Ka-Lani-Kau-i-ke-Aouli (Kamehameha III)*

In ca. 1813, Ka-lani Kau-i-ke-aouli, who grew up to become Kamehameha III, was born. S.M. Kamakau (1961) tells us that the baby appeared to be still-born, but that shortly after birth, he was revived. Upon the revival of the baby, he was given to the care of Ka-iki-o-'ewa, who with Keawe-a-mahi and family, raised the child in seclusion at 'O'oma for the first five years of the young king's life. Kauikeaouli apparently held some interest in the land of 'O'oma 2<sup>nd</sup> through the *Māhele 'Āina*, as he originally claimed 'O'oma 2<sup>nd</sup> as his personal property, but later gave it up to the Kingdom (see records of *Māhele 'Āina* in this study).

Kamakau provides us with the following description of Kauikeaouli's birth and early life at 'O'oma:

Ka-lani-kau-i-ke-aouli was the second son of Ke-opu-o-lani by Kamehameha, and she called him Kiwala'o after her own father. She was the daughter of Kiwala'o and Ke-ku'i-apo-iwa Liliha, both children of Ka-Iola Pupuka-o-Hono-ka-wai-lani, and hence she [Ke-opu-o-lani] was a *ni'aupi'o* and a *naha* chiefess, and the *ni'aupi'o* rank descended to her children and could not be lost by them. While she was carrying the child [Kau-i-ke-aouli] several of the chiefs begged to have the bringing up of the child, but she refused until her *kahu*, Ka-lua-i-konahale, known as Kua-kini, came with the same request. She bade him be at her side when the child was born lest some one else get possession of it. He was living this side of Keauhou in North Kona, and Ke-opu-o-lani lived on the opposite side.

On the night of the birth the chiefs gathered about the mother. Early in the morning the child was born but as it appeared to be stillborn Kua-kini did not want to take it. Then came Ka-iki-o-'ewa from some miles away, close to Kuamo'o, and brought with him his prophet who said, "The child will not die, he will live." This man, Ka-malo-'ihi or Ka-pihe by name, came from the Napua line of kahunas descended from Makua-kau-mana whose god was Ka-'onohi-o-ka-la (similar to the child of God). The child was well cleaned and laid upon a consecrated place and the seer (*kaula*) took a fan (*pe'ahi*), fanned the child, prayed, and sprinkled it with water, at the same time reciting a prayer addressed to the child of God, something like that used by the Roman Catholics—

"He is standing up, he is taking a step, he walks"

(Kulia-la, ka'ina-la, hele ia la).

Or another—

*Huila ka lani i ke Akua,*

*Lapalapa ka honua i ke keiki*

*E ke keiki e, hooua i ka punohu lani,*

*Aia i ka lani ka Haku e,*

*O ku'u 'uhane e kahe mau,*

*I la'a i kou kanawai.*

The heavens lighten with the god,

The earth burns with the child,

O son, pour down the rain that brings the rainbow,

There in heaven is the Lord.

Life flows through my spirit,

Dedicated to your law.

The child began to move, then to make sounds, and at last it came to life. The seer gave the boy the name of "The red trail" (Ke-aweawe-'ula) signifying the roadway by which the god descends from the heavens.

Ka-iki-o-'ewa became the boy's guardian and took him to rear in an out-of-the-way place at 'O'oma, Kekaha. Here Keawe-a-mahi, the lesser chiefs, the younger brothers and sisters of Ka-iki-o-'ewa, and their friends were permitted to carry the child about and hold him on their laps (*uha*). Ka-pololu

was the chief who attended him; Ko'i-pepeleleu and Ulu-nui's mother [were] the nurses who suckled him. Later Ka-'ai-kane gave him her breast after she had given birth to Ke-kahu-pu'u. Here at 'O'oma he was brought up until his fifth year, chiefly occupied with his toy boats rigged like warships and with little brass cannon loaded with real powder mounted on [their] decks. The firing off of these cannon amused him immensely. He excelled in foot races. On one occasion when the bigger boys had joined in the sport, a [rascal] boy named Ka-hoa thought to play a practical joke by smearing with mud the stake set up to be grasped by the one who first reached the goal. He expected one of the larger boys to be the winner, but it was the little prince who first caught the stick and had his hands smeared. "You will be burnt alive for dirtying up the prince. We are going to tell Kapololu on you!" the boys threatened; but the prince objected, saying, "Anyone who tells on him shall never eat with me again or play with me and I will never give him anything again." Kau-i-ke-aouli was a splendid little fellow. He loved his playmates and never once did them any hurt, and he was kind and obedient to his teachers... (Kamakau 1961:263-264)

*"Kaa'o Hooniua Puuwai no Ka-Miki" (The Heart stirring Story of Ka-Miki)*

It is not until the early twentieth century, that we find a few detailed native accounts which tell of traditional features and residents of 'O'oma and the vicinity. The writings of John Whalley Hermosa Isaac Kihe, a native son of Kekaha, in Hawaiian language newspapers (translated by Kepā Maly from the original Hawaiian texts), share the history of the land and sense the depth of attachment that native residents felt for 'O'oma, and the larger Kekaha-wai-'ole-o-nā-Kona.

Kihe (who also wrote under the name of Ka-'ohu-ha'aeo-i-nā-kuahiwi-'ekolu) was born in 1853, his parents were native residents of Honokōhau and Kaloko (his grandfather, Kuapāhoa, was a famed kahuna of the Kekaha lands). During his life, Kihe taught at various schools in the Kekaha region; served as legal counsel to native residents applying for homestead lands in 'O'oma and vicinity; worked as a translator on the Hawaiian Antiquities collections of A. Fornander; and was a prolific writer himself. In the later years of his life, Kihe lived at Pu'u Anahulu and Kalaoa, and he is fondly remembered by elder kama'āina of the Kekaha region. Kihe, who died in 1929, was also one of the primary informants to Eliza Maguire, who translated some of the writings of Kihe, publishing them in abbreviated form in her book "Kona Legends" (1926).

Writers today have varying opinions and theories pertaining to the history of Kekaha, residency patterns, and practices of the people who called Kekaha-wai-'ole-o-nā-Kona home. For the most part, our interpretations are limited by the fragmented nature of the physical remains and historical records, and by a lack of familiarity with the diverse qualities of the land. As a result, most of us only see the shadows of what once was, and it is difficult at times, to comprehend how anyone could have carried out a satisfactory existence in such a rugged land.

Kihe and his co-authors provide readers with several references to places and events in the history of 'O'oma and neighboring lands. Through the narratives, we learn of place name origins, areas of ceremonial significance, how resources were managed and accessed, and the practices of those native families who made this area their home.

One example of the rich materials recorded by native writers, is found in "*Ka'ao Ho'oniua Pu'u'uwai no Ka-Miki*" (The Heart Stirring Story of Ka-Miki). This tradition is a long and complex account, that was published over a period of four years (1914-1917) in the weekly Hawaiian-language newspaper *Ka Hōkū o Hawai'i*. The narratives were primarily recorded for the paper by Hawaiian historians John Wise and J.W.H.I. Kihe.

While "*Ka-Miki*" is not an ancient account, the authors used a mixture of local stories, tales, and family traditions in association with place names to tie together fragments of site-specific histories that had been handed down over the generations. Also, while the personification of individuals and their associated place names may not be entirely "ancient," such place name-person accounts are common throughout Hawaiian (and Polynesian) traditions. The English translations below are a synopsis of the Hawaiian texts, with emphasis upon the main events and areas being discussed. Diacritical marks and hyphenation have been placed to help with pronunciation of certain words.

This *mo'olelo* (tradition) is set in the 1300s (by association with the chief Pili-a-Ka'aiaea), and is an account of two supernatural brothers, Ka-Miki (The quick, or adept, one) and Ma-Ka'iole (Rat [squinting] eyes). The narratives describe the birth of the brothers, their upbringing, and their journey around the island of Hawai'i along the ancient *ala loa* and *ala hele* (trails and paths) that encircled the island. During their journey, the brothers competed alongside the trails they traveled, and in famed *kahua* (contest fields) and royal courts, against 'ōlohe (experts skilled in fighting or in other competitions, such as running, fishing, debating, or solving riddles, that were practiced by the ancient Hawaiians). They also challenged priests whose dishonorable conduct offended the gods of ancient Hawai'i. Ka-Miki and Ma-Ka'iole were empowered by their ancestress Ka-uluhe-nui-hihi-kolo-i-uka (The great entangled growth of uluhe fern which spreads across the uplands), who was one of the myriad of body forms of the goddess Haumea, the

earth-mother, creative force of nature who was also called Papa or Hina. Among her many nature-form attributes were manifestations that caused her to be called upon as a goddess of priests and competitors (people, places named for them, and other place names are marked below with underlining):

...Kūmua was the husband of Ka-uluhe-nui-hihi-kolo-i-uka. The place that is named for Kūmua is in the uplands of Kohanaiki, an elevated rise from where one can look towards the lowlands. The shore and deep sea are all clearly visible from this place. The reason that Kūmua dwelt there was so that he could see the children and grandchildren of he and his wife.

Wailoa, a daughter, was the mother of Kapa'ihilani, also called Kapa'ihī. There is a place in the uplands of Kohanaiki, below Kūmua, to the northwest, a hidden water hole, that is called Kapa'ihī. Wailoa is a pond there on the shore of Kohanaiki. Because Wailoa married Kahunakalehu, a native of the area, she lived and worked there. Thus the name of that pond is Wailoa, and it remains so to this day.

Pipipi'apo'o was another daughter of Kūmua and Ka-uluhe-nui-hihi-kolo-i-uka. She married Haleolono, one who cultivated sweet potatoes upon the 'ilima covered flat lands of Nānāwale, also called Nāhi'ahu (Nāwah'iahu), as it has been called from before and up to the present time. Cultivating the land was the skill of this youth Haleolono, and because he was so good at it, he was able to marry the beauty, Pipipi'apo'o.

Pipipi'apo'o's skill was that of weaving pandanus mats, and there are growing many pandanus trees there, even now. The grove of pandanus trees and a nearby cave, is called Pipipi'apo'o to this day, and you may ask the natives of Kohanaiki to point it out to you.

Kapukalua was a son of Kūmua and Ka'uluhe. He was an expert at *aku* lure fishing, and all other methods of fishing of those days gone by. He married Kauhi'onohua a beauty with skin as soft as the blossoms of the *hīmano*, found in the pandanus grove of 'O'oma. This girl was pleasingly beautiful, and because of her fame, Kapukalua, the exceptionally skilled son of the sea spray of 'Apo'ula, secured her as his wife. Here, we shall stop speaking of the elders of Ka-Miki... [January 8, 1914]

The tradition continues, recounting the training of the brothers, and preparations of their *hālau ali'i* (royal compound) at Kohanaiki. At the dedication ceremonies it was revealed that one of the *kahuna* of the Kaha lands, had taken up the habit of killing people, and that he had also thought to take the lives of Ka-Miki and Ma-Ka'iole. We revisit the story here, and learn the name of a priest of 'O'oma and Kohanaiki—

...The sun broke forth and the voices of the roosters and the 'elepaio of the forests were heard resonating and rising upon the mountain slopes. The day became clear, with no clouds to be seen, it was calm. So too, the ocean was calm and the shore of La'i a 'Ehu (Kona) was calm. The flowers of the upland forest reddened and unfolded, and nodded gently in the *kēhau* breezes.

The priests gathered together to discuss these events and prepared to apologize to the children of the chief, asking for their forgiveness. They selected 'Elepaio, Pūhili, Kalua'ōlapa, and Kalua'ōlapa-uwila to go before the brothers for this purpose.

'Elepaio was the high priest of Honokōhau. The place where he dwelt bears the name 'Elepaio [an 'ili on the boundary of Honokōhau nui & iki]. It is in the great grove of 'ulu (*kaulu'ulu*) on the boundary between Honokōhau-nui and Honokōhau-iki... [April 23, 1914]

Pūhili was the high priest of 'O'oma and Kohanaiki, the place where he lived is on the plain of Kohanaiki, at the shore, and bears his name to this day. It is on the boundary between Kohanaiki and 'O'oma.

Kalua'ōlapa was the high priest of Hale'ōhi'u and Kamāhoe, that is the waterless land of Kalaoa (Kalaoa wai 'ole). The place where he lived was in the uplands of Maulukua on the plain covered with 'ilima growth. This place bears his name to this day.

Kalua'ōlapa-uwila was the high priest of Kealakehe and Ke'ohu'olu (Keahuolu), and it was he who built the *heiau* named Kalua'ōlapa-uwila, which is there along the shore of Kealakehe, next to the road that goes to Kailua. The nature of this priest was that of a shark and a man. The shark form was named Kaiwi, and there is a stone form of the shark that can be seen near the *heiau* to this day.

These priests all went to the door of the house and presented the offerings of the black pig, the red fish, the black *'awa*, the white rooster, the *malo* (loin clothes), and all things that had been required of their class of priests. They also offered their prayers and asked forgiveness for their misspoken words. They then called for their prayers to be freed and the *kapu* ended... [April 30, 1914]

### *Ka Punawai o Wawaloli (The Pond of Wawaloli)*

Through the 1920s, up to the time of his death in 1929, J.W.H.I. Kihe continued to submit traditional accounts and commentary on the changing times to the paper, *Ka Hōkū o Hawai'i*. In 1923, Kihe penned a series of articles, some of which formed the basis of Eliza Maguire's *Kona Legends* (1926). One of the accounts, "*Ka Punawai o Wawaloli*" (The Pond of Wawaloli), describes that the pond of Wawaloli, on the shore of 'O'oma, was named for a supernatural ocean being, who could take the form of the *loli* (sea cucumber) and of a handsome young man. Through this account it is learned that people regularly traveled between the uplands and shore of 'O'oma; the *kula* lands were covered with *'ilima* growth; and that a variety of fish, seaweeds, and shellfish were harvested along the shore. Also, the main figures in the tradition are memorialized as places on the lands of 'O'oma and neighboring *ahupua'a*. These individuals and places include Kalua'ōlapa (a hill on the boundary of Hāmanamana and Haleohi'u), Wawaloli (a bay between 'O'oma and Kalaoa), Ho'ohila (on the boundary of Kaū and Pu'ukala), Pāpa'apo'o (a cave site in Hāmanamana), Kamakaoiki and Malumaluiki (locations unknown). The following narratives were translated by Kepā Maly from the original Hawaiian texts published in *Ka Hōkū o Hawai'i* (September 23<sup>rd</sup>, October 4<sup>th</sup> & 11<sup>th</sup>, 1923):

The place of this pond (Wawaloli) is set there on the shore of 'O'oma near Kalaoa. It is a little pond, and is there to this day. It is very close to the sandy shore, and further towards the shore there is also a pond in which one can swim. There is a tradition of this pond, that is held dearly in the hearts of the elders of this community.

Wawaloli is the name of a *loli* (sea cucumber) that possessed dual body forms (*kino pāpālua*), that of a *loli*, and that of a man!

Above there on the *'ilima* covered flat lands, there lived a man by the name of Kalua'ōlapa and his wife, Kamakaoiki, and their beautiful daughter, Malumaluiki.

One day the young maiden told her mother that she was going down to the shore to gather *limu* (seaweeds), *'ōpihi* (limpets), and *pupu* (shellfish). Her mother consented, and so the maiden traveled to the shore. Upon reaching the shore, Malumaluiki desired to drink some water, so she visited the pond and while she was drinking she saw a reflection in the rippling of the water, standing over her. She turned around and saw that there was a handsome young man there, with a smile upon his face. He said... [September 27, 1923] "...Pardon me for startling you here as we meet at this pond, in the afternoon heat which glistens off of the pāhoehoe."

She responded, "What is the mistake of our meeting, you are a stranger, and I am a stranger, and so we have met at this pond." The youth, filled with desire for the beautiful young maiden, answered "I am not a stranger here along this shore, indeed, I am very familiar with this place for this is my home. And when I saw you coming here, I came to meet you."

These two strangers, having thus met, then began to lay out their nets to catch *kala*, *uhu*, and *pālani*, the native fish of this land. And in this way, the beauty of the plains of Kalaoa was caught in the net of the young man who dwelt in the sea spray of 'O'oma.

These two strangers of the long day also fished for *hīnālea*, and then for *kawele'ā*. It was during this time, that their lines became entangled like those of the fishermen of Wailua (a poetic reference to those who become entangled in a love affair).

The desire for the *limu*, *'ōpihi*, and *pūpū* was completely forgotten, and the fishing poles bent as the lines were pulled back in the sea spray. The handsome youth was moistened in the rains that fell, striking the land and the beloved shore of the land. The sun drew near, entering the edge of the sea and was taken by Lehua Island. Only then did these two fishers of the long day take up their nets.

Before the young maiden began her return to the uplands, she told the youth, "Tell me your name." He answered her, "The name by which I am known is Wawa. But my name, when I go and dwell in the pond here, is Loli. And when you return, you may call to me with the chant:



<i>E Loli nui kīkewekewe</i> <sup>2</sup>	Oh great Loli moving back and forth
<i>I ka hana ana kīkewekewe</i>	Doing your work moving back and forth
<i>I ku‘u piko kīkewekewe</i>	You are in my mind moving back and forth
<i>A ka makua kīkewekewe</i>	The parents moving back and forth
<i>I hana ai kīkewekewe</i>	Are at their work moving back and forth
<i>E pi‘i mai ‘oe kīkewekewe</i>	Won’t you arise moving back and forth
<i>Ka kaua puni kīkewekewe</i>	To that which we two desire moving back and forth
<i>Puni kauoha kīkewekewe</i>	Your command is desired moving back and forth

Having finished their conversation, the maiden then went to the uplands. It was dark, and the *kukui* lamps had been lit in the house. Malumaluiki’s parents asked her, “Where are your *limu*, ‘*ōpihi* and *pūpū*?” She replied, “It is proper that you have asked me, for when I went to the shore it was filled with people who took all there was? Thus I was left with nothing, not even a fragment of *limu* or anything else. So I have returned up here.”

Well, the family meal had been made ready, so they all sat to eat together. But after a short while the maiden stood up. Her parents inquired of this, and she said she was no longer hungry, and that her feet were sore from traveling the long path. So the maiden went to sleep. She did not sleep well though, and felt a heat in her bosom, as she was filled with desire, thus she had no sleep that night.

With the arrival of the first light of day, the Malumaluiki went once again down to the shore. Upon arriving at the place of the pond, she entered the water and called out as described above. Then, a *loli* appeared and turned into the handsome young man. They two then returned to their fishing for the *kala*, *uhu* and *pālani*, the native fish the land.

So it was that the two lovers met regularly there on the shore of ‘O‘oma. Now Malumaluiki’s parents became suspicious because of the actions of the daughter, and her regular trips to the shore. So they determined that they should secretly follow her and spy on her.

One day, the father followed her to the shore, where he saw his daughter sit down by the side of the pond. He then heard her call out —

<i>E Loli nui kīkewekewe</i>	Oh great Loli moving back and forth
<i>I ka hana ana kīkewekewe</i>	Doing your work moving back and forth
<i>I ku‘u piko kīkewekewe</i>	You are the center of my life moving back and forth
<i>Piko maika‘i kīkewekewe</i>	It is good moving back and forth
<i>A ka makua kīkewekewe</i>	The parents moving back and forth
<i>I hana ai kīkewekewe</i>	Are at their work moving back and forth
<i>E pi‘i mai ‘oe kīkewekewe</i>	Won’t you arise moving back and forth
<i>Ka kaua puni kīkewekewe</i>	To that which we two desire moving back and forth
<i>Puni kauoha kīkewekewe</i>	Your command is desired moving back and forth

[October 4, 1923]

“O Loli, here is your desire, the one you command, Malumaluiki, who’s eyes see nothing else.”

Her father then saw a *loli* coming up from the pond, and when it was up, it turned into the youth. He watched the two for a while, unknown to them, and saw that his daughter and the youth of the two body forms (*kino pāpālua*), took their pleasure in one another.

The father returned to the uplands and told all of this to her mother, who upon hearing it, was filled with great anger, because of the deceitfulness of her daughter. But then she learned that the man with whom her daughter slept was of dual body forms. Kamakaoiki then told Kalua‘ōlapa that he should “Go down and capture the *loli*, and beat it to death,” to which he agreed.

One day, Kalua‘ōlapa went down early, and hid, unseen by the two lovers. Malumaluiki arrived at the pond and called out, and he then memorized the lines spoken by his daughter. When she left, returning to the uplands, he then went to the pond and looked closely at it. He then saw a small circular opening near the top of the water in the pond. He then understood that that was where the *loli* came up from. He then slept that night and in the early morning, he went to the pond and set his net in the water. He then began to call out as his daughter had done with the above words.

<sup>2</sup> “Kīkewekewe” is translated by Eliza Maguire (1926) as “charmer.” Kepā Maly was unfamiliar with this meaning of the word. It is most commonly used in the refrain of a song, and is here translated as “moving back and forth,” as the word is used in the spoken language. Kewe also means concave, similar to the place name ‘O‘oma.

When he finished the chant, the *loli* began to rise up through the hole, and was ensnared in the net. Kalua‘ōlapa then carried him up onto the *kula*, walking to the uplands. On his way, he saw his daughter coming down, and he hid until she passed him by.

When the daughter arrived at the pond, she called out in the chant as she always did. She called and called until the sun was overhead, but the *loli* did not appear in the pond, nor did he come forward in his human form. Thus, she thought that he had perhaps died, and she began to wail and mourn for the loss of her lover. Finally as evening came, the beautiful maiden stood, and ascended the *kula* to her home.

Now, let us look back to the Kalua‘ōlapa. He went up to his house and showed the *loli* to his wife. Seeing the *loli*, she told her husband, “Take it to the *kahuna*, Pāpa‘apo‘o who lives on the *kula* of Ho‘ohila.” So he went to the *kahuna* and explained everything that had occurred to him, and showed him the *loli* in his net. Seeing this and hearing of all that had happened, Pāpa‘apo‘o told the father to build an *imu* in which to *kālua* the great *loli* that moves back and forth (*loli kīkewekewe*). He said, “When the *loli* is killed, then your daughter will be well, so too will be the other daughters of the families of the land.” Thus, the *imu* was lit and the supernatural *loli* cooked.

When the daughter returned to her home, her eyes were all swollen from crying. Her mother asked her, “What is this, that your eyes are puffy from crying, my daughter?” She didn’t answer, she just kneeled down, giving no response. At that time, her father returned to the house and saw his daughter kneeling down, and he said “Your man, with whom you have been making love at the beach has been taken by the *kahuna* Pāpa‘apo‘o. He has been cooked in the *imu* that you may live, that all of the girls who this *loli* has loved may live.”

That pond is still there on the shore, and the place with the small round opening is still on the side of that pond to this day. It is something to remember those things of days gone by, something that should not be forgotten by those of today and in time to come. [October 11, 1923]

### *Ka Loko o Paaiea (The fishpond of Pā‘aiea)*

The tradition of *Ka loko o Paaiea* (The fishpond of Pā‘aiea) was written by J.W.H.I. Kihe, and printed in *Ka Hōkū o Hawai‘i* in 1914 and 1924. The narratives describe traditional life and practices in various *ahupua‘a* of Kekaha, and specifically describes the ancient fishpond Pā‘aiea. The following excerpts from Kihe’s *mo‘olelo*, include references to Wawaloli, on the shore of ‘O‘oma and Kalaoa. Pā‘aiea, was destroyed by the Hualālai lava flows of 1801, reportedly as a result of the pond overseer’s refusal to give the goddess Pele—traveling in human form—any fish from the pond:

Pā‘aiea was a great fishpond, something like the ponds of Wainānāli‘i and Kīholo, in ancient times. At that time the high chiefs lived on the land, and these ponds were filled with fat *awa*, ‘*anae*, *āhole*, and all kinds of fish that swam inside. It is this pond that was filled by the lava flows and turned into *pāhoehoe*, that is written of here. At that time, at Ho‘onā, there was a *Konohiki* (overseer), Kēpa‘alani, who was in charge of the houses (*hale papa‘a*) in which the valuables of the King [Kamehameha I] were kept. He was in charge of the King’s food supplies, the fish, the *hālau* (long houses) in which the fishing canoes were kept, the fishing nets and all things. It was from there that the King’s fishermen and the retainers were provisioned. The houses of the pond guardians and *Konohiki* were situated at Ka‘elehuluhulu and Ho‘onā.

In the correct and true story of this pond, we see that its boundaries extended from Ka‘elehuluhulu on the north, and on the south, to the place called Wawaloli (between ‘O‘oma and Kalaoa). The pond was more than three miles long and one and a half miles wide, and today, within these boundaries, one can still see many water holes.

While traveling in the form of an old woman, Pele visited the Kekaha region of Kona, bedecked in garlands of the *ko‘oko‘olau* (*Bidens* spp.). Upon reaching Pā‘aiea at Ho‘onā, Pele inquired if she might perhaps have an ‘*ama‘ama*, young *āholehole*, or a few ‘*ōpae* (shrimp) to take home with her. Kēpa‘alani, refused, “they are *kapu*, for the King.” Pele then stood and walked along the *kuapā* (ocean side wall) of Pā‘aiea till she reached Ka‘elehuluhulu. There, some fishermen had returned from *aku* fishing, and were carrying their canoes up onto the shore...

...Now because Kēpa‘alani was stingy with the fishes of the pond Pā‘aiea, and refused to give any fish to Pele, the fishpond Pā‘aiea and the houses of the King were all destroyed by the lava flow. In ancient times, the canoe fleets would enter the pond and travel from Ka‘elehuluhulu to Ho‘onā, at Ua‘u‘ālohi, and then return to the sea and go to Kailua and the other places of Kona. Those who

traveled in this manner would sail gently across the pond pushed forward by the 'Eka wind, and thus avoid the strong currents which pushed out from the point of Keāhole

It was at Ho'onā that Kepa'alani dwelt, that is where the houses in which the chiefs valuables (*hale papa'a*) were kept. It was also one of the canoe landings of the place. Today, it is where the light house of America is situated. Pelekāne (in Pu'ukala) is where the houses of Kamehameha were located, near a stone mound that is partially covered by the *pāhoehoe* of Pele. If this fishpond had not been covered by the lava flows, it would surely be a thing of great wealth to the government today... [J.W.H.I. Kihe in *Ka Hoku o Hawaii*; compiled and translated by Kepā Maly, from the narratives written February 5-26, 1914 and May 1-15, 1924].

*Na Ho'omanao o ka Manawa (The Recollections of a Native Son)*

Later in 1924, Kihe, described the changes which had occurred in the Kekaha region since his youth. In the following article, titled *Na Ho'omanao o ka Manawa* (in *Ka Hōkū o Hawai'i* June 5<sup>th</sup> & 12<sup>th</sup> 1924), Kihe wrote about the villages that were once inhabited throughout Kekaha, identifying families, practices, and schools of the historic period (ca. 1860-1924). In the two part series (translated by Kepā Maly), he also shared his personal feelings about the changes that had occurred, including the demise of the families and the abandonment of the coastal lands of Kekaha.

There has arisen in the mind of the author, some questions and thoughts about the nature, condition, living, traveling, and various things that bring pleasure and joy. Thinking about the various families and the many homes with their children, going to play and strengthening their bodies.

In the year 1870, when I was a young man at the age of 17 years old, I went to serve as the substitute teacher at the school of Honokōhau. I was teaching under William G. Kanaka'ole who had suffered an illness (*ma'i-lolo*, a stroke).

In those days at the Hawaiian Government Schools, the teachers were all Hawaiian and taught in the Hawaiian language. In those days, the students were all Hawaiian as well, and the books were in Hawaiian. The students were all Hawaiian... There were many, many Hawaiian students in the schools, no Japanese, Portuguese, or people of other nationalities. Everyone was Hawaiian or part Hawaiian, and there were only a few part Hawaiians.

The schools included the school house at Kīholo where Joseph W. Keala taught, and later J.K. Ka'aiuwale taught there. At the school of Makalawena, J. Ka'elemakule Sr., who now resides in Kailua, was the teacher. At the Kalaoa School, J. U. Keawe'ake was the teacher. There were also others here, including myself for four years, J. Kainuku, and J.H. Olohia who was the last one to teach in the Hawaiian language. At Kaloko, Miss Ka'aimahu'i was the last teacher before the Kaloko school was combined as one with the Honokōhau school where W.G. Kanaka'ole was the teacher. I taught there for two years as well... [Kihe includes additional descriptions on the schools of Kona]

It was when they stopped teaching in Hawaiian, and began instructing in English, that significant changes took place among our children. Some of them became puffed up and stopped listening to their parents. The children spoke gibberish (English) and the parents couldn't understand (*nā keiki namu*). Before that time, the Hawaiians weren't marrying too many people of other races. The children and their parents dwelt together in peace with the children and parents speaking together... [June 5, 1924]

...Now perhaps there are some who will not agree with what I am saying, but these are my true thoughts. Things which I have seen with my own eyes, and know to be true...In the year 1870 when I was substitute teaching at Honokōhau for W.G. Kanaka'ole, I taught more than 80 students. There were both boys and girls, and this school had the highest enrollment of students studying in Hawaiian at that time [in Kekaha]. And the students then were all knowledgeable, all knew how to read and write.

Now the majority of those people are all dead. Of those things remembered and thought of by the people who yet remain from that time in 1870; those who are here 53 years later, we cannot forget the many families who lived in the various ('āpana) land sections of Kekaha.

From the lands of Honokōhau, Kaloko, Kohanaiki, the lands of 'O'oma, Kalaoa, Hale'ohi'u, Maka'ula, Kaū, Pu'ukala-'Ōhiki, Awalua, the lands of Kaulana, Mahai'ula, Makalawena, Awake'e, the lands of Kūki'o, Ka'ūpūlehu, Kīholo, Keawaiki, Kapalaoa, Pu'uanahulu, and Pu'uwa'awa'a. These many lands were filled with people in those days.

There were men, women, and children, the houses were filled with large families. Truly there were many people [in Kekaha]. I would travel around with the young men and women in those days, and we would stay together, travel together, eat together, and spend the nights in homes filled with aloha.

The lands of Honokōhau were filled with people in those days, there were many women and children with whom I traveled with joy in the days of my youth. Those families are all gone, and the land is quiet. There are no people, only the rocks remain, and a few scattered trees growing, and only occasionally does one meet with a man today [1924]. One man and his children are all that remain.

Kaloko was the same in those days, but now, it is a land without people. The men, the women, and the children are all gone, they have passed away. Only one man, J.W. Ha'au, remains. He is the only native child (*keiki kupa*) besides this author, who remains.

At Kohanaiki, there were many people on this land between 1870 and 1878. These were happy years with the families there. In those years Kaiakoili was the *haku 'āina* (land overseer)...

Now the land is desolate, there are no people, the houses are quiet. Only the houses remain standing, places simply to be counted. I dwelt here with the families of these homes. Indeed it was here that I dwelt with my *kahu hānai* (guardian), the one who raised me. All these families were closely related to me by blood. On my fathers' side, I was tied to the families of Kaloko [J.W.H.I. Kihe's father was Kihe, his grandfather was Kuapāhoa, a noted *kahuna* of Kaloko]. I am a native of these lands.

The lands of 'O'oma, and Kalaoa, and all the way to Kaulana and Mahai'ula were also places of many people in those days, but today there are no people. At Mahai'ula is where the great fishermen of that day dwelt. Among the fishermen were Po'oko'ai mā, Pā'ao'ao senior, Ka'ao mā, Kai'a mā, Ka'ā'ikaula mā, Pāhia mā, and John Ka'elemakule Sr., who now dwells at Kailua.

Ka'elemakule moved from this place [Mahai'ula] to Kailua where he prospered, but his family is buried there along that beloved shore (*kapakai aloha*). He is the only one who remains alive today...

At Makalawena, there were many people, men, women, and their children. It was here that some of the great fishermen of those days lived as well. There were many people, and now, they are all gone, lost for all time.

Those who have passed away are Kaha'iali'i mā, Mama'e mā, Kapehe mā, Kauaionu'uanu mā, Hopulā'au mā, Kaihemakawalu mā, Kaomi, Keoni Aihaole mā, and Pahukula mā. They are all gone, there only remains the son-in-law of Kauaionu'uanu, J.H. Mahikō, and Jack Punihaole, along with their children, living in the place where Kauaionu'uanu and Ahu once lived.

At Kūki'o, not one person remains alive on that land, all are gone, only the 'a'ā remains. It is the same at Ka'ūpūlehu, the old people are all gone, and it is all quiet... [June 12, 1924]

*Ko Keoni Kaelemakule Moolelo Ponoī – Kakau ponoī ia mai no e ia (The True Story of John Ka'elemakule – Actually written by him<sup>3</sup>)*

In the period between 1928 and 1930, John Ka'elemakule Sr., who was a native of Kekaha, living at Mahai'ula, Kaulana and Kohanaiki, wrote a series of articles that were published in serial form in *Ka Hōkū o Hawai'i*. The story is a rich account of life in Kekaha between 1854 and 1900. Ka'elemakule's texts introduce us to the native residents of Kekaha, and include descriptions of the practices and customs of the families who resided there. In the following excerpts from Ka'elemakule's narratives (translated by Kepā Maly), we find reference once again to 'O'oma and neighboring lands, and the practices associated with procuring water in this region:

“*Kekaha Wai Ole o na Kona*” (Waterless Kekaha of Kona)

...We have seen the name “*Kekaha wai ole o nā Kona*” since the early part of my story in *Ka Hōkū o Hawai'i*, and we have also seen it in the beautiful tradition of Mākālei. An account of the boy who dwelt in the uplands of Kekaha *wai 'ole*, that was told by Ka-'ohu-ha'ahoe-i-nā-kuahiwi-'ekolu [the

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<sup>3</sup> This account was published in serial form in the Hawaiian newspaper *Ka Hōkū o Hawai'i*, from May 29, 1928 to March 18, 1930. The translated excerpts in this section include narratives that describe Mahai'ula and nearby lands in Kekaha with references to families, customs, practices, ceremonial observances, and sites identified in text. The larger narratives also include further detailed accounts of Ka'elemakule's life, and business ventures. A portion of the narratives pertaining to fishing customs (November 13, 1928 to March 12, 1929), and canoeing practices (March 19 to May 21, 1929) were translated by M. Kawena Pukui, and may be viewed in the Bishop Museum-Hawaiian Ethnological Notes (BPBM Archives).

penname used by J.W.H.I. Kihe]. I think that certain people may want to know the reason and meaning of this name. So it is perhaps a good thing for me to explain how it came about. The source of it is that in this land of Kekaha even in the uplands, between Kaulana in the north and 'O'oma in the south, there was no water found even in the ancient times. For a little while, I lived in the uplands of Kaulana, and I saw that this land of Kekaha was indeed waterless.

The water for bathing, washing one's hands or feet, was the water of the banana stump (*wai pūma'ia*). The *pūmai'a* was grated and squeezed into balls to get the juice. The problem with this water is that it makes one itchy, and one does not really get clean. There were not many water holes, and the water that accumulated from rain dried up quickly. Also there would be weeks in which no rain fell... The water which the people who lived in the uplands of Kekaha drank, was found in caves. There are many caves from which the people of the uplands got water... [September 17, 1929:3]

...The *kūpuna* had very strict *kapu* (restrictions) on these water caves. A woman who had her menstrual cycle could not enter the caves. The ancient people kept this as a sacred *kapu* from past generations. If a woman did not know that her time was coming and she entered the water cave, the water would die, that is, it would dry up. The water would stop dripping. This was a sign that the *kapu* of Kāne-of-the-water-of-life (Kaneikawaiola) had been desecrated. Through this, we learn that the ancient people of Kekaha believed that Kāne was the one who made the water drip from within the earth, even the water that entered the sea from the caves. This is what the ancient people of Kekaha wai 'ole believed, and there were people who were *kia'i* (guardians) who watched over and cleaned the caves, the house of Kāne... [September 24, 1929:3]

When the *kapu* of the water cave had been broken, the priest was called to perform a ceremony and make offerings. The offerings were a small black pig; a white fish, and *āholehole*; young taro leaves; and *awa*. When the offering was prepared, the priest would chant to Kane:

<i>E Kane i uka, e Kane i kai,</i>	O Kane in the uplands, O Kāne at the shore,
<i>E Kane i ka wai, eia ka puua,</i>	O Kane in the water, here is the pig,
<i>Eia ka awa, eia ka luau,</i>	Here is the 'awa, here are the taro greens,
<i>Eia ka ia kea.</i>	Here is the white fish.

Then all those people of the uplands and coast joined together in this offering, saying:

<i>He mohai noi keia ia oe e Kane,</i>	This is a request offering to you o Kāne,
<i>E kala i ka hewa o ke kanaka i hana ai,</i>	Forgive the transgression done by man,
<i>A e hoomaemae i ka hale wai,</i>	Clean the water house (source),
<i>A e hoonui mai i ka wai o ka hale,</i>	Cause the water to increase in the house,
<i>I ola na kanaka,</i>	That the people may live,
<i>Na ohua o keia aina wai ole.</i>	Those who are dependent on this waterless land.
<i>Amama.</i>	It is finished...

[October 1, 1929:3; Kepā Maly, translator]

It is not surprising today, when we hear of caves in which cultural materials are found. Along trails, near residences, and in once remote areas, a wide range of uses occurred. Caves in the Kekaha lands were used to store items, keep planting shoots cool and fresh for the next season, to hide or take shelter in, to catch water, and for burial.

### Land Tenure in 'O'oma and Vicinity

Through the traditions and early historical accounts cited above, we see that there are descriptions of early residences and practices of the native families on the lands of 'O'oma and within greater Kekaha. Importantly, we find chiefly associations with the land of 'O'oma 2<sup>nd</sup>, as documented by the residency of the chiefs Kaikio'ewa, Keaweamahi, their families and retainers, while they were serving as the guardians of the young king, Kauikeaouli (Kamehameha III in ca. 1813-1818; Kamakau 1961 and Gov. Kapeau, 1847 in this study). Among the earliest government records documenting residency are those of the *Māhele 'Aina* (Land Division), Interior and Taxation Departments, Roads and Public Works, and the Government Survey Division.

This section of the study describes land tenure (residency and land use) and identifies families associated with 'O'oma and its neighboring lands. The documentation is presented chronologically within the following subsections, The *Māhele 'Aina* (1848): Disposition of 'O'oma and Kalaoa, Land Grants in 'O'oma, Kalaoa, and Vicinity (1855-1864), Trails and Roads of Kekaha (Governmental Communications), The Government Homesteading Program in Kekaha, Field Surveys of J.S. Emerson (1882-1889), The Kalaoa-'O'oma Homesteads, and Twentieth Century Land

## 2. Background

Tenure in the Vicinity of the Current Study Area. A review of the records below reveals that none of the claims by native tenants made during the *Māhele*, nor any of the purchases of Royal Patent Grants, included lands that are a part of the current study area.

### *The Māhele ‘Āina (1848): Disposition of ‘O‘oma and Kalaoa*

In Precontact Hawai‘i, all land, ocean, and natural resources were held in trust by the high chiefs (*ali‘i ‘ai ahupua‘a* or *ali‘i ‘ai moku*). The use of land, fisheries and other resources were given to the *hoa ‘āina* (native tenants) at the prerogative of the *ali‘i* and their representatives or land agents (*konohiki*), who were considered lesser chiefs. By 1845, the Hawaiian system of land tenure was being radically altered, and the foundation for implementing the *Māhele ‘Āina* was set in place, system of fee-simple right of ownership.

As the *Māhele* evolved, it defined the land interests of Kauikeaouli (King Kamehameha III), some 252 high-ranking *Ali‘i* and *Konohiki*, and the Government. As a result of the *Māhele*, all land in the Kingdom of Hawai‘i came to be placed in one of three categories: (1) Crown Lands (for the occupant of the throne); (2) Government Lands; and (3) *Konohiki* Lands (cf. Indices of Awards 1929). The “Enabling” or “*Kuleana Act*” of the *Māhele* (December 21, 1849) further defined the frame work by which *hoa ‘āina* (native tenants) could apply for, and be granted fee-simple interest in “*Kuleana*” lands (cf. Kamakau in *Ke Au Okoa* July 8 & 15, 1869; 1961:403-403). The *Kuleana Act* also reconfirmed the rights of *hoa ‘āina* to access, subsistence and collection of resources necessary to their life upon the land in their given *ahupua‘a* (“Enabling Act”<sup>4</sup>, August 6, 1850 – HSA DLNR 2-4).

In the *Buke Kakau Paa no ka Mahele Aina* (Land Division Book), between Kamehameha III and his supporters, we learn that by the time of the *Māhele ‘Āina*, ‘O‘oma was divided into two *ahupua‘a*, ‘O‘oma 1<sup>st</sup> and 2<sup>nd</sup>, and Kalaoa to the north, into five *ahupua‘a*, Kalaoa 1<sup>st</sup> through 5<sup>th</sup>. During the *Māhele*, Kalaoa 1<sup>st</sup>–5<sup>th</sup> and ‘O‘oma 2<sup>nd</sup> were held by Kamehameha III, and then subsequently assigned to the Government land inventory on March 8, 1848. All but Kalaoa 5<sup>th</sup>, which is not listed in the *Māhele* Book<sup>5</sup>, were returned to Kamehameha III by the various *Konohiki* in lieu of commutation fees on other lands (Soehren 2005; Table 1). Kalaoa 1<sup>st</sup> was returned by Keaweamahi (*Buke Māhele*, February 2, 1848:73), the wife of Kaikio‘ewa, the guardian of the Kauikeaouli (Kamehameha III) at ‘O‘oma; Kalaoa 2<sup>nd</sup> was returned by Kinimaka (*Buke Māhele*, February 9, 1848:128), the husband of the high chiefess Kaniu and the *hanai* father of the young King Kalākaua; Kalaoa 3<sup>rd</sup> was returned by Hewahewa (*Buke Māhele*, February 14, 1848:168), the *kahuna nui* (high priest) of Kamehameha I and II; Kalaoa 4<sup>th</sup> was returned by William Pitt Leleiohoku (*Buke Māhele*, January 28, 1848:25), the adopted son of Governor George Kuakini (he had received Kaukai’s lands upon his death in 1844) and husband of Ruth Ke‘elikōlani; and ‘O‘oma 2<sup>nd</sup> was returned by the *kahuna* Kekaha (*Buke Māhele*, February 14, 1848:158). ‘O‘oma 1<sup>st</sup>, on the other hand, was claimed by, and awarded to, Moses Kekūāiwa (brother of Kamehameha IV and V, and Victoria Kamāmalu), one of the children of Kīna‘u and M. Kekūānoa‘a, thus, a grandson of Kamehameha I (*Buke Māhele*, January 27, 1848:13-14). Moses Kekūāiwa died on November 24, 1848, and his father, Mataio Kekūānoa‘a, administrator of the estate, relinquished in commutation, his rights to ‘O‘oma 1<sup>st</sup>, giving the land over to the Government land inventory (Foreign Testimony Volume 3:408).

**Table 1. Distribution of Kalaoa and ‘O‘oma during the *Māhele ‘Āina* of 1848 (Soehren 2005).**

<i>Ahupua‘a</i>	<i>Returned by</i>	<i>Retained by</i>	<i>Kuleana</i>
Kalaoa 1 <sup>st</sup>	Keaweamahi	Government	-
Kalaoa 2 <sup>nd</sup>	Kinimaka	Government	-
Kalaoa 3 <sup>rd</sup>	Hewahewa	Government	-
Kalaoa 4 <sup>th</sup>	Leileiohoku	Government	-
Kalaoa 5 <sup>th</sup>	-	Government	2
‘O‘oma 1 <sup>st</sup> *	Kekuaiwa	Government	-
‘O‘oma 2 <sup>nd</sup>	Kekaha	Government	-

\*Land surrendered to Government in lieu of commutation fee subsequent to the *Māhele* of 1848.

In 2000, Kumu Pono Associates digitized the entire collection of handwritten records from the *Māhele ‘Āina*. Most of the records are in the Hawaiian language. An extensive review of all the records identifies only one native tenant who filed a claim of residency and land use in ‘O‘oma during the *Māhele*. The claim—*Helu* 9162, by Kahelekahi—was not awarded, and except for an entry in Native Register Volume 8 (Figure 17), there is no further record of the claim. Below, is a copy of the original Hawaiian text from the Native Register. The account is of particular interest as Kahelekahi reported that in 1848, he was the only resident in ‘O‘oma:

<sup>4</sup> See also “*Kanawai Hoopai Karaima no ko Hawaii Pae Aina*” (Penal Code) 1850.

<sup>5</sup> Kalaoa 4<sup>th</sup> and 5<sup>th</sup> both may have originally belonged to Leleiohoku (Native Register Vol. 8:514, 516).

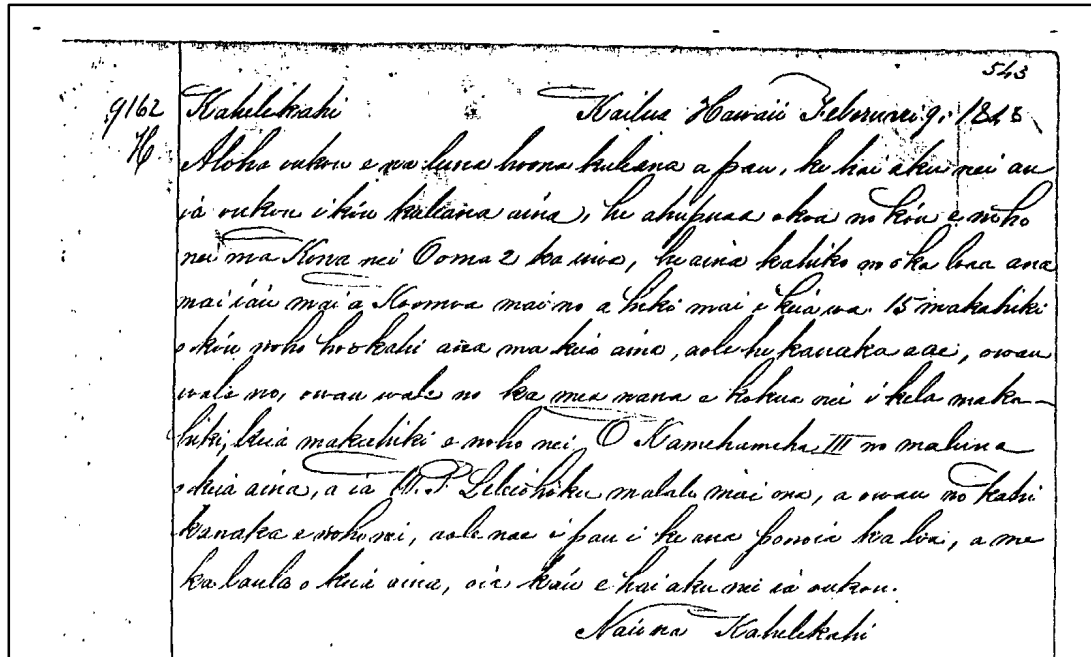


Figure 17. Copy of Native Register Vol. 8:543 Helu 9162, claim of Kahelekahi for kuleana at 'O'oma.

**Kahelekahi – Helu 9162**

**Kailua, Hawaii February 9, 1848**

Greetings to all of you commissioner who quiet land titles, I hereby tell you of my claim for land. I have an entire ahupuaa situated there in Kona, it's name is Ooma 2. It is an old land gotten by me from Koomoa, and held to this time. For 15 years, I have been the only one residing on this land, there are no other people, only me. I am the only one, there is no one living here to help from one year to the next year. Kamehameha III is the one above, who has this land, and W.P. Leleiohoku is below him, and I am the one man dwelling there. The survey of the length and width of this land is not accurately completed. That is what I have to tell you.

Done by me, Kahelekahi

[Native Register Vol. 8:543; translated by Kepā Maly]

In Kalaoa 5<sup>th</sup>, located just north of 'O'oma 1<sup>st</sup>, two *kuleana* claims were awarded – LCAw. 7899 to Kupuo'e and LCAw. 7937 to Kuka'au'i – both of which were located next to one another in the *mauka* portion of the *ahupua'a* (a third *kuleana* was claimed but not awarded). Kupuo'e's and Kuka'au'i's awards in Kalaoa 5<sup>th</sup> (Figures 18 and 19) are as follows:

**Kupuo'e (Kupuae) – Helu 7899**

**Kailua, Hawaii Jan. 2, 1849**

Kanahele sworn [the whole ili claim is an error] He has seen the house lot and the place Kupuo'e had cultivated. There are 12 partially cultivated kihapais in Kaweo ili of Kalaoa 5 ahupuaa. It has not been enclosed completely, one house is for Kupuo'e. In Kalaoa 4, 8 kihapais have been cultivated. Kupuo'e's land is from Kaainoa in 1843, no one has objected to him. Kuka'au'i sworn they [Kanahele and Kuka'au'i] both have known in the same way.

[Native Testimony 4:540; translated by Kepā Maly]

2. Background

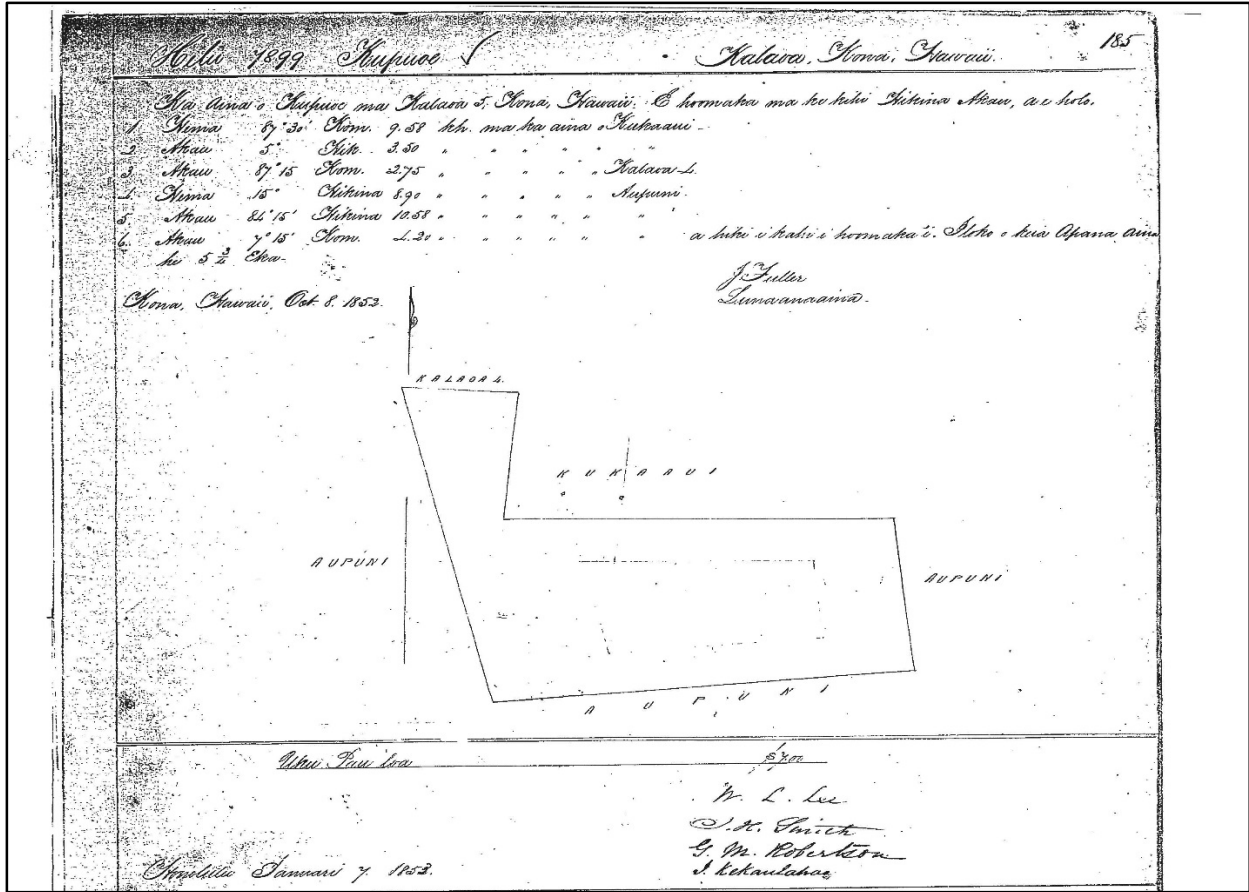


Figure 18. LCAw. 7899 awarded to Kupuoe (Māhele Book Vol. 7:185).

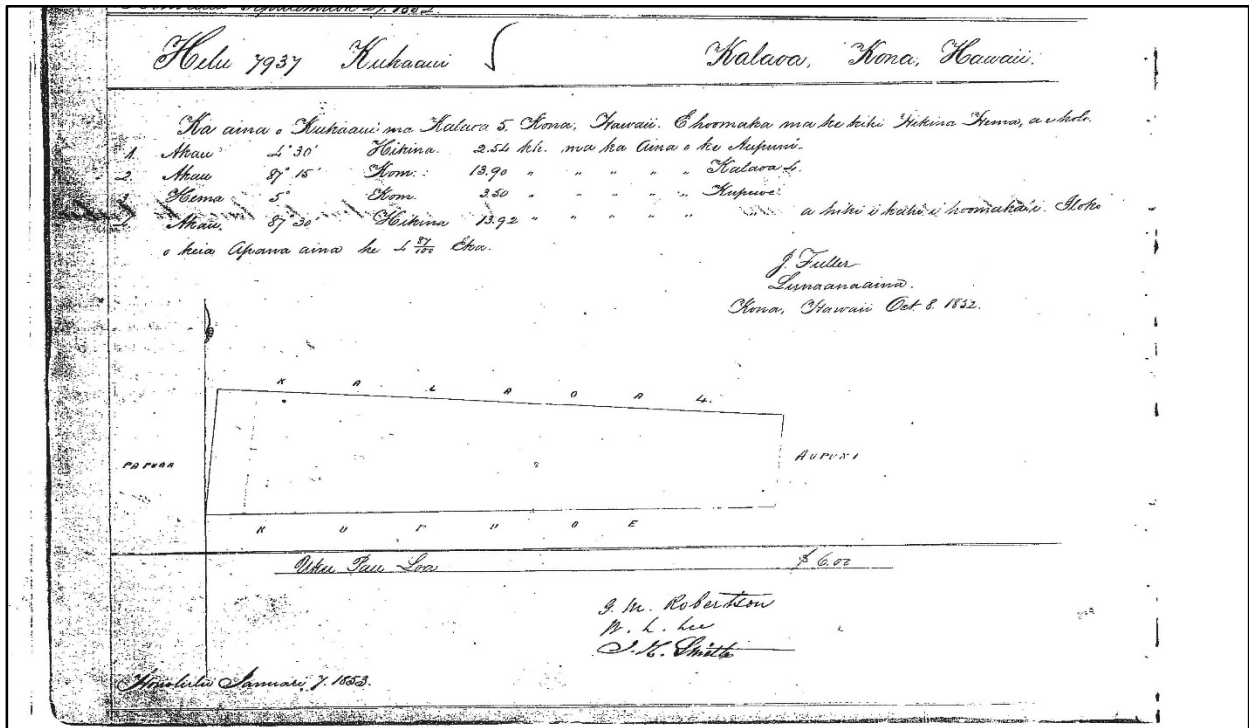


Figure 19. LCAw. 7937 awarded to Kukaui (Māhele Book Vol. 7:184).



**Kukaaui (Kukaani/Kukaanio) – Helu 7937**

Greetings to all of you Land Commissioners: I hereby petition for my ili in the ahupua'a [possessed by] Leleiohoku, in Kailua, Hawaii, which is as follows: it is an entire ili in the corner of Kalaoa 5 - its name is Kahuku. It is bounded on the north by Kahuku, on the east by Kapulehu [Ka'ūpūlehu], on the south by Kawao, on the west by Kihalau. That is it, for your information, the commissioners to quiet land titles.

**KUKAAUI**

[Native Register 8:453-454; translated by Kepā Maly]

Kanahele sworn He has seen the place Kukaani had cultivated. It is an error that he had included the whole ili in his claim. The Kahuku ili of Kalaoa 5 ahupuaa, 9 Kihapais are at Kolaoa [Kalaoa] 4, 8 have been partially cultivated. He does not know the boundaries and is expecting the surveyor to establish boundaries upon his arrival.

Land is from Kaluaonaona [Kalimaonaona] in 1848, no one has objected to Kukaani. Kupuoē sworn they both have known alike in the things mentioned about this land.

[Native Testimony 4:539-540; translated by Kepā Maly]

The unawarded *kuleana* in Kalaoa 5<sup>th</sup> was claimed by Kanahele under two separate numbers (LCAws. 7926 and 7939), and was apparently also in the more *mauka* portion of the *ahupua'a*. The original Hawaiian text from the Native Register for both claims are presented below (Figures 20 and 21) followed by translations.

7926  
Kanahele  
Aloha oukou a fau loa e ka poe hoona kuleana fakale, ke hoo-  
fii aku nei au i kii fakale ma Kaaui i Kalaoa 5, ma ke  
Ahupuaa o Leleiohoku ma Kailua, ia ma Kapuai. ka loa  
538, ia ma Kapuai o ka loa 396, ia ma Kapuai o kii. fa-  
hale, i loko oukou a fau loa e ka poe hoona kulea-  
na fakale. Kii ma Kanahele

Figure 20. Copy of Native Register Vol. 8:514 Helu 7926, claim of Kanahele for *kuleana* at Kalaoa 5<sup>th</sup>.

7939  
Kanahele  
Aloha oukou a fau loa e ka poe hoona kuleana uia, ke hoo-  
fii aku nei au i kii wahi ili'ania mauaona o ke ahupuaa  
o Leleiohoku i Kalaoa 5, i Kailua o Kaaui nei, fau ka  
ano o kii wahi ili'ania, ma ka akau o Kaloona, Ma ka  
Hikina o Kailua, Ma ka hema o Kaloa-ilia, Ma ka  
hema o Kaloa. ia la. Kii ma Kanahele

Figure 21. Copy of Native Register Vol. 8:516 Helu 7939, claim of Kanahele for *kuleana* at Kalaoa 5<sup>th</sup>.

***Kanahele – Helu 7926***

Greetings to the Land Commissioners: I hereby petition for my house lot at Kalaoa 5 on Hawaii, in the ahupua‘a of Leleiohoku in Kailua. It is 528 feet by 396 feet. That is the size of my house lot, for your information, O Land Commissioners.

KANAHELE

[Native Register Vol. 8:514; translated by *Waihona ‘Aina*]

***Kanahele – Helu 7939***

Greetings to the Land Commissioners: I hereby petition for my ‘ili of land in the middle of the ahupua‘a of Kalaoa 5, of Leleiohoku, in Kailua, Hawaii. My land is as follows: On the north is Haleolono, on the east is Kalulu, on the south is Kaholo Two, on the west is Keahole. That is it.

KANAHELE

[Native Register Vol. 8:516; translated by *Waihona ‘Aina*]

Four other individuals (John Nawahie, Paina, Kalei, and Kaikeleaukai) also claimed *kuleana* in the neighboring Kalaoa *ahupua‘a*, but none of these were awarded. Two of these claimants (Paina and Kaikeleaukai) and both of the *kuleana* recipients in Kalaoa 5<sup>th</sup> were listed as residents of Kalaoa *ahupua‘a* in 1849, as was Halekahi who claimed land in ‘O‘oma, when S. Haanio, Tax Assessor of North Kona, submitted a report to the Board of Education regarding those individuals who were subject to the Tuesday Tax Laws (*Poalua*), to be worked as a part of the School Tax requirements of the time. At the time of Haanio’s report, three individual families were identified as residents of ‘O‘oma and sixteen collectively in the Kalaoa *ahupua‘a*. Residents in the neighboring land of Kohanaiki were also listed. The residents of this are in 1849 were:

Kalaoa: 1. Kila, 2. Piena, 3. Nakuala, 4. Kupono, 5. Loa, 6. Kaeha, 7. Keliipuipui, 8. Kapuolokai, 9. Kaainoa, 10. Paina, 11. Kalimaonaona, 12. Kaikeleaukai, 13. Kanahele, 14. Kukaani, 15. Kupuai, and 16. Helekahi

Ooma: 1. Kalua, 2. Kamaka and 3. Mamali

Kohanaiki: 1. Hulikoa, 2. Kaoeno, 3. Honolii and 4. Awa [HSA – Series 262, Hawaii 1849].

Unfortunately, there is no indication of where people were living at the time. Based on traditional patterns of residency in the region, it is likely that they had primary residences in the uplands, near sheltered *māla ‘ai* (agricultural fields), and kept near shore residences for seasonal fishing, collection of salt, and other resources of the coastal zone. Of the names given for ‘O‘oma and Kalaoa, descendants of some of these family lines are known to still be residing in the Kekaha region.

*Land Grants in ‘O‘oma and Vicinity (1855-1864)*

In conjunction with the *Māhele*, the King also authorized the issuance of Royal Patent Grants to applicants for tracts of land, larger than those generally available through the Land Commission. The process for applications was set forth by the “Enabling Act” of August 6, 1850, which set aside portions of government lands for grants.

Section 4. Resolved that a certain portion of the Government lands in each Island shall be set apart, and placed in the hands of special agents to be disposed of in lots of from one to fifty acres in fee simple to such natives as may not be otherwise furnished with sufficient lands at a minimum price of fifty cents per acre. [HSA – “Enabling Act” Series DLNR 2-4]

The Kingdoms’ policy of providing land grants to native tenants was further clarified in a communication from Interior Department Clerk, A. G. Thurston, on behalf of Keoni Ana (John Young), Minister of the Interior; to J. Fuller, Government Land Agent-Kona:

*February 23, 1852*

...His Highness the Minister of the Interior instructs me to inform you that he has and does hereby appoint you to be Land Agent for the District of Kona, Hawaii. You will entertain no application for the purchase of any lands, without first receiving some part, say a fourth or fifth of the price; then the terms of sale being agreed upon between yourself and the applicant you will survey the land, and send the survey, with your report upon the same to this office, for the Approval of the Board of Finance, when your sales have been approved you will collect the balance due of the price; upon the receipt of which at this office, the Patent will be forwarded to you.

Natives who have no claims before the Land Commission have no Legal rights in the soil.

They are therefore to be allowed the first chance to purchase their homesteads. Those who neglect or refuse to do this, must remain dependant upon the mercy of whoever purchases the land: as those natives now are who having no kuleanas are living on lands already Patented, or belonging to Konohikis.

Where lands have been granted, but not yet Patented, the natives living on the land are to have the option of buying their homesteads, and then the grant be located, provided this can be done so as not to interfere with them.

No Fish Ponds are to be sold, neither any landing places.

As a general thing you will charge the natives but 50 cents pr. acre, not exceeding 50 acres to any one individual.

Whenever about to survey land adjoining that of private individuals, notice must be given them or their agents to be present and point out their boundaries...

[Interior Department Letter Book 3:210-211]

Between 1855 and 1864, at least six applications were made for land in the *ahupua'a* of 'O'oma and Kalaoa 5<sup>th</sup>, and four of them were patented. The applications were made by:

Grant	Applicant	Land	Acreage	Book and Year
1590	Kauhini	Hamanamana, Kalaoa and Ooma 1	1,816	8:1855 (canceled)
1599	J. Hall	Ooma 2	101.33	8:1855 (canceled)
1600	Kaakau	Ooma 2	58.5	8:1855
1609	Kama	Kalaoa 5	45	8:1855
2027	Kamehehu	Ooma 2	101.33	11:1856 (same area as Grant 1599)
2031	Koanui	Ooma 1	24.5	11:1856
2972	Kaakau & Kama	Kalaoa 5 & Ooma 1	515	14:1864

[“Index of all Grants Issued...Previous to March 31, 1886;” 1887]

The grants to Ka'akau and Kamehehu were patented by 1859, as recorded in the following letter:

*April 8, 1859*

*S. Spencer, Interior Department Clerk;*

*to Lot Kamehameha, Minister of the Interior;*

Lands in Puaa and Ooma 2 in Kona, Hawaii which were sold by the Government Agent:

Royal Patent 1600, Kaakau 58 50/100 acres in Ooma \$29.25

Royal Patent 2027, Kamehehu, 101 33/100 acres in Ooma \$38.00

[HSA – Interior Department, Lands]

In the years following issuance of the first Royal Patents, native tenants and others continued to express interest in the lands of 'O'oma and Kalaoa *ahupua'a*. Applications were made to either lease or purchase portions of the remaining government lands. In 1865, Government Surveyor and Land Agent, S.C. Wiltse, wrote to the Minister of the Interior, describing the condition and status of the lands remaining to the government.

*September 5, 1865*

*S.C. Wiltse, Government Surveyor and Land Agent;*

*to F.W. Hutchinson, Minister of the Interior.*

Kona Hawaii. Government Lands in this District not Sold;  
also those Sold and Not Patented:

...“Kalaoa 5<sup>th</sup>”

Not in the Mahele book but believed to be Gov't. land. This land above the Govt. Road has been sold and Patented. Below the road I have surveyed 515 acres which was sold by Sheldon to “Kaakau” & “Kama” who payed him \$165.00. As no valuation was made of this land per acre by Sheldon I afterwards valued it myself as follows, 300 Ac. at 50 cts. per acre, 215 at 25 cts. per Ac. The balance due according to this valuation including Patent was \$42.75 which was payed to me in

## 2. Background

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March 1864 and forwarded by me to your office. The survey of this land is in your office. If the payments made are satisfactory, these men would be very glad to get their Patent.

This is a piece of 3rd rate land, used only as goat pasture, no improvements on it. Makai of this survey is about 400 Ac. remaining to the Govt., but of very little value.

“Ooma 1<sup>st</sup> & 2<sup>nd</sup>”

The best part of these lands have been sold, there remains to the Govt. the forest part, 2 or 300 Ac., and the makai part some 1500 Ac., about 500 of which is 3rd rate land, the balance rocks.

“Kohanaiki”

The forest part of this land is all that remains to the Gov’t., this is extensive, extending to the mauka side of the forest. It may contain 1500 to 2000 Ac.

The makai part of this land containing 220 Ac. has been sold both by Sheldon and myself. In April 1863 I was surveying in Kona when “Nahuina” (who lives on the adjoining land of “Kaloko”) applied to me to survey the makai part of the Gov’t. land Kohanaiki which he wished to purchase. I inquired whether he had applied to Sheldon for this lands (Sheldon was then in Honolulu) he told me that he had not, but would do so immediately, if it was necessary he would go to Honolulu for that purpose. I told him that I was then writing to Sheldon and I would make the application for him which I did, but never got an answer. I wrote several times to him about that time, for information about Gov’t. lands, but he declined to answer my letters.

On the 30<sup>th</sup> of May following, I surveyed said piece of land for “Nahuina.” When I was making this survey “Kapena” (who bought this land from Sheldon) was present, and afterwards went to Honolulu and payed Sheldon for this land.

“Nahuina” had the money then to pay for this land, and I told him to keep it until he knew who he was paying it to. I was perfectly satisfied then that Sheldon’s transaction as Gov’t. land Agt. was not honest. Mr. Sheldon had then been away from Kona nearly three months, he had previous to this resigned his office as Judge and taken up his residence permanently in Honolulu. Afterwards when requested by Mr. S. Spencer to act as land Agt. for Kona, “Nahuina” payed me for this land at 25 cents per Acre. Its only value is for a place for a residence on the beach.

I have been thus particular in giving you the history of this affair, so that you might be able to decide which of the parties were intitled to said land... [HSA – Interior Department, Lands]

Historical records document that the primary use of the *kula* – lowlands in the Kekaha region, was for goat ranching, with limited cattle ranching. Throughout the 1800s, most of the cattle ranching occurred on the *mauka* slopes nearer the old upper government road.

### *Summary of Land Tenure Described in Grant Records*

Grant No.’s 1600 (for Kaakau) and 2031 (for Koanui) are situated on the *mauka* side of the Alanui Aupuni (the Upper Government Road, near present-day Māmalahoa Highway) in ‘O’oma 1<sup>st</sup> and 2<sup>nd</sup> *ahupua’a*.

Grant No. 1599 (surveyed for Kauhini), was situated across the *kula* lands from O’oma 1<sup>st</sup> in the south, to Hāmanamana, in the north. Communications from the 1880s, indicate that the parcel was never patented, though Kauhini had lived in ‘O’oma 1<sup>st</sup>, through the time of his death (before 1888). J.S. Emerson’s Register Map No. 1449 (Figure 21), identifies a Triangulation Station in ‘O’oma 1<sup>st</sup> as “Kauhini.” At almost the same time that Kauhini’s grant was surveyed, other grants in Kalaoa and ‘O’oma covering a portion of the area described under Kauhini’s grant were patented, including one to to Kakau and Kama in Kalaoa 5<sup>th</sup> (Royal Patent Grant No. 2972). In 1888, this confusing situation was brought to the government’s attention in a letter from more than 70 native residents of ‘O’oma and the larger Kekaha region, when the Minister of the Interior was developing homestead lots for applicants (see communications below).

Grant No. 2027 (for Kameheu), situated in ‘O’oma 2nd, extends from the *makai* edge of the Upper Government Road, to a short distance below the historic Homestead Road between Kaloko and Kalaoa, at about 900 feet above sea level (see Figure 22).

‘O’oma grantee Kaakau (Grant No. 1600), also held an interest in Grant No. 2972 in the land of Kalaoa 5th and ‘O’oma 1st, which he shared with his relative, Kama. Historic survey records (in Register Maps and Survey Field Books) do identify “Kama’s house” near the Wawaloli pond (Register Map No. 1449) in ‘O’oma 1st. The same house is later identified as “Keoki Mao’s House” (Register Map No. 1280; Figure 23). Kama also received Grant 1609 in Kalaoa 5.

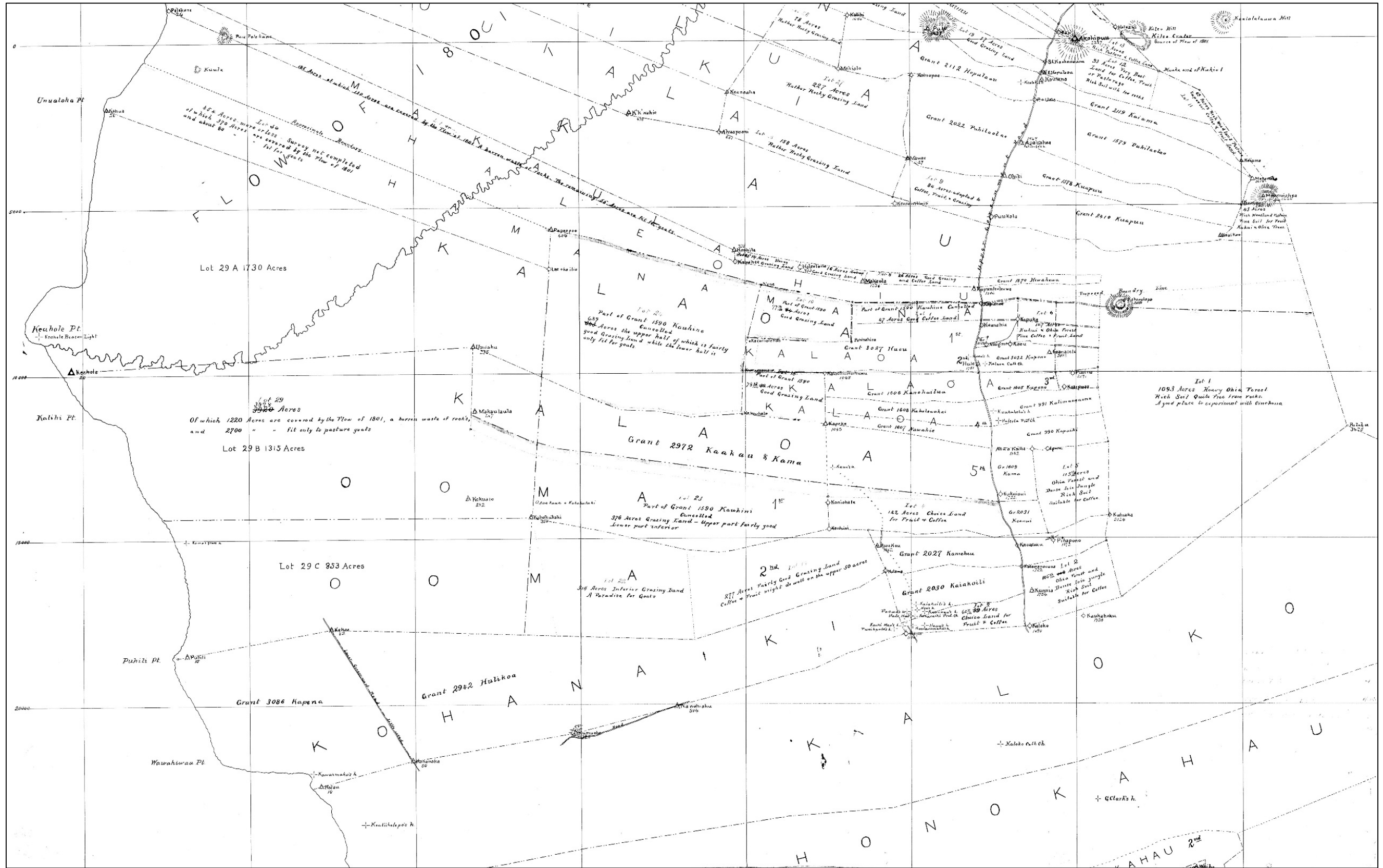


Figure 22. Portion of Hawai'i Registered Map No. 1449 (prepared by J. S. Emerson, Sept. 1888).

2. Background

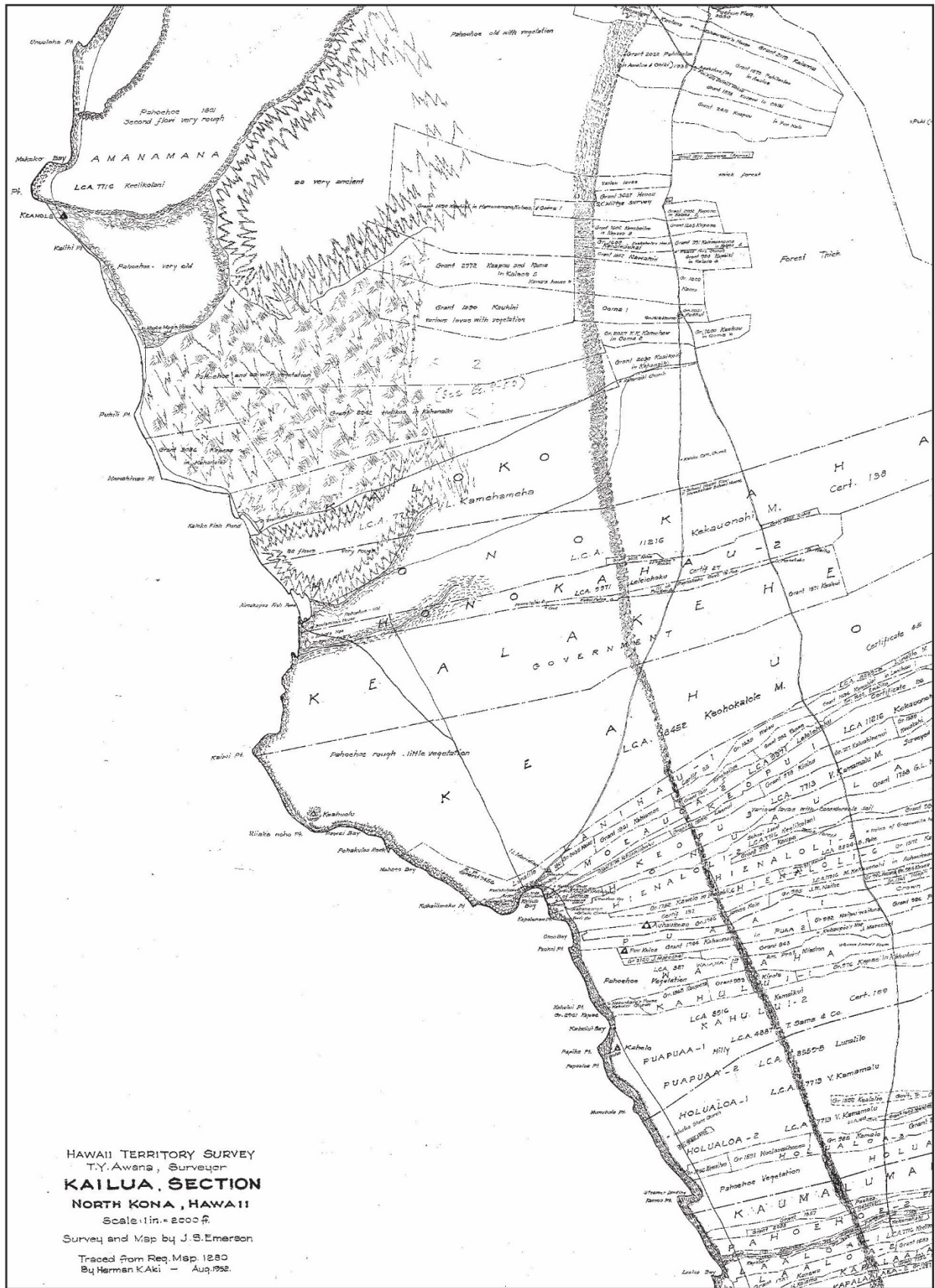


Figure 23. Portion of Hawai'i Registered Map No. 1280.

In 1888, government surveyor J.S. Emerson identified Kama as a resident in ‘O‘oma, near the *mauka* government road (see communication below). This Kama is identified in oral history interviews as being an elder of the Kamaka line, from whom the often-mentioned Palakiko Kamaka and others descend. A temporary beach shelter—in the vicinity of “Kama’s House” marked near the shore of ‘O‘oma 1<sup>st</sup> on Register Maps 1449 and 1280 (see Figures 23 and 24)—remained in use by family members at least until the outbreak of World War II.

While no formal awards or grants of land appear to have been made for the near shore *kula* or beach lands, it is logical to assume that families living in the uplands of the ‘O‘oma, Kalaoa, and Kohanaiki *ahupua‘a*, made regular visits to the near shore lands. The practice of continued travel between upland residences and near-shore shelters, is also described by *kūpuna* Peter K. Park, and Elizabeth Lee, who was born and raised in the *mauka* section of ‘O‘oma, and by other *kupuna* from neighboring lands (Rechtman and Maly 2003).

No records indicating that the above Royal Patent Grantees had applied for coastal parcels as a part of their original claims were found by Rechtman and Maly (2003). A further review of the *Māhele* records was also made to determine if any of the grant applicants had been *Māhele* claimants (as is sometimes the case). Their names did not appear in the Register or Testimony volumes for the area.

#### *Ka ‘Āina Kaha—(A Native’s Perspective)*

In 1875, J.P. Puuokupa, a native resident of Kalaoa wrote a letter to the editor of the Hawaiian newspaper, *Ku Okoa*, responding to a letter which had been previously published in the paper (written by a visitor to Kona). The first account apparently described the Kekaha region as a hard land that presented many difficulties to the residents. It was also reported that a drought on Hawai‘i had significantly impacted crop production, and that a “famine” was occurring. Puuokupa, responded to the account and described the situation as he knew it, from living upon the land. His letter is important as it provides us with an explanation as to why people of the region—including ‘O‘oma and Kalaoa—lived mostly in the uplands, for it was there that the rich soils enabled residents to cultivate the land and sustain themselves.

##### *Mai Kailua a hiki i Kiholo—(From Kailua to Kiholo)*

...The people who live in the area around Kailua are not bothered by the famine. They all have food. There are sweet potatoes and taro. These are the foods of these lands. There are at this time, breadfruit bearing fruit at Honokohau on the side of Kailua, and at Kaloko, Kohanaiki, Ooma and the Kalaoas where lives J.P. [the author]. All of these lands are cultivated. There is land on which coffee is cultivated, where taro and sweet potatoes are cultivated, and land livestock is raised. All of us living from Kailua to Kalaoa are not in a famine, there is nothing we lack for the well being of our bodies.

Mokuola<sup>6</sup> is seen clearly upon the ocean, like the featherless back of the ‘*ukeke* (shore bird). So it is in the uplands where one may wander gathering what is needed, as far as Kiholo which opens like the mouth of a long house into the wind. It is there that the bow of the boats may safely land upon the shore. The livelihood of the people there is fishing and the raising of livestock. The people in the uplands of Napuu are farmers, and as is the custom of those people of the backlands, they all eat in the morning and then go to work. So it is with all of the native people of these lands, they are a people that are well off.

...As was said earlier, coffee is the plant of value on these lands, and so, is the raising of livestock. From the payments for those products, the people are well off, and they have built wooden houses. If you come here you shall see that it is true. Fish are also something which benefits the people. The people who make the *pai ai* on Maui bring it to Kona and trade it. Some people also trade their *poi* for the coffee of the natives here... (J.P. Puuokupa, in *Ku Okoa* November 27, 1875; translated by Kepā Maly)

#### *Trails and Roads of Kekaha*

*Alahele* (trails and byways) and *alaloo* (regional thoroughfares) are an integral part of the cultural landscape of Hawai‘i. The *alahele* provided access for local and regional travel, subsistence activities, cultural and religious purposes, and for communication between extended families and communities. Trails were, and still remain important features of the cultural landscape. Traditional and historical accounts (cited in this study) describe at least two

<sup>6</sup> *Moku-ola* — literally: Island of life — is a poetic reference to a small island in Hilo Bay which was known as a place of sanctuary, healing, and life. By poetic inference, the Kekaha region was described as a place of life and well-being.

## 2. Background

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traditional trails that were of regional importance which pass through the lands of ‘O‘oma and Kalaoa. One trail is the *alaloa*—parts of which were modified in the 1840s and later, into what is now called the *Alanui Aupuni* (Government Road) or Māmalahoa Trail or King’s Highway—that crosses the *makai* (near shore) lands, linking royal centers, coastal communities, and resources together. The other major thoroughfare of this region is “*Kealaehu*” (The path of Ehu), which passes through the uplands, generally a little above the *mauka* Government Road or old Māmalahoa Highway, out to the ‘Akāhipu‘u vicinity, and then cuts down to Kīholo in Pu‘u Wa‘awa‘a. From Kīholo, the *makai alaloa* and Kealaehu join together as the *Alanui Aupuni*, and into Kohala, passing through Kawaihae and beyond. The *mauka* route provided travelers with a zone for cooler traveling, and access to inland communities and resources. It also allowed for more direct travel between the extremities of North and South Kona (cf. Malo 1951; I‘i 1959; Kamakau 1961; Ellis 1963; and *Māhele* and Boundary Commission Testimonies).

In addition to the *alahahele* and *alaloa*, running laterally with the shore, there are another set of trails that run from the shore to the uplands. By nature of traditional land use and residency practices, every *ahupua‘a* also included one or more *mauka-makai* trail. In native terminology, these trails were generally known as—*ala pi‘i uka* or *ala pi‘i mauna* (trails that ascend to the uplands or mountain). Some of these trails are described in native accounts and oral history interviews (Rechtman and Maly 2003).

Following the early nineteenth century, western contact brought about changes in the methods of travel (horses and other hoofed animals were introduced). By the mid-nineteenth century, wheeled carts were also being used on some of the trails. In the Kona region portions of both near shore and upland *ala hele-ala loa* were realigned (straightened out), widened, and smoothed over, while other sections were simply abandoned for newer more direct routes. In establishing modified trail—and early road-systems—portions of the routes were moved far enough inland so as to make a straight route, thus, taking travel away from the shoreline.

It was not until 1847, that detailed communications regarding road construction on Hawai‘i began to be written and preserved. It was also at that time that the ancient trail system began to be modified and the alignments became a part of a system of “roads” called the “*Alanui Aupuni*” or Government Roads. Work on the roads was funded in part by government appropriations, and through the labor or financial contributions of area residents and prisoners working off penalties (see communications below). The following letters provide readers with a historical overview of the *Alanui Aupuni*, and travel through the Kekaha region. Of particular interest, are those communications addressing the lower Government Road (underlining, italics, and square brackets have been added).

*June 26, 1847*

*George L. Kapeau to Keoni Ana*

I have received your instructions, that I should explain to you about the *alaloa* (roadways), *alahaka* (bridges), lighthouses, markets, and animal pounds. I have not yet done all of these things. I have thought about where the *alanui heleloa* (highways) should be made, from Kailua to Kaawaloa and from Kailua to Ooma, where our King was cared for <sup>[7]</sup>, and then afterwards around the island. It will be a thing of great value, for the roads to be completed. Please instruct me which is the proper thing for me to do about the *alaloa*, *alahaka*, and the laying out of the *alaloa*... [HSA – Interior Department Misc., Box 142; Kepā Maly, translator]

*August 13, 1847*

*Governor of Hawaii, George L. Kapeau; to  
Premier and Minister of Interior, Keoni Ana*

Aloha oe e ka mea Hanohano –

I have a few questions which I wish to ask you. Will the police officers be required to pay, when they do not attend the Tuesday (*Poalua*) labor days? How about parents who have several children? What about school teachers and school agents? Are they not required to work like all other people when there is Government work on the roads and highways?

I believe that school agents, school teachers and parents who have several children, should only go and work on the weeks of the public, and not on the *konohiki* days...

...The roads from Kailua and down the *pali* of Kealakekua, and from Kailua to Honokohau, Kaloko, Ooma, at the places that were told our King, and from thence to Kaelehuluhulu [at Kaulana in Kekaha], are now being surveyed. When I find a suitable day, I will go to Napoopoo immediately, to confer with the old timers of that place, in order to decide upon the proper place to build the

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<sup>7</sup> For the first five years of his life (until ca. 1818), Kauikeaouli was raised at ‘O‘oma, by Ka-iki-o-‘ewa and Keawe-a-mahi *mā* (see Kamakau 1960; and this study).



highway from Napoopoo to Honaunau, and Kauhako, and thence continue on to meet the road from Kau. The road is close to the shore of Kapalilua...

The width of the highways around Hawaii, is only one fathom, but, where it is suitable to widen where there is plenty of dirt, two fathoms and over would be all right... If the roads are put into proper condition, there are a lot of places for the strangers to visit when they come here. The Kilauea volcano, and the mountains of Maunaloa, Maunakea, Hualalai.

There is only one trouble to prevent the building of a highway all around, it is the steep gulches at Waipio and Pololu, but this place can be left to the very last... [HSA – Roads, Hawaii]

*March 29, 1848*

*Governor Kapeau; to Minister of the Interior, Keoni Ana:*

[Acknowledging receipt of communication and answering questions regarding construction methods used in building the roads.]

...I do not know just what amount of work has been done, but, I can only let you know what has come under my notice.

The highway has been laid from Kailua to Kaloko, and running to the North West, about four miles long, but it is not completely finished with dirt. The place laid with dirt and in good condition is only 310 fathoms.

The highway from Kealakekua to Honaunau has been laid, but is not all finished, and are only small sections... [HSA – Roads, Hawaii]

*July 9, 1873*

*R.A. Lyman; to*

*E.O. Hall, Minister of the Interior.*

Notifies Minister that the road from Kiholo to Kailua needs repairing. [HSA – Interior Department – Land Files]

*August 14, 1873*

*R.A. Lyman; to*

*E.O. Hall, Minister of the Interior:*

I have just reached here [Kawaihae] from Kona. I have seen most of the roads in N. Kona, and they are being improved near where the people live. If there is any money to be expended on the roads in N. Kona, I would say that the place where it is most needed is from Kiholo to Makalawena, or the Notch on Hualalai.

This is the main road around the island and is in very bad condition. Hardly anyone lives there, and there are several miles of road across the lava there, that can only be worked by hiring men to do it. There is also a road across a strip of Aa a mile & a half or 2 in length in the south end of S. Kohala next to the boundary of N. Kona, that needs working, and then the road from here [Kawaihae] to Kona will be quite passable... [HSA – Roads, Hawaii]

*November 4, 1880*

*J.W. Smith, Road Supervisor, North Kona; to*

*A.P. Carter, Minister of the Interior:*

...Heretofore I have been paying one dollar per day, but few natives will work for that, they want \$1.50 per day. Thus far I have refused to pay more than \$1.00 and have been getting men for that sum.

The most urgent repairs are needed on the main road from Kaupulehu to Kiholo, and north of Kiholo to the Kohala boundary, a distance of about 20 miles... [HSA – Roads, Hawaii]

*Kailua Nov. 19<sup>th</sup>, 1880*

*Geo. McDougall; to*

*A.P. Carter, Minister of the Interior —*

...I noticed among the appropriation passed by the last Legislature, an item of \$5000 for Roads in North Kona Hawaii — as I am very much interested about roads in this neighbourhood, I take the liberty to express my opinions what is wanted to put the roads in good repair and give the most satisfaction to all concerned.

The Road from Kailua going north for about eight miles to where it joins the upper Road, has never been made, it is only a mule track winding through the lava. It could cost to make it a good cart road, fully two thousand dollars. And from Kailua to where it joins the South Kona road, about 12 miles was made by Gov. Adams, and is in pretty much the same state as he left it, only a little worse of the ware of 20 years or more, it could cost to make it in good repair about 15 hundred dollars. Then we could have 20 miles of good road... [HSA – Interior Department Letters]

*March 21<sup>st</sup>, 1885*

*C.N. Arnold, Road Superintendent-in-Chief, Hawaii; to  
Charles Gulick, Minister of Interior:*

...In accordance with your instructions I beg to hand you the following list of names as being those I would select for Supervisors in the different Road Districts under my charge:

... Judge J.K. Hoapili, North Kona District...

Hoping these parties may meet with your approval... [HSA – Roads, Hawaii]

*March 1886*

*Petition to Charles Gulick, Minister of the Interior:*

[Signed by 53 residents of North Kona, asking that the appropriated funds be expended for the Kailua-Kohanaiki Road]:

We the people whose names are below, subjects of the King, residing in North Kona, Island of Hawaii:

The funds have been appropriated by the Legislature for the opening of the road from Kailua to Kohanaiki, therefore, we humbly request that the road be made there. The length of this road being thought of is about five miles more or less. The road that is there at the present time is not fit for either man nor beast.

Your people have confidence that as so explained, you will kindly grant our request, and end this trouble in our District...

[those signing included names of individuals known to have ties to the 'O'oma vicinity]: ... J. Kamaka, Kuakahela, Kahulanui, & Palakiko... [HSA – Roads Hawaii; Maly, translator]

*March 9<sup>th</sup>, 1887*

*C.N. Arnold, Road Superintendent-in-Chief, Hawaii; to  
Chas. Gulick, Minister of the Interior:*

[Arnold provides documentation of the early native trail from Kailua to the upper Kohanaiki region, and its' ongoing use at the time. He also notes that McDougall (resident at Honokōhau) and others are presently in the business of dairy ranching]:

...The enclosed petition [cited above] has just come to hand from North Kona. The petitioners are mistaken when they say that any special appropriation has been made for this road as there has never been a Government road in this part of the District. There is however an old native trail which has always been used as a short cut, from the lower part of the district between Keahou [sic] and Kailua, by persons who were traveling to Kawaihae and Waimea. The opening of a good road here would be a great convenience to the traveling public and also a great accommodation to a great many people who live on, or nearly on the line of it. I may mention among the number, Messrs. McDougall and Clark who are engaged in dairy ranching near the head of the proposed line. I may also mention that I, with Mr. Smith, made a preliminary survey of it, at the request of His Majesty the King, who is also interested in the opening of this road, as it opens up all of His Kailua lands for settlement. I regard the road as necessary for the above reasons.

From the preliminary survey made, I estimate that a wagon road 12 feet wide will cost from Kailua to the *mauka* Govt. road at Kohanaiki \$6000. The length of the road is 5 <sup>3</sup>/<sub>4</sub> miles. The elevation of highest point (*mauka* Road) is 1600 feet above tide at Kailua. Mr. Smith Supt. of Public Works has all the notes of the survey, and can give you full information in regard to this matter... [HSA – Roads, Hawaii]

July 14<sup>th</sup>, 1887

C.N. Arnold, Road Superintendent-in-Chief, Hawaii; to

L.A. Thurston, Minister of the Interior:

...In obedience to your request I beg to hand you the following list of the District Supervisors under my jurisdiction:

...North Kona – Hon. J.K. Nahale; Native... [HSA – Roads Hawaii]

March 8, 1888

J. Kaelemakule; Supervisor, North Kona Road Board; to

L.A. Thurston, Minister of the Interior.

[Ka'elemakule provides Thurston with an overview of work on the roads of North Kona, and describes the Government roads (*Ala nui Aupuni* or *Ala loa*) which pass through the Kekaha region]:

The road that runs from Kailua to Kohanaiki, on the north of Kailua, perhaps 6 miles. It is covered with aa stone, and is perhaps one of the worst roads here. The Road Board of North Kona has appropriated \$200 for work in the worst areas, and that work has been undertaken and the road improved. The work continues at this time. This is one of the important roads of this district, and it is one of the first roads that should be worked on.

The government road or ala loa from upland Kainaliu (that is the boundary between this district of South Kona) [Kealaehu], runs straight down to Kiholo and reaches the boundary of the district adjoining South Kohala, its length is 20 and 30 miles. With a troubled heart I explain to your Excellency that from the place called Kapalaoa next to South Kohala until Kiholo – this is a very bad section of about 8 miles; This place is always damaged by the animals of the people who travel along this road. The pahoeheo to the north of Kiholo called Keahou, is a place that it is justified to work quickly without waiting. Schedule A, attached, will tell you what is proposed to care for these bad places...

Schedule A: [Appropriations needed]

The road from Kailua to Kohanaiki, and then joining with the inland Government Road – \$500.

The upland Road from Kainaliu to the boundary adjoining S. Kohala – \$1,500.00. [HSA – Roads Hawaii; Kepā Maly, translator]

September 30, 1889

Thos. Aiu, Secretary, North Kona Road Board (for J. Kaelemakule); to

L.A. Thurston, Minister of the Interior.

[Provides Thurston with an overview of work on the roads of North Kona, and identifies individuals who are responsible for road maintenance (cantoniers) in various portions of the district; several of the individuals named were also old residents and applicants for Homestead lots. Of interest, Kaelemakule's report indicates that maintenance of the Alanui Aupuni which crossed into the kula lands of 'O'oma and Kalaoa, had not been assigned to anyone (see report of Dec. 22, 1890)]:

1. In that section of the road which proceeds from Kailua near the shore to Kohanaiki, Mano is the cantonier.
2. That section of the road from Kukuioohiwai to Keahuolono, Paiwa is the cantonier...
3. That section of road from Kailua to the shore of Honokohau, Keaweiwi is the cantonier ...
4. That section of road from Kukuioohiwai to Lanihau along the upland road, Isaac Kihe is the caretaker...

The work done along these sections is the cutting of brush – guava, lantana and such – which trouble the road, and the removal of bothersome stones... [HSA – Roads Hawaii; Kepā Maly, translator]

December 22, 1890

J. Kaelemakule; Supervisor, North Kona Road Board; to

C.N. Spencer, Minister of the Interior

[Reports on the cantoniers assigned to road work in various sections of North Kona. As in 1889, apparently no one was assigned to the lower *Alanui Aupuni* through the 'O'oma kula lands. Though Kaelemakule did include the road section on the land, extending through Kalaoa, on his attached diagram; Figure 24]:

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...I forward to you the list of names of the cantoniers who have been hired to work on the roads of this district, totaling 15 sections; showing the alignment of the road and the length of each of the sections. The monthly pay is \$4.00 per month, at one day of work each week. The board wanted to increase it to two days a week, but if that was done, there would not have been enough money as our road tax is only \$700.00 for this district... You will receive here the diagram of the roads of North Kona. [HSA – Roads Hawaii; Kepā Maly, translator]

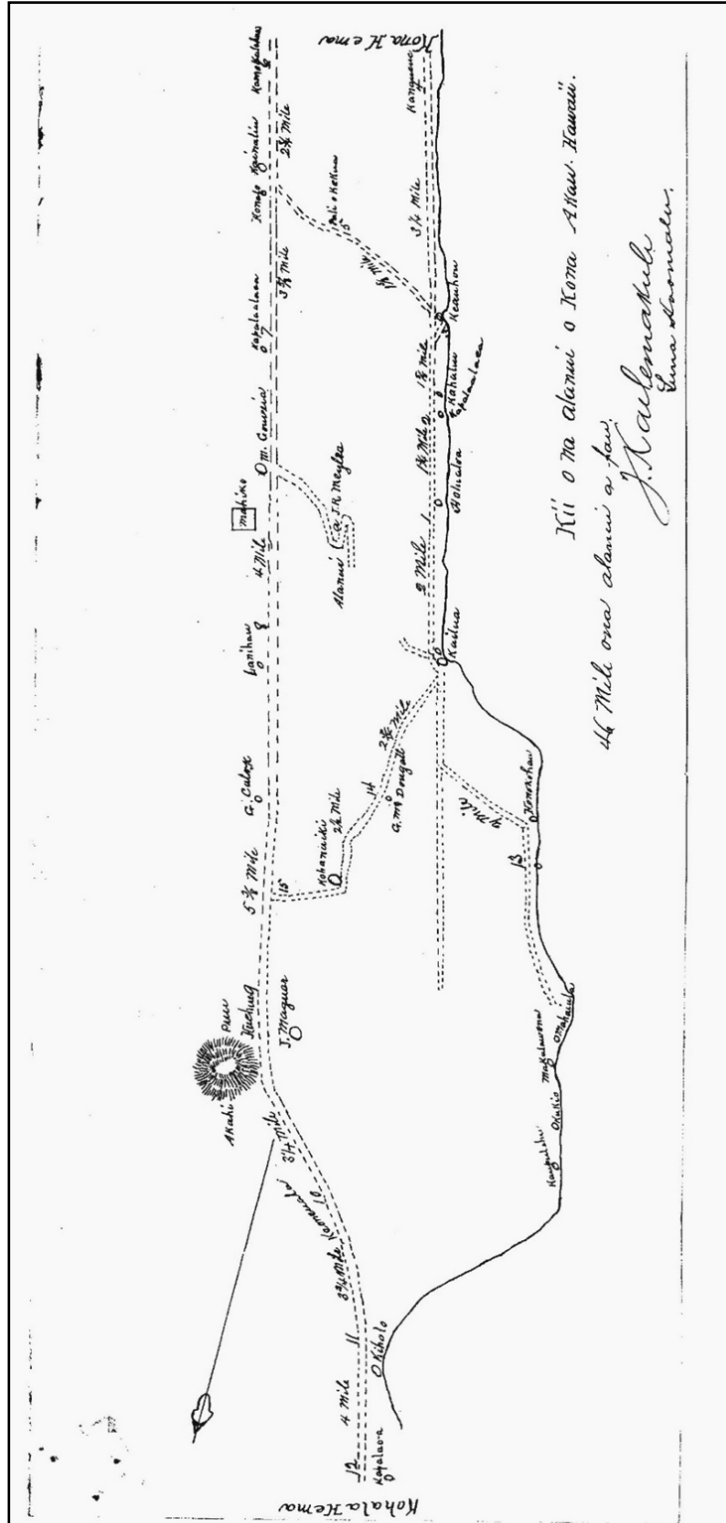


Figure 24. *Kii o na alanui o Kona Akau* (diagram of the roads of North Kona); J. Kaelemakule Sr., Road Supervisor (HSA – Roads, Hawaii; December 22, 1890).

*The Government Homesteading Program in Kekaha*

Following the *Māhele* and Grant programs of the middle 1800s, it was found that many native tenants still remained on lands for which they had no title. In 1884, the Hawaiian Kingdom initiated a program to create Homestead lots on Government lands—a primary goal being to get more Hawaiian tenants in possession of fee-simple property (Homestead Act of 1884). The Homestead Act allowed applicants to apply for lots of up to 20 acres in size, and required that they own no other land.

On Hawai‘i, several lands in the Kekaha region of North Kona, were selected and a surveying program was authorized to subdivide the lands. Initially, those lands extended from Kohanaiki to Kūki‘o. Because it was the intent of the Homestead Act to provide residents with land upon which they could cultivate crops or graze animals, most of the lots were situated near the *mauka* road (near the present-day Māmalahoa Highway) that ran between Kailua and ‘Akāhipu‘u.

Early in the process, native residents of Kekaha began writing letters to the Minister of the Interior, observing that 20 acre parcels were insufficient “to live on in every respect.” They noted that because of the rocky nature of the land, goats were the only animals that they could raise, and thus, try to make their living (cf. State Archives–Land File, December 26, 1888, and Land Matters Document No. 255; and communications below).

During the first years of the Homestead Program, all of the remaining government lands in the Kekaha region, from Kohanaiki to Kūki‘o 2<sup>nd</sup>, had been leased to King David Kalākaua for grazing purposes. The following lease was issued, with the notation that should portions of the land be desired for Homesteading purposes, the King would relinquish his lease:

*August 2<sup>nd</sup> 1886*

*General Lease 364*

*Between His Majesty Kalakaua;*

*and Walter M. Gibson, Minister of the Interior*

[Lease of unencumbered government lands between Kealakehe to Kukio 2<sup>nd</sup>]:

...Oma [Ooma] No. 1 & 2 – yearly rent Ten dollars...

Each and every of the above mentioned lands are let subject to the express condition that at any time during the term of this lease, the Minister of the Interior may at his discretion peaceably enter upon, take possession, and dispose of such piece or pieces of land included in the lands hereby demised, as may be required for the purposes of carrying out the terms and intent of the Homestead Laws now in force, or that may be hereafter be enacted during the term of this lease... [State Land Division Lease Files]

By 1889, the demand for homestead lots in the Kekaha lands was so great that King Kalākaua gave up his interest in the lands:

*January 22, 1889*

*J.W. Robertson, Acting Chamberlain;*

*to J.A. Hassinger, Chief Clerk, Interior Department*

[Regarding termination of Lease No. 364 for lands from Kukio to Kohanaiki]:

...I have the honor to acknowledge the receipt of your communication, of the 17<sup>th</sup>, instant, informing me that you are directed, by His Excellency the Minister of the Interior, to say, that he desires to take possession of the lands, described in Government Lease No. 364, for Homestead purposes, and requests the surrender of the lease.

His Majesty the King, is willing, for the purpose of assisting in carrying out the Homestead Act, to accede to the terms of the lease, so far as to give up only such portions of the lands, as are suitable to be apportioned off for Homestead purposes.

It has come to the knowledge of His Majesty, that several of the applicants for portions of the above lands, are already in possession of lands elsewhere, and living in comfortable homes. They are not poor people, nor are they entitled to the privilege of obtaining lands under the Homestead Act, but are desirous of obtaining more of such property, for the purpose of selling or leasing to the Chinese, which class is beginning to outnumber the natives in nearly every district...

His Majesty is desirous of retaining the balance of lands, that may be left after the apportionment has been completed; and also desires to lease remnants of other Government lands in that section of the Island...

## 2. Background

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Reply attached – Dated January 22, 1889:

The lands of Kohanaiki and Kalaoa and Makaula have been divided up into Homestead lots, and taken up.

Lands marked \* are in Emerson’s List of lands to be sold. Emerson’s List attached.

His Majesty has paid rent to Aug. 22, 1889. Another rent is due in adv. from this date...

* Kukio 2	* Maniniowali
* Mahaiula	* Kaulana
* Awalua	Puukala
+ Makaula	+ Kalaoa 1, 2, 3, 4 & 5
* Ooma 1 & 2	+ Kohanaiki

Lease cancelled by order – Minister of Int. August 2, 1889 [HSA – Interior Department, Lands]

One of the significant issues that arose with the development of homesteads in the Kekaha region, involved the lands of ‘O‘oma, Kalaoa, and Hāmanamana, which had been surveyed for Kauhini in 1855, under Grant No. 1590. The grant was apparently never patented, and questions regarding the government’s authority to divide portions of the ‘O‘oma-Kalaoa-Hāmanamana lands into Homestead lots were raised. Adding to the confusion, in 1888, John A. Maguire was also making his move from Kohala to Kona, and in the process of establishing his Huehue Ranch. One of the lands he reportedly purchased was covered under the unperfected Grant No. 1590. Thus, homestead applicants and program managers met with a wide range of challenges during the program’s history.

### *Early Homestead Communications (1888-1890)*

There are a number of letters between native residents (applicants for Homestead lands) and government agents, documenting the development of the homesteading program and residency in Kekaha. Tracts of land in Kohanaiki, ‘O‘oma, Kalaoa and neighboring *ahupua‘a* were let out to native residents, and eventually to non-native residents as well. Those lands which were not sold to native tenants were sold or leased to ranching interests—most of which came under John A. Maguire of Huehue Ranch.

One requirement of the Homestead Program was that lots which were to be sold as homesteads to the applicants, needed to be surveyed. J.S. Emerson, one of the most knowledgeable and best-informed surveyors to work in Kona, began surveying the Kekaha region homestead lots in 1888. Emerson’s letters to Surveyor General, W. D. Alexander, provide valuable historical documentation about the community and land. Writing from ‘O‘oma in April 1888, Emerson spoke highly of the Hawaiian families living on the land; he also described land conditions and weather at the time. In the letter, we find that questions regarding the status of several lands in Kona had arisen, and that John A. Maguire was planning to “settle” in Kona. Emerson’s letters along with those below from the native tenants of the land, provide first hand accounts of the land development of the communities in Kekaha. The following communications are among those found in the collection of the Hawai‘i State Archives (HSA).

*May 1888*

*J.W.H. Isaac Kihe, Jr., et al.; to L.A. Thurston, Minister of the Interior*

[Petition with 71 signatures, regarding discrepancy in land grant to Kauhini in Kalaoa and Ooma; and desires that said land be divided into Homestead Lots for applicants]:

...We, the undersigned, subjects residing within the boundaries of Kekaha, from Kohanaiki to Makalawena, and Whereas, the land said to belong to Kauhini is within the boundaries above set forth; Whereas, some doubt and hesitancy has come into our minds concerning the things relating to said land of Kauhini, and that it is proper that a very careful investigation be made, because, we have never known said Kauhini to have lands in the Kalaoas and Ooma 1, and because of such doubt, the Government sold some pieces in said land of 687 acres to Kama, Kaakau and Hueu, and they have been living with all the rights for 20 years and over, on pieces that were acquired by them. Therefore, we leave this request before your Excellency, the honorable one, with the grounds of this request:

First: The said land of Kauhini is not a land that is clear in every way, so that it can be shown truthfully and clearly that it belongs to Kauhini and his heirs – said kuleana.

Second: The land said to belong to Kauhini was only surveyed, but the money was not paid, that is the price for the land, only the payment for the survey was paid. We are ready with witnesses to prove this ground, as well as other grounds.

Third: Because of Kama and Kaakau and Huel's knowing that Kauhini had no true interest in the land, therefore, they bought from the Government some acres of in the piece which Kauhini had surveyed, and the Government readily agreed to sell to them. This is real proof that said land was not conveyed to Kauhini, and the second is that Kauhini was living right there and he made no protest against the sale by the Government of those 687 acres to Kama (k), Kaakau (k) and Huel (k), up to the time of his death, and only now has the question been raised through the plat of the survey, and thereby basing the claim that Kauhini had some land.

...We ask your honor that this matter be traced in the Government Departments, so as to find out the truth, there is much trouble and uncertainty about this land.

And our inquiry to be based upon these great questions. Does the land belong to Kauhini? Or to the Government?... [HSA – Interior Department, Lands]

May 16, 1888

*Interior Department Clerk; to J.W.H. Isaac Kihe, Jr.:*

...I have been directed by the Honorable Minister of the Interior, to say, that your request asking that Kauhini's interest in the lands of Kalaoa & Ooma 1 be investigated, and to let you know the you are wanted to send, or to bring here to Honolulu, 2 or 3 good witnesses, and all the papers found by you or them, concerning this land of Kauhini... [HSA Interior Department Lands]

May 16, 1888

*J.F. Brown, Government Surveyor; to L.A. Thurston, Minister of the Interior*

[Regarding disposition of Grant No. 1590, to Kauhini for Lands in Hamanamana, Kalaoa, and Ooma; Figure 25]:

...With reference to the letter of inquiry of numerous natives in N. Kona, Hawaii, I beg to report:

That as regards the land belonging to Kauhini, I find that Grant 1590 on record and signed in due form, assigned to Kauhini something over 1800 acres shown in sketch by yellow tinted boundary line. At the bottom of the page however and in different handwriting is the following remark "Memo – this to be cancelled" S.S. (Stephen Spencer)?

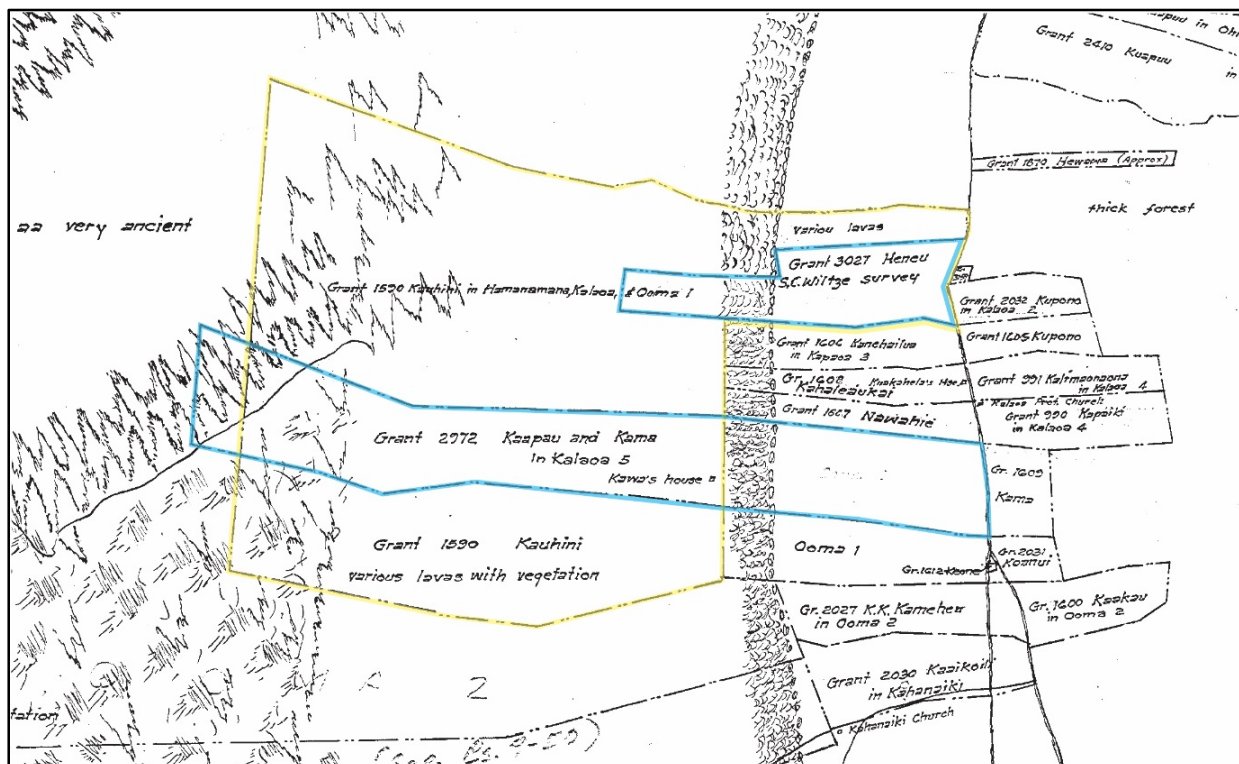


Figure 25. Portion of 1882 Register Map No. 1280 showing original boundaries of Grant No. 1590, to Kauhini.

Later the grants shown in sketch by blue lines were issued to the parties indicated in the sketch, and this fact together with the memo attached to the Grant, and the statements and beliefs of the natives leads me to think that the Grant to Kauhini was actually cancelled, but of this I have not yet obtained further proof than I have here given... [HSA – Interior Department, Lands]

May 1888 - J.W.H.I. Kihe, Jr.; to L.A. Thurston, Minister of the Interior:

...Oh honorable one, I am ready with the right witnesses to come when I receive the order, and if you agree, oh honorable one, to help with the fares for us on the vessel, and for our support while staying there and coming back.

Proofs are ample to prove that the land belongs to the Government, when I arrive with the witnesses, according to what you wish to be done... [HSA – Interior Department, Lands]

[Applying to purchase remnant lands from Makaula to Ooma 2<sup>nd</sup>, as a native Hui; and that land not be sold to outsiders.]

...We the undersigned, kamaaina (old residents) who reside from “Makaula” to “Ooma 2,” joining “Kohanaiki,” hereby petition and we also file this petition with you, and for you to consider and conferring with the Minister of the Interior, whether to consent or refuse the petition which we humbly file, and at the same time setting forth the nature of the land and the boundaries desired.

We ask that all be sold to us as a Hui, that the remnants of all the Government lands from “Hamanamana” to “Ooma 2 (two),” that is from the Government remnant of “Hamanamana, Kalaoa 1, 2, 3, 4, 5, Ooma 1 & 2” running until it meets the sea. Being the remnants remaining from the “Homesteads” lately, and remaining after the sale of the lands formerly sold by the Government, these are the remnants which we wish to buy as a “HUI.” If you consent, and also the “Minister of the Interior,” for these reasons:

1. The “remnants of Government lands” aforesaid, join our land kuleanas and were lately surveyed, and for that reason we believe it proper that they be sold to us.
2. The “kuleanas” that were surveyed for us are not sufficient to live on in every respect, they are too small, and are not in accordance with the law, that is one hundred acres, (Laws 1888).
3. Because of our belonging to, and being old residents of said places, is why we ask that consent be granted us for the sale to us and not to any one from other places, or we may be put to trouble in the future.

With these reasons, we leave this with you, and for you to approve, and we also adhere to our first offer per acre, and the explanations in regards to said offer.

FIRST: The price per acre to be 10 cents per acre.

SECOND: The nature of the land is rocky and lava stones in all from one and to the other, and there is only one kind of animal which can roam thereon, and it is goats, and that is the only thing to make anything out of, and to benefit us if we acquire it.

THIRD: If this land is acquired by others, they will probably cause us trouble, because the kuleanas which we have got are very small and not enough, not 20 acres of the land were acquired by us; very few of the lots reach 20 acres or more.

And because of these reasons and the explanations herein, we leave before your Excellency for the granting of the consent or not... [HSA – Interior Department, Lands]

*ca. February 1889*

*Petition of J.W.H. Isaac Kihe, Jr. and 21 others;  
to L.A. Thurston, Minister of the Interior*

[Transmitting first payment for Homestead Land from Makaula to Kohanaiki]:

...We, the ones whose names are below, persons who but for the pieces of “Homestead” lands from Makaula to Kohanaiki, present to you documents of proof and money as first payment of ten (\$10.00) dollars in the hands of J. Kaelemakule, the Agent appointed for the “Homestead” lands in North Kona, Hawaii.

We ask that the Agreements be sent up, with the Government for five years to J. Kaelemakule, the Agent here, in number the same as there are names below...



- |                           |                  |                 |
|---------------------------|------------------|-----------------|
| 1. J.W.H. Isaac Kihe, Jr. | 9. P. Nahulanui  | 17. Keawehawaii |
| 2. S. Mahauluae           | 10. Kaukaliinea  | 18. D. Kaninau  |
| 3. D.P. Manuia            | 11. Kamahiai (w) | 19. Mokuaikai   |
| 4. S.M. Kaawa             | 12. C.K. Kapa    | 20. Nuuanau     |
| 5. H.P. Ku                | 13. P.K. Kanuha  | 21. S. Kaimuloa |
| 6. W.N. Kailiino          | 14. J. Haau      | 22. J. Kaloa    |
| 7. Z. Kawainui            | 15. G. Mao       |                 |
| 8. Kikane                 | 16. J. Pule      |                 |
- [HSA – Interior Department Document No. 227]

*February 18, 1889*

*J. Kaelemakule, Land Agent; to L.A. Thurston, Minister of the Interior:*

I am sending the correct report of the applicants for homestead lands here in North Kona, and their respective names, and the amount they have paid for their initial deposits in order that the agreements will be made correctly...

Pule \$10.	Keoki Mao \$10.	Mahuluae \$10.	Haau \$10.
Nuuanu \$10.	Manuia \$10.	Kaukaliinea \$10.	Kamahiai (w) \$10.
Kaawa \$10.	Kaninau \$10.	J. Kaelemakule \$10.	Kawainui \$10.
Mokuaikai \$10.	Keawehawaii \$10.	Nahulanui \$10.	Kaloa \$10.
Haiha \$10.	Kapa \$10.	Kaumuloa \$10.	Isaac Kihe \$10.
Kailiino \$10.	Kanuha \$10.	Ku \$10.	Kikane \$10.

[HSA – Interior Department, Lands]

*October 7, 1889*

*J. Kaelemakule, Land Agent; to L.A. Thurston, Minister of the Interior:*

...The applications of Kahinu and Lilinoe which were sent down during the month of August, please have the lots changed, because the map of Ooma has arrived with new numbers, as follows: Kahinu, Lot 51; Lilinoe, Lot 49, in Ooma 1<sup>st</sup> ... [HSA – Interior Department, Lands]

*October 10, 1889*

*J.W.H. Isaac Kihe, Secretary; to L.A. Thurston, Minister of the Interior:*

...I leave some more names who make applications for homestead lands here in North Kona... The places wanted by those named are:

Pika Kaninau at Ooma 1  
Kahinu at Ooma 2  
Keaweiwi at Ooma 2... [HSA – Interior Department, Lands]

*October 28, 1889*

*J. Kaelemakule, Land Agent; to L.A. Thurston, Minister of the Interior:*

...The eight lots in Ooma have all been taken, none are left... These lots have been very quickly taken by the bidders, before the issuance of the notice from the Minister... Bear in mind the agreements for Kahinu and Lilinoe... [HSA – Interior Department, Lands]

*December 31, 1890*

*J.W.H.I. Kihe, Jr.; to C.N. Spencer, Minister of the Interior:*

We, the undersigned, who are without homes, and are destitute and have no place to live on, and whereas, the government has permitted all the people who have no lands, and that they receive homesteads, and for that reason, your humble servants make application that our application may be speedily granted which we now place before Your Excellency, that the Government land which was divided and surveyed by Joseph S. Emerson, be immediately sub-divided, the same being portions of Kalaoa 5 and Ooma, on the mauka side of Kama (k), Koanui (k), to the junction with Ooma of Kaakau (k), containing an area of one hundred and fifteen acres (115), and it is those acres which your applicants are applying for before Your Excellency, and where as your applicants are native Hawaiians by birth, residing at Kalaoa, North Kona, Island of Hawaii. And the minds of your

## 2. Background

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servants hope and desire to have a place to live on in the future, and to have a home for all time, and Your Excellency, your servants humbly place their petition with the hope that you will grant this application...

M.E. Kuluwaimaka (k)

H. Hanawahine (k)

D.W. Kanui (k)

Mr. Kahumoku (k)

[HSA – Interior Department, Lands]

*July 30, 1890*

*Petition of Kaihemakawalu and 63 native residents of Kekaha;  
to C.N. Spencer, Minister of the Interior*

[Requesting that lands available for Homesteading be sub-divided and granted to applicants]:

...We, the undersigned, old-timers living from Kealakehe to Kapalaoa, who are subject to taxes, and who have the right to vote in the District of Kona, Hawaii, and ones who are really without lands, and who wish to place this application before Your Excellency, that all of these Government lands here in North Kona, be given to the native Hawaiians who are destitute and poor, being the lots which were sub-divided by the Government which are lying idle and for which no Agreements have been given out, and also the lots which were granted Agreements and issued in the time when Lorrin A. Thurston was Minister of the Interior, and also the lots which still remain undivided. All of these Government lands are what we are now again asking that the dividing and sub-dividing be continued in these remnants of Government lands, until all of the poor and needy ones are provided for.

Your Excellency, we ask that no consent whatever be given to permitting lands to be acquired by the rich through sale at auction, or by lease, and if there is to be any lease, then to be leased to the poor ones, if they are supplied with homes.

Your Excellency, we ask that you immediately send copies of all agreements of the Government lands which were cut up and sub-divided, which are remaining and have no documents for those lots. And we also ask that a surveyor be sent now to again survey and sub-divide the remaining Government lands, being the Government lands of Kaulana, Mahaiula, Kukio 1 & 2, mauka of the Government Road, and Kalaoa 5 & Ooma 1, mauka of the Government Road, joining Kama's and Koanui's.

And now, Your Excellency, we also ask that all of the pieces of Government land lying idle outside of these lands which have been sub-divided, and lands which are to be sub-divided, applied for above, to be allowed to be leased to use for five cents per acre, because, they are rocky and pahoe-hoe lands only left, and the number of acres being about three thousand and over, thereby giving the Government some income from these which have been lying idle and without any value... [HSA – Interior Department, Lands]

### *Field Surveys of J.S. Emerson (1882-1889)*

Among the most interesting historic Government records of the study area—in the later nineteenth century—are the communications and field notebooks of Kingdom Surveyor, Joseph S. Emerson. Born on O'ahu, J.S. Emerson (like his brother, Nathaniel Emerson, a compiler of Hawaiian history) had the ability to converse in Hawaiian, and he was greatly interested in Hawaiian beliefs, traditions, and customs. As a result of this interest, his letters and field notebooks record more than coordinates for developing maps. While in the field, Emerson also sought out knowledgeable native residents of the lands he surveyed, as guides. Thus, while he was in the field he also recorded their traditions of place names, residences, trails, and various features of the cultural and natural landscape (including the extent of the forest and areas impacted by grazing). Among the lands that Emerson worked in was the greater Kekaha region of North Kona, including the lands of 'O'oma, Kalaoa, and vicinity.

One of the unique facets of the Emerson field notebooks is that his assistant J. Perryman, was also a sketch artist. While in the field, Perryman prepared detailed sketches that help to bring the landscape of the period to life. In a letter to W.D. Alexander, Surveyor General, Emerson described his methods and wrote that he took readings off of:

...every visible hill, cape, bay, or point of interest in the district, recording its local name, and the name of the *Ahupuaa* in which it is situated. Every item of local historical, mythological or

geological interest has been carefully sought & noted. Perryman has embellished the pages of the field book with twenty four neatly executed views & sketches from the various trig stations we have occupied... [Emerson to Alexander, May 21, 1882; HSA – DAGS 6, Box 1]

Discussing the field books, Emerson also wrote to Alexander, reporting “I must compliment my comrade, Perryman, for his very artistic sketches in the field book of the grand mountain scenery...” (HSA – HGS DAGS 6, Box 1; Apr. 5, 1882). Later he noted, “Perryman is just laying himself out in the matter of topography. His sketches deserve the highest praise...” (ibid. May 5, 1882). Field book sketches and the Register Maps that resulted from the fieldwork provide a glimpse of the country side of more than 100 years ago.

*Field Notebooks and Correspondence from the Kekaha Region*

The following documentation is excerpted from the field notebooks and field communications of J. S. Emerson. Emerson undertook his original surveys of lands in the Kekaha region in 1882-1883 (producing Register Maps No. 1278 and 1280; see Figure 23). Subsequently, in 1888-1889, Emerson returned to Kekaha to survey out the lots to be developed into Homesteads for native residents of ‘O‘oma, Kalaoa and vicinity (see above, The Government Homesteading Program in Kekaha). Through Emerson’s letters and notes taken while surveying, we learn about the people who lived on the land—some of them identified in preceding parts of the study—and about places on the landscape. The numbered sites and place names cited from the field books coincide with sketches prepared by Perryman, which are shown as figures in the current study.

*J.S. Emerson Field Notebook Vol. 111 Reg. No. 253  
West Hawaii Primary Triangulation, Kona District  
Akahipuu; May 27, 1882  
(Figure 26)*

*Site # and Comment:*

- ...6 – Koanui’s frame house. E.G. In Honokohau – nui.
- 23 – Kaloko-nui fish pond. Tang. S. end by Nuuanu’s grass house.
- 24 – Wall between fish pond of Kaloko nui and iki.
- 25 – Kaloko iki fish pond. Tang. N. extremity.
- 26 – Kawaimaka’s frame house. In Kohanaiki.
- 27 – Lae o Wawahiwaa. Rock cape. In Kohanaiki.
- 28 – Keoki Mao’s grass house. In Ooma.
- 29 – Pahoehoe hill. Between Ooma and Kalaoa 5.
- 30 – Lae o Keahole. Extremity. In Kalaoa 5.
- 31 – Lae o Kukaenui. Resting place for boats.
- 32 – Makolea Bay.

[Notebook 253:53]

While taking sightings from Keāhole, Perryman prepared additional sketches of the landscape. One sketch on page 69 of the field book (Figure 27) depicts the view up the slope of Hualālai. Dated June 4, 1882, the sketch is of importance as it also depicts Kalaoa Village and church; the upper Government road; Kohanaiki Village; and two trails to the coast, one trail to Honokōhau, and the other near the Kaloko-Kohanaiki boundary. Use of these trails continued through the 1950s. The other sketch on page 73 of the field book (dated June 8, 1882) depicts the coastline south from Keāhole, to an area beyond Keauhou (Figure 28). Of interest, we see only the near-shore “Trail” in the foreground, with no trail on the *kula* lands. Then a short distance south, a house is depicted on the shore, in the ‘O‘oma vicinity (identified as the house of Kama or Keoki Mao on Emerson’s Register Maps). And a little further beyond (south of) the house, two trails are indicated—presumably the *Alanui Aupuni* on the *kula* lands to ‘O‘oma, and the near shore trail, seen coming in from Honokōhau.

While surveying the uplands on Hualālai in August 1882, Perryman drew a sketch of the Keāhole-Honokōhauiki coastal lands. This sketch (Figure 29) from field Book No. 254 shows the reverse view of Figure 24. Noting again, that the only trail given at that time, was the near shore trail, running out of Honokōhau-Kaloko, Kohanaiki, ‘O‘oma and on to Keāhole.

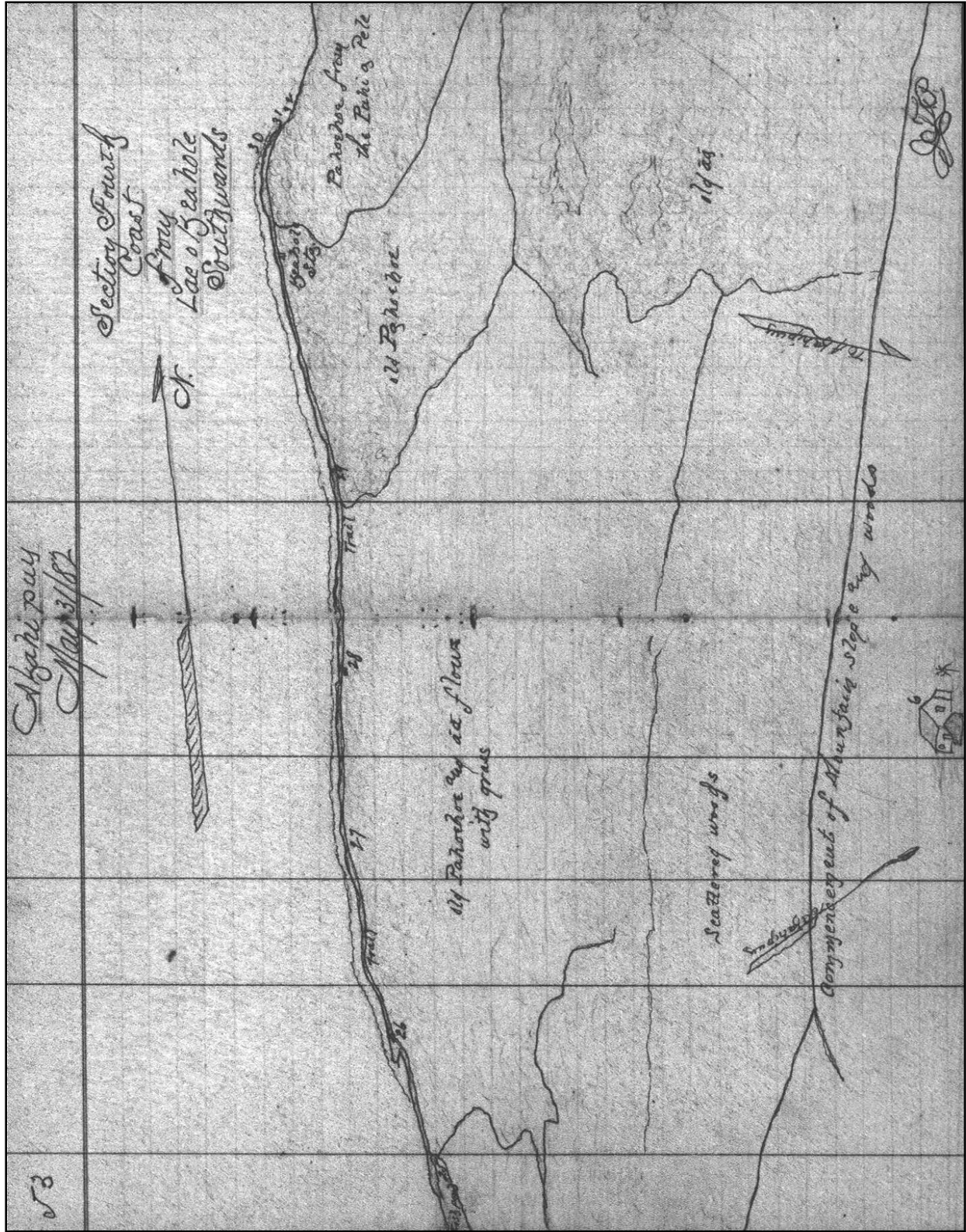


Figure 26. J. S. Emerson, field notebook map, Book 253:53 (State Survey Division).

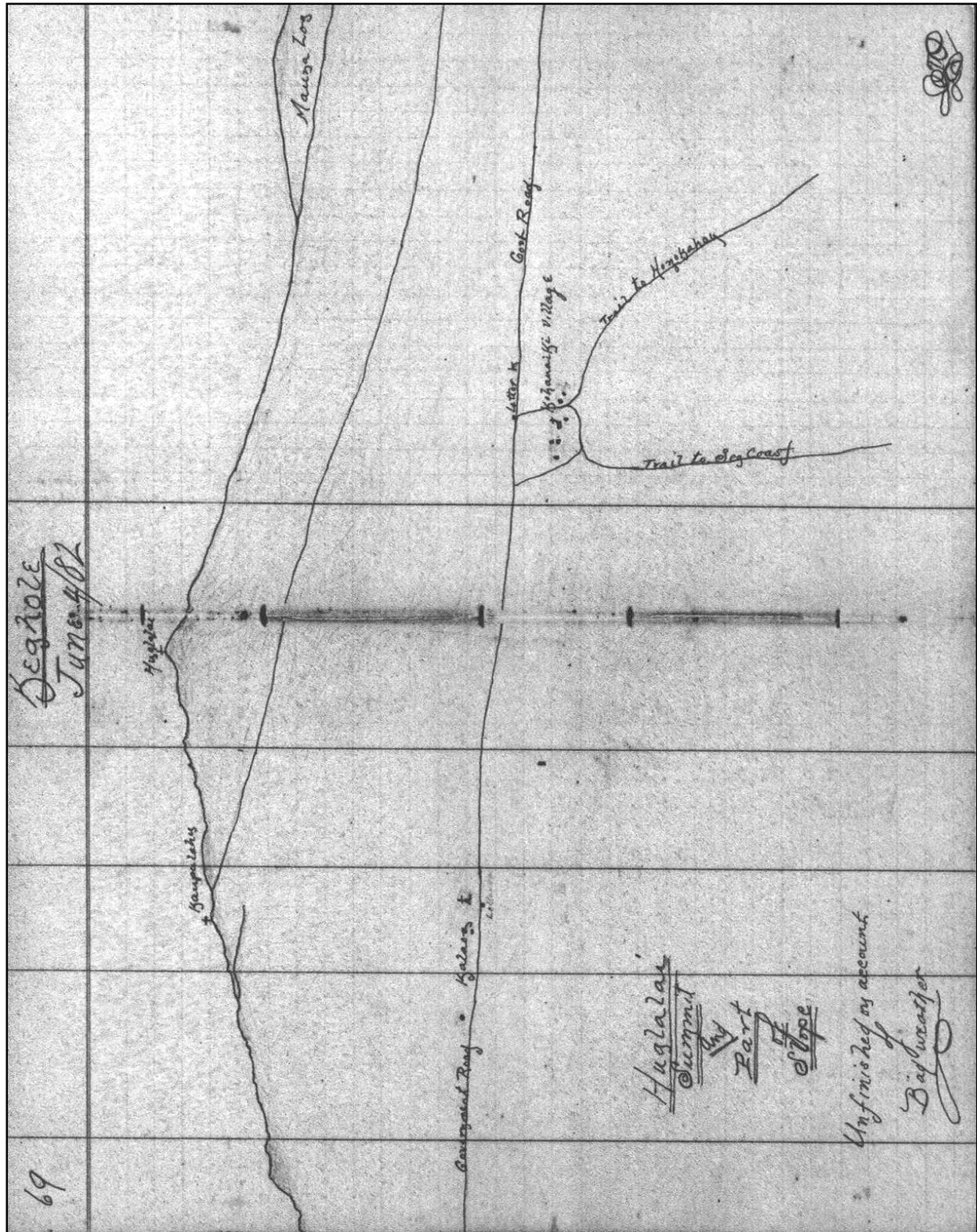


Figure 27. J. S. Emerson, field notebook map, Book 253:69 (State Survey Division).

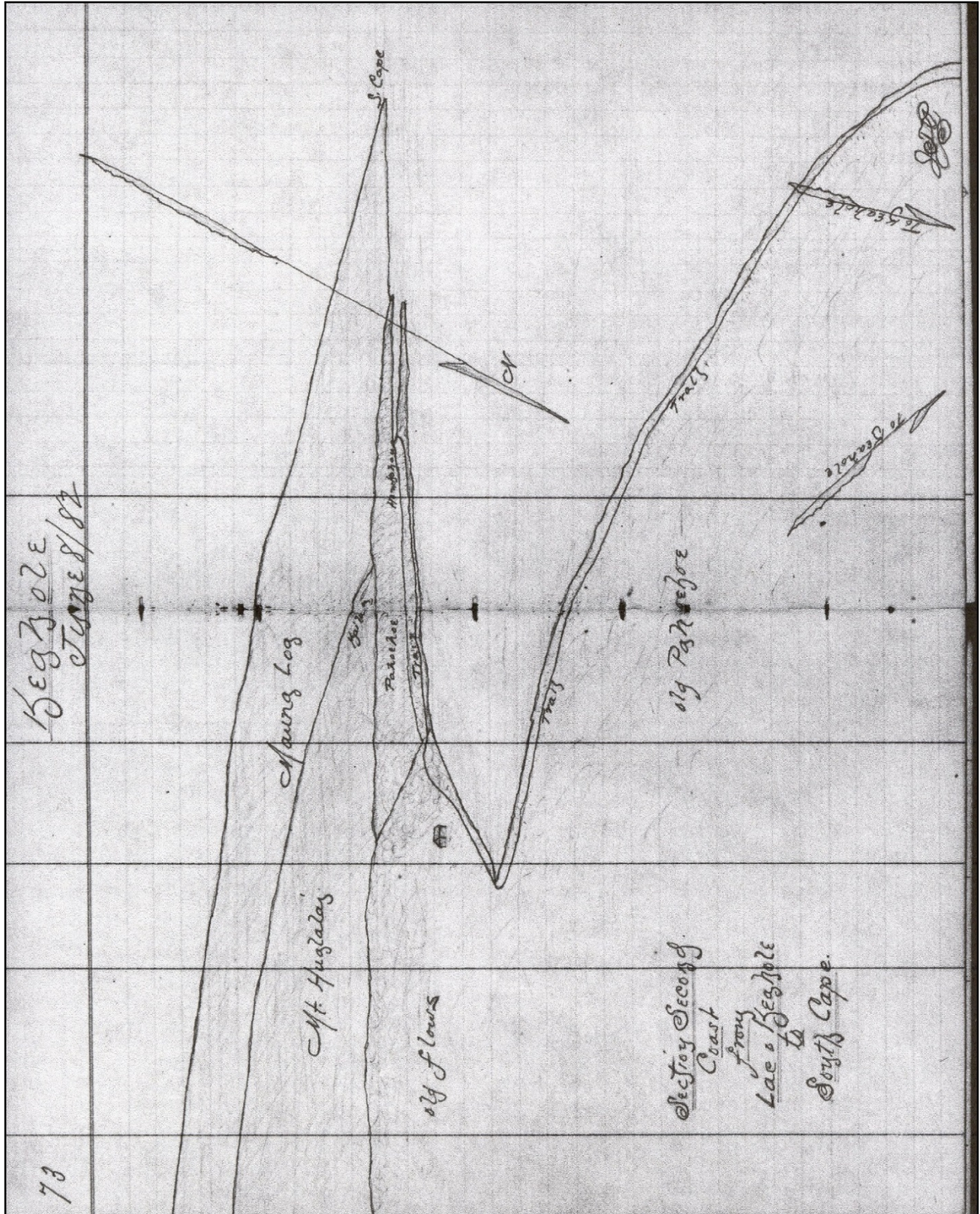


Figure 28. J. S. Emerson, field notebook map, Book 253:73 (State Survey Division).

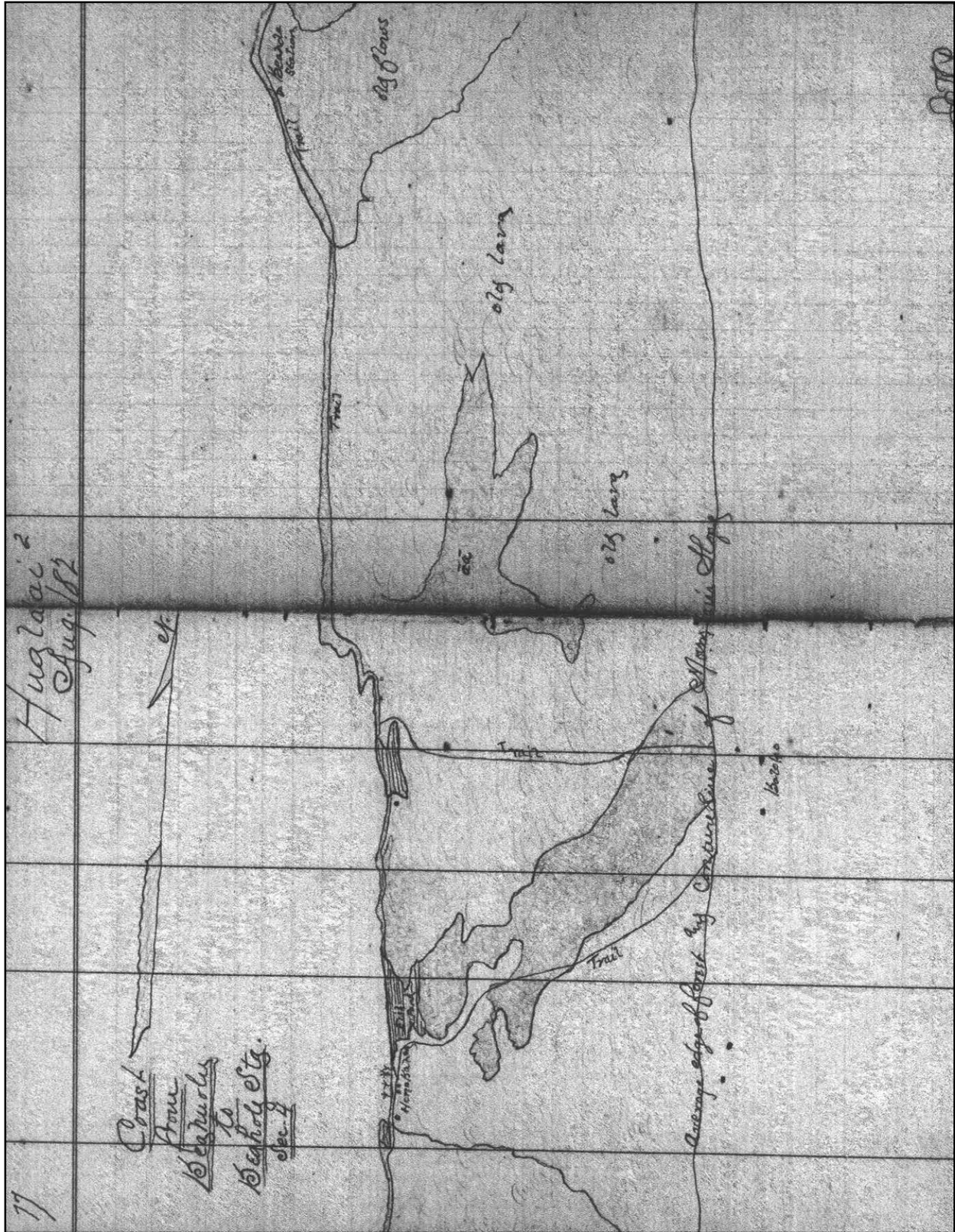


Figure 29. J. S. Emerson, field notebook map, Book 254:77 (State Survey Division).

## 2. Background

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While surveying the 'O'oma and Kalaoa homestead lots in 1888-1889, Emerson camped near Kama's house in 'O'oma 1<sup>st</sup>. The following communications were sent by Emerson to W.D. Alexander, and tell us more about the people of the land, their beliefs, and commentary on then current events in the Kingdom. Of interest, we also find that J.W.H. Isaac Kihe, whose writing of traditions, and as a representative of the native families in the land application process—which have been cited extensively in this study—is also mentioned in Emerson's narratives:

*April 8, 1888*

...Our tent is pitched in Ooma on the *mauka* Govt. road at a convenient distance from Kama's fine cistern which supplies us with the water we need. The pasturage is excellent and fire wood abundant. As I write 4:45 P.M. the thermometer is 71°, barometer 28.78. The entire sky is overcast with black storm clouds over the mountains. The rainy season comes late to Kona this year and has apparently just begun. We have had about three soaking rains with a good deal of cloud & drizzle. We are now having a gentle rain which gladdens the residents with water for their cisterns... We have set a large number of survey signals and identified many important corners of Gov't. lands etc. from Puhiapele on the boundary of Kaupulehu to the boundary line of Kaloko. The natives welcome us and do a great deal to help the work along. Tomorrow I expect to go to Kuili station with a transit and make a few observations & reset the old signal... The Kamaainas tell me that Awakee belongs to the Gov't. though I see it put down as LCA 10474 Namaau no Kekuanaoa.

They also tell me that the heirs of Kanaina estate still receive rent for the Ahupuaa of Kaulana, though I have recorded as follows in my book, Kaulana ½ Gov't. per civil Code 379, ½ J. Malo per Mahele Bk. Title not perfected; all Gov't. Please examine into the facts about Kaulana and instruct me as to what I shall do about it. Kealoha Hopulaau rents it and if it is Gov't. land the Gov't. should receive the rent or sell it off as homesteads. It is a desirable piece of land, a part of it at least...

[HSA – HGS DAGS 6, Box 2]

*April 17, 1888*

...The work is being pushed rapidly and steadily forward. The natives render me most valuable assistance and find all the important corners for me as fast as I can locate them. It is hard getting around on account of the rocks & stones, to say nothing of trees etc., but there is a great deal of really fine land belonging to the Government, admirably adapted to coffee etc. The more I see of it the better it appears.

As to Kaulana, if I hear nothing to the contrary from you, I will leave it all as Gov't. land.

Mr. McGuire [sic] of Kohala, the representative for that district, proposes to settle in Kona. He has bought Grant 1590, Kauhine, in Ooma, Kalaoa etc. and wants the Gov't. to make good to him the amount taken from him by Grants 2972, Kaakau & Kama, and 3027, Hueu, which occupy portions of the same land granted to Kauhine. If his title is good, would it not be just to leave Kaakau & Kama as well as Hueu in possession of their lots where they have lived for over 20 years, and give McGuire an area in adjoining lands equal to that taken from him by these two grants.

It is said that Chas. Achi has written to the natives that Grant 1590, Kauhine, has been cancelled. Will you learn the true state of the case and be so kind as to inform me...

[HSA – HGS DAGS 6, box 2 Jan.-Apr. 1888]

In his field book notes, on May 1<sup>st</sup>, 1888, Emerson noted that he had placed the "Pulehu" station on the "ground by ahu, about 4 feet makai of Kama's goat pen, on the iwi aina between Kalaoa 5 and Ooma 1..." (J.S. Emerson Field Book 291:83).

In the same field book on May 19<sup>th</sup>, 1888, while surveying the area near the boundary of 'O'oma 1<sup>st</sup> and 2<sup>nd</sup>, at the 325 foot elevation, Emerson cited off of a station named "Kahokukahi." The point is "on the entrance of the cave, Kahokukahi... The above is the vertical entrance of a famous ana kaua, which extends for a long distance to the E. and to the W..." (J.S. Emerson Field Book 291:137). An "ana kaua" would be a place, where during times of war, people could hide and fortify themselves. Emerson's description indicates that the cave runs some distance *mauka* and *makai* of "Kahokukahi."

On May 23, 1888, Emerson surveyed Pūhili, the boundary between Kohanaiki and 'O'oma 2<sup>nd</sup>. He observed, "Large [mark] on solid pahoehoe, on bound. bet. Kohanaiki & Ooma, by the sea, near the end of a cape... Station mark, drill hole in stone, 9 ft. S. of the S. corner of an old "kahua hale" on white sand..." (J.S. Emerson Field Book 291:151).



Returning to his “old camp Ooma,” in August 1888, Emerson submitted the following letter to Alexander:

August 25<sup>th</sup>, 1888

...I have to report that the very intricate and irregular remainder of Gov't. land situated in Kealakehe is cut up into homesteads, ready for the committee to estimate its values. The job has been made unusually long & tedious by the absurd arrangement of the old kuleanas scattered around at random. I have also run out the boundaries of Papaakoko, ready for fencing. Thursday P.M. I made my way through a heavy rain to this place and set up tent in the storm. It rained a good deal every day since and is raining now. In spite of the weather the work of cutting up Ooma 1<sup>st</sup> goes bravely on. I have a huge umbrella to camp under while it rains. I propose to finish up Ooma 1<sup>st</sup> & return to Honolulu by the next trip of the *Hall*.

Kailua beach is the great rendezvous for men & asses from all parts of the country when the steamer arrives from Honolulu. It has in consequence become the natural place to tell and hear gossip & news. Here, the sand-lot orator, mounted on a packing box, can address the largest crowd. T.N. Simeona, who stole the church money, keeps the pound and takes care of the court house wanting to make a speech, repaired to the beach last Wednesday morning and is reported to have made a windy harangue to the effect that the King was hewa and that the Ministers were pono! Up to that time he had always been the contemptible too of the King's party and was loud in his denunciation of the Government. I explain this change in his talk by his wish to retain his Gov't. billets & his desire to avoid arrest as a rebel.

A native man told me the other day (Wednesday) that the Cabinet was hewa in two things viz.

1<sup>st</sup> They taxed chickens, banana trees and many other things that had not been heretofore taxed.

2<sup>nd</sup> They arrested and sent to Molokai many who were not lepers. For these reasons many justified Wilcox for trying to out the ministers.

There is a sturdy old native living at Kaloko named Kealiihelepo, whom I greatly respect. Said he to me “When King Kalakaua returned from his foreign trip he made a speech at Kailua and said that ‘in foreign lands the foreign God was losing his power. His former worshippers were deserting him. That the old Hawaiian Gods were still mana and them he would worship.’” But said Kealiihelepo “The King was mistaken. Our old Gods were once mighty, but the coming of the foreigner with his Gods has robbed them of their strength. Therefore the King has made the mistake to oppose the God who is now in power, and Jehovah is opposing him. Hence the King's pilikia.”

You are entirely justified in calling Kona “that heathen district.”

[HSA – HGS DAGS 6, box 2 Jan.-Apr. 1888]

On October 14<sup>th</sup> 1888, Emerson wrote to Alexander, briefing him on conversations he was having with J.W.H. Isaac Kihe, his “encyclopedia,” “the son of a famous sorcerer.” Later, Emerson used many of the notes taken during his conversations with Kihe, to develop his paper on Hawaiian religion (Emerson 1892). J.W.H. Isaac Kihe, was the son of Kihe, who was the son of Kuapahoa, of Kaloko (notes of J.S. Emerson, September 25, 1915; in collection of the Hawaiian Historical Society). While at ‘O‘oma, Kihe described the various nature forms taken by the deceased, and their role in the spiritual practices. On October 14<sup>th</sup> Kihe named for him some of the gods called upon by those who practiced the Kahuna Kuni sorcery.

*Ooma*

*October 14, 1888*

*J.S. Emerson; to W.D. Alexander:*

...I have just been having a chat with a son of a famous sorcerer, with the following for a summary of what he said.

There are four gods worshipped by murders and sorcerers viz:

- (1). Kui-a-Lua, the god of the Lua, Mokomoko, Haihai and other forms of violence.
- (2). Uli, the god of the Anaana, Kuni, Hoopiopio and Lawe Maunu.
- (3). Kalaipahoa, god of the Hoounauna, Hookomokomo and Hooleilei.
- (4). Hiiaka-i-ka-poli-o-Pele, the goddess of the Poi uhane, Apo leo, Pahiuhiu and Hoonoho uhane...

[J.S. Emerson, in collection of the Hawaiian Historical Society]

## 2. Background

Emerson's 1888-1889 survey and subdivision of the Akahipuu Section of North Kona (between the *ahupua'a* of Kohanaiki and Makaula), originally conceived of as twenty-nine lots extending from the ocean to above the upper Government Road (see Figure 22), was later revised to include fifty-nine homestead lots ranging in size from less than 4 acres to more than 45 acres, all located in the *mauka* portions of the *ahupua'a* (Figure 30). The newly created lots included (by *ahupua'a* from south to north) thirty-three in Kohanaiki (Lots 1-33; the Kohanaiki Homesteads), four in 'O'oma 2<sup>nd</sup> (Lots 56-59), eight in 'O'oma 1<sup>st</sup> (Lots 48-55), one in Kalaoa 4<sup>th</sup> (Lot 47), two in Kalaoa 3<sup>rd</sup> (Lots 34 and 46), one in Kalaoa 2<sup>nd</sup> (Lot 35), three in Kalaoa 1<sup>st</sup> (Lots 36, 38, and 40), six in Hamanamana (Lots 37, 39, 41, and 42-44), and one in Makaula (Lot 45). Emerson did not divide the *mauka* lands of Kalaoa 5<sup>th</sup>, which already belonged to Kaakau and Kama (Grant Nos. 1609 and 2972). The newly created homestead lots in 'O'oma were soon purchased by native residents of the area, who had long been desirous of obtaining these lands (see above). An 1893 letter from J. Kaelemakule, Land Agent, to J.A. King, Minister of the Interior, lists some of the applicants for the homestead lots in 'O'oma 2<sup>nd</sup> Ahupua'a:

*June 22, 1893*

*J. Kaelemakule, Land Agent; to J.A. King, Minister of the Interior:*

...I am forwarding you with this, the copy of the agreement of Wm. Harbottle, and some applications as herein below set forth (see Figure 28):

- # 107, Kalua (w), for Lot # 59, Map 6, Ooma;
- # 108, G.M. Paiwa, for Lot # 56, Map 6, Ooma;
- # 109, Namakaokalani, for Lot # 58, Map 6, Ooma;
- # 110, Pika Kaninau, for Lot # 57, Map 6, Ooma.

Lot # 57 above set forth, was formerly agreed with D. Kealoha Hoopii, but this applicant left altogether and lived a long time in Kohala, and has done nothing towards the land, and has never signed the agreement to this day. As two years have gone by, I thought it would be better to give the lands to the new applicant... [HSA – Interior Department, Lands]

The four Homestead lots in 'O'oma 2<sup>nd</sup>, located between 700 and 1,100 feet elevation and containing 40.50 to 45 acres each (see Figure 30), were eventually patented (from *makai* to *mauka*) to:

- James Kuhaiki – Right of Purchase Lease # 75, Lot 59 (Patented to Mrs. Hattie Kinoulu; Grant No. 9468);
- Jno. Kainuku – C.O. No. 33, Lot 58 (not granted by 1902);
- Holokahiki – C.O. No. 11, Lot 57 (cancelled; R.P.L. # 59 to Jno. Broad; Grant No. 5912); and
- E.M. Paiwa – Grant No. 4273, Lot 56.

The eight Homestead lots in 'O'oma 1<sup>st</sup>, extending from 1,022 feet elevation to the old Māmalahoa Highway and containing approximately 15 to 25 acres each, were sold between 1895 and 1899 (from *makai* to *mauka*) to:

- S. Kane – Grant No. 3819, Lot 55; 1896
- Loe Kumukahi – Grant No. 3820, Lot 54; 1896
- Papala (w) – Grant No. 3820 B, Lot 53; 1896
- Kaulainamoku – Grant No. 3821, Lot 52; 1896
- L. Kahinu – Grant No. 3805, Lot 51; 1895
- J. Hoolapa – Grant No. 3804, Lot 50; 1895
- J.M. Lilinoe – Grant No. 4343, Lot 49; 1899
- J. Palakiko – Grant No. 3822, Lot 48; 1899

Except for the Homestead parcels and the two lots patented to Koanui and Keone, no other land in 'O'oma 1<sup>st</sup> was sold during this time. The land was retained by the government and portions leased out for grazing (see General Lease No.'s 590 and 604). In 'O'oma 2<sup>nd</sup>, *makai* of the four newly created homestead lots, were two lots consisting of approximately 1,333 acres—the first lot from above the shore to the 1847 *Alanui Aupuni*, containing approximately 302 acres, and the other lot extending *mauka* from the same *Alanui Aupuni*, to about the 700 foot elevation (containing approximately 1,031 acres; Figure 31). In 1899, John A. Maguire, founder of Huehue Ranch applied for a Patent Grant on both of the *makai* lots, but he only secured Grant No. 4536, for the lower parcel of 302 acres, in 'O'oma 2<sup>nd</sup>. Maguire's Huehue Ranch did hold General Lease No.'s 1001 and 590 for grazing purposes on the remaining government lands—both below and above the *mauka* highway—in 'O'oma 2<sup>nd</sup> (including a portion of the current study area).

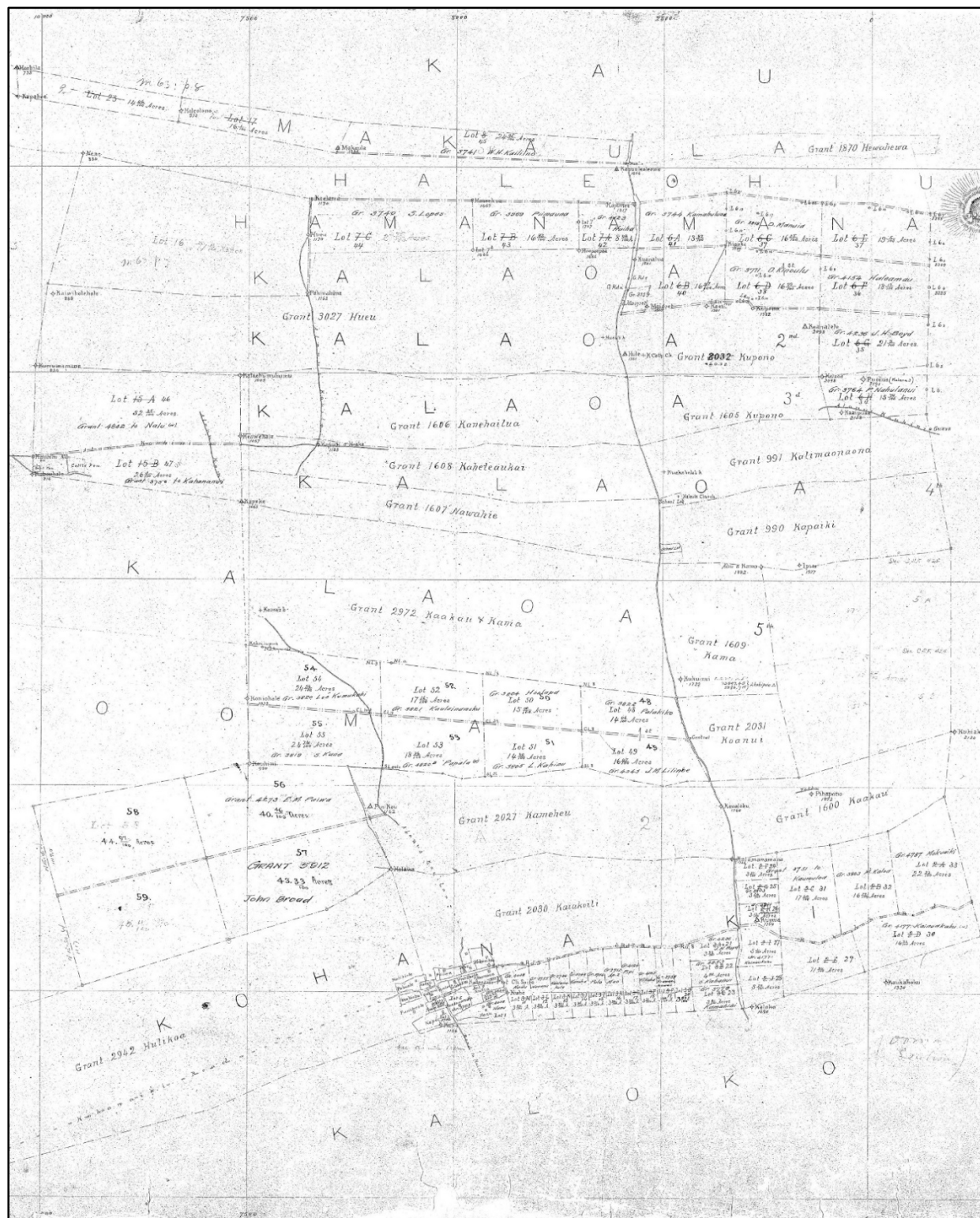


Figure 30. Portion of Hawaii'i Registered Map No. 1512 (Homestead Map No. 6; prepared by J.S. Emerson, January, 1889).

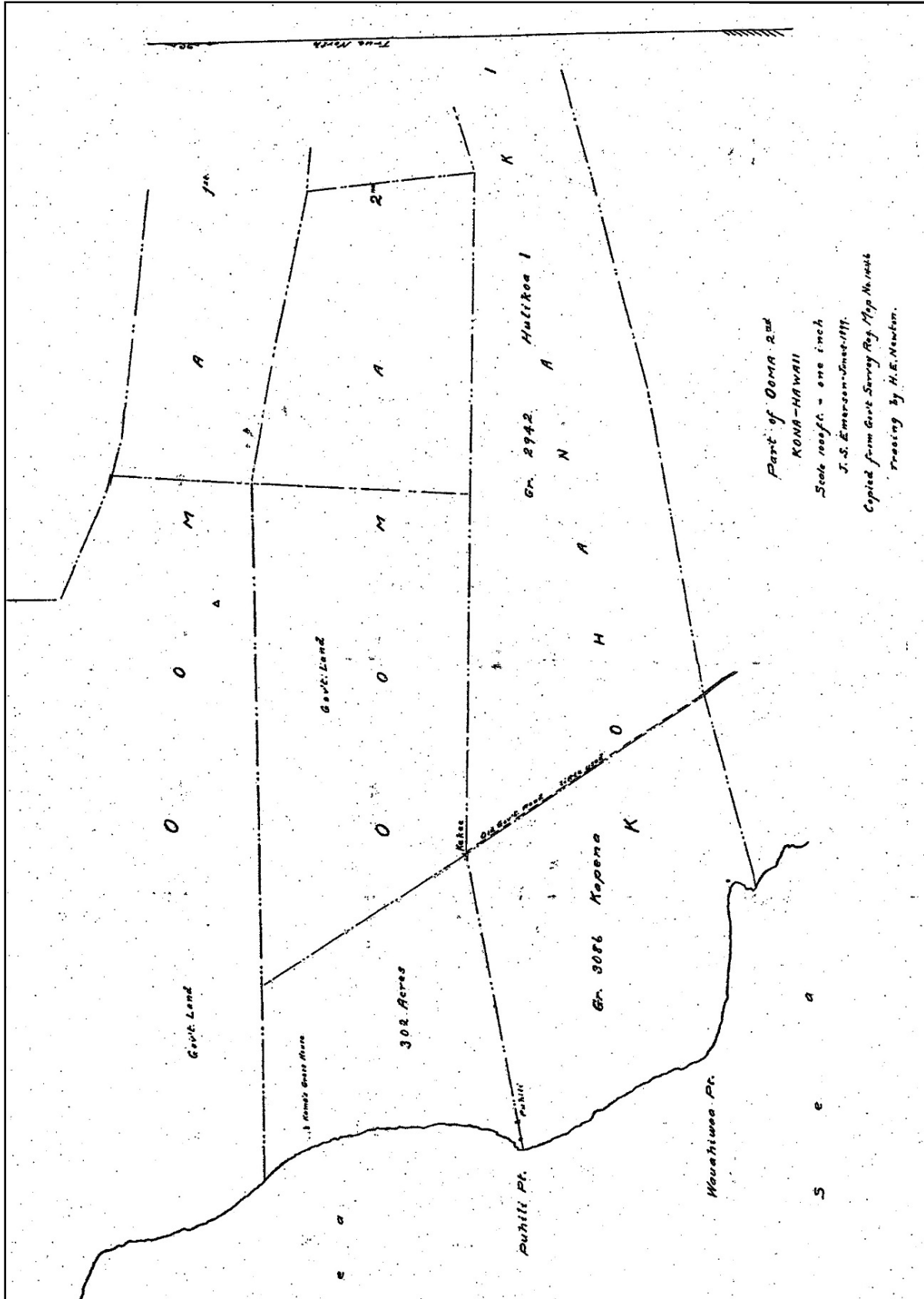


Figure 31. 1899 Grant Map No. 4536 showing *makai* portion of 'O'oma 2<sup>nd</sup> to John A. Maguire.

The notes of survey from Maguire's Grant No. 4536 describes the near shore parcel in 'O'oma 2<sup>nd</sup>, and it also references one of the prominent cultural-historical features on the boundary between 'O'oma 2<sup>nd</sup> and Kohanaiki, an "old 'Kahua hale' on white sand..." The "kahua hale" being an old house site. The notes of survey (see Figure 32) read:

Grant No. 4536

To J.A. Maguire

Purchase Price \$351.00

A Portion of Ooma 2<sup>nd</sup>, N. Kona, Hawaii Applied for by J.C. Lenhart, June 8, 1899.

Beginning at Puhili Gov't. trig. St. on the boundary between Kohanaiki and Ooma marked by a drill hole in stone 9 feet South of the South corner of an old "Kahua hale" on white sand at a point from which

Akahipuu Gov't. trig. Sta. is N 55° 27' 39" E true 32634.7 feet

Keahole Gov't. Trig. Sta. is N 21° 52' 36" W true 9310.5 ft.

Keahuolu Gov't Trig. Sta. is S 22° 24' 36" E true 20,141.8 ft., and running —

1. S. 79° 26' W. true 298.0 feet along Gr. 3086 Kapena, to a large [mark] on solid pahoehoe by the sea at Puhili Point, thence continuing the same line to the sea shore and along the sea shore to a point whose direct bearing and distance is:

2. N. 4° 54' W. true 4192.0 feet;

3. Due east true 2920.0 feet along Ooma 1<sup>st</sup>;

4. S. 31° 30' E. true 3920.0 feet along reservation for Gov't. Road 30 feet wide;

5. S 79° 45' W. true 4387.0 feet along Grant 3086 Kapena, to initial point and including an area of 302 acres.

### *The Kalaoa-'O'oma Homesteads*

In March and April of 1902, S. M. Kakanui and his assistant George F. Wright surveyed and subdivided 1,736 acres of land in the *makai* portions of 'O'oma 1<sup>st</sup> and Kalaoa 5<sup>th</sup> *ahupua'a* into fifteen homestead lots (Lots 1-15) known collectively as the Kalaoa-'O'oma Homesteads (Figure 32). They also surveyed the remaining portions of the boundary of 'O'oma 2<sup>nd</sup> (the area leased to J. A. Maguire), laid out a road from the homesteads to the *mauka* Government Road, laid out a realigned portion of the *makai* Government Road, and accurately surveyed two miles of coastline. The *Report of the Surveyor of the Territory of Hawai'i for the Year Ending June 30th, 1902* contains the following account of that survey:

...Mr. Kakanui's party travelled overland to Ooma, which is situated about five or six miles North of Kailua, North Kona. March 20<sup>th</sup>. until April 30<sup>th</sup>. was taken up with the subdividing of 1736 acres of land situated in Ooma I and Kalaoa V, into fifteen homesteads of from 100 to 130 acres each, also with the running out of the boundary of the remaining portion of Ooma II, below the Government Road, a tract of 1031 acres. A 50 foot road, a little over three and one half miles in length and from two to six per cent grade was run through the homesteads to connect with the Government Road. Another road, a little over one and one half miles through the lower section of these lands, was run, and over two miles of coast line was accurately located. (Wall 1902:5)

Following the initial survey of the homesteads the fifteen lots were further subdivided into twenty-five lots (all but Lots 3, 13, 14, and 15 were divided roughly in half and designated as Lots 1A and 1B, 2A and 2B, etc...). The current study area includes portions of Lots 4B, 6B, 7A and 7B. The road to the *mauka* Government Road laid out by Kakanui and Wright in 1902 splits the Kalaoa-'O'oma Homesteads in half, and appears to approximate the boundary between Kalaoa 5<sup>th</sup> (to the north) and O'oma 1<sup>st</sup> (to the south), while at the same time maintaining the appropriate grade. This road was never built, nor was the *makai* Government road ever realigned, and although there were several applicants for the Kalaoa-'O'oma Homesteads, by ca. 1910 only two of the *mauka*-most lots had been patented (Lots 13 and 15). Applicants for land in 'O'oma 1<sup>st</sup> and Kalaoa 5<sup>th</sup> at this time (from *makai* to *mauka*) included:

- H. Greyson – Right of Purchase Lease # 35; Lot 1-B (cancelled); Greyson's parcel was just *mauka* of the shore line exclusion in Kalaoa 5<sup>th</sup>.
- Kanealii – Right of Purchase Lease # 30; Lot 4-B (cancelled); Kanealii's parcel was just *mauka* of the shore line exclusion in 'O'oma 1<sup>st</sup>.
- C. W. Heremona – Right of Purchase Lease # 31; Lot 3-A (cancelled); Heremona's parcel was along the *makai* edge of the realigned Government Road in O'oma 1<sup>st</sup>.
- S. Kupuo – Right of Purchase Lease # 34; Lot 5 (cancelled);

## 2. Background

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Kupuoa's parcel was along the *mauka* edge of the realigned Government Road in Kalaoa 5<sup>th</sup>.

- Wm. Kouhi – Right of Purchase Lease # 32; Lot 9 (cancelled); Kouhi's parcel was *mauka* of Kupuoa's parcel in Kalaoa 5<sup>th</sup>.
- J.W. Wahinekapu – Right of Purchase Lease # 29; Lot 11 (cancelled); Kouhi's parcel was *mauka* edge of Kouhi's parcel in Kalaoa 5<sup>th</sup>.
- Wm. Keanaaina – Right of Purchase Lease #33; Lot 13 (Patented by Grant No. 5472); The *makai* end of Wm. Nuuanu Keanaaina's Grant 5472, is situated at approximately 325 feet above sea level in 'O'oma 1<sup>st</sup>.
- J. Maiola – Right of Purchase Lease # 28; Lot 14 (cancelled); J. Maiola's parcel was situated about 525 feet above sea level in 'O'oma 1<sup>st</sup>.
- K. Kama Jr. – Right of Purchase Lease #27; Lot 15 (Patented by Grant No. 5046); The *makai* end of K. Kama's Grant No. 5046, is situated at approximately 725 feet above sea level in 'O'oma 1<sup>st</sup>.

With the exception of Lots 13 and 15 (totaling 252.5 acres), the *makai* lands of the Kalaoa-'O'oma Homesteads (1,485.5 acres) were never patented and remained in the inventory of Government Lands. By the early twentieth century the coastal lands of Kekaha were only sparsely populated, as most of the residents, with the drastic changes in land tenure that occurred during the second half of the nineteenth century, had either moved away or chosen to reside permanently in the more agriculturally productive uplands (Rechtman and Maly 2003).

### *Twentieth Century Land Tenure in the Vicinity of the Current Study Area*

*Kama 'āina* who have participated in oral history interviews (see Rechtman and Maly 2003), describe on-going travel between the uplands and coastal lands of 'O'oma, Kalaoa and other *ahupua'a* in Kekaha throughout the twentieth century. The primary method of travel between 1900 and 1947, was by foot or on horse or donkey, and those who traveled the land, were generally residents of the 'O'oma, Kalaoa, Kohanaiki Homesteads and other lands in the immediate vicinity. The 1924 U.S.G.S. Keāhole Point quadrangle (Figure 33) shows a trail/road, labeled "Kauhini Road" descending from the uplands of Kalaoa 4<sup>th</sup>/5<sup>th</sup> through the study area to Wawaloli (beach/pond) at the shore of 'O'oma 1<sup>st</sup>. An upper portion of this road, labeled "Alanui Kauhini" is shown on an 1889 map prepared by J.S. Emerson (see Figure 31). Kauhini Road was likely named for a former resident of the Kalaoa/'O'oma area, who had applied for the Grant No. 1599 in the uplands of those *ahupua'a* in 1855, but who moved away before the grant was patented (see above, Summary of Land Tenure Described in Grant Records). On the 1924 U.S.G.S. map, Kauhini Road is shown crossing the realigned 1847 Government Road and continuing to the near shore *alaloa*. On a 1930 Treasury Department map of a portion of North Kona (Figure 34), the full extent of Kauhini Road, both the original (existing) and realigned (never built) 1847 Government Road, and the Kalaoa-'O'oma Homestead lots and road are shown. The near shore trail on both maps is depicted along the coast between the *ahupua'a* of Honokahau and Kalaoa 4<sup>th</sup>, where it terminates at the Keāhole Point lighthouse and light keeper's residence.

The lighthouse at Keāhole Point started as a wooden mast beacon constructed sometime after 1906, and in 1910 the Territory of Hawai'i set aside the land at Keāhole Point for use as a lighthouse reservation (Moore et al. 1999). According to Dean (1991), John Makahi serviced the light from 1909 to 1912 and Samuel Leleo was the light keeper until 1914 when a "new" concrete lighthouse was constructed. Between 1915 and 1919 the light was attended to by Haliaka Kahananui, a resident of Kalaoa *mauka* (Kahananui received Grant No. 3750, Homestead Lot 47, in Kalaoa 4<sup>th</sup> along the southern edge of Kauhini Road in 1895; see Figure 31). Kahananui "was responsible for refilling and lighting the gas light in the lighthouse on a weekly basis," following "a trail to the coast, walking or riding on horseback the 3 miles from her home" (Moore et al. 1999:17). Her service ended when the oil lamps were replaced with battery powered electric lights.

After World War II, retired military vehicles became available to the public, and after that time, the *Alanui Aupuni* and some of the smaller trails along the shore were modified for vehicular traffic. The primary routes of travel through the 1960s, descended from upland Kohanaiki and Kaloko, or came out of Kailua. In the 1950s, Hu'ehu'e Ranch bulldozed a Jeep road to the shore at Kaloko. The ranch, and some individuals who went to the shore either as a part of their ranch duties, or for leisure fishing along the coast, used this Jeep road. The 1959 U.S.G.S. Keāhole Point quadrangle (Figure 35) shows that Kauhini Road and the near shore *alaloa* were also converted to "Jeep Trails" by this time. The *Alanui Aupuni* was modified for vehicular travel from Kailua, to at least as far as Honokōhau and Kaloko *ahupua'a*, and remained in use through the 1970s.

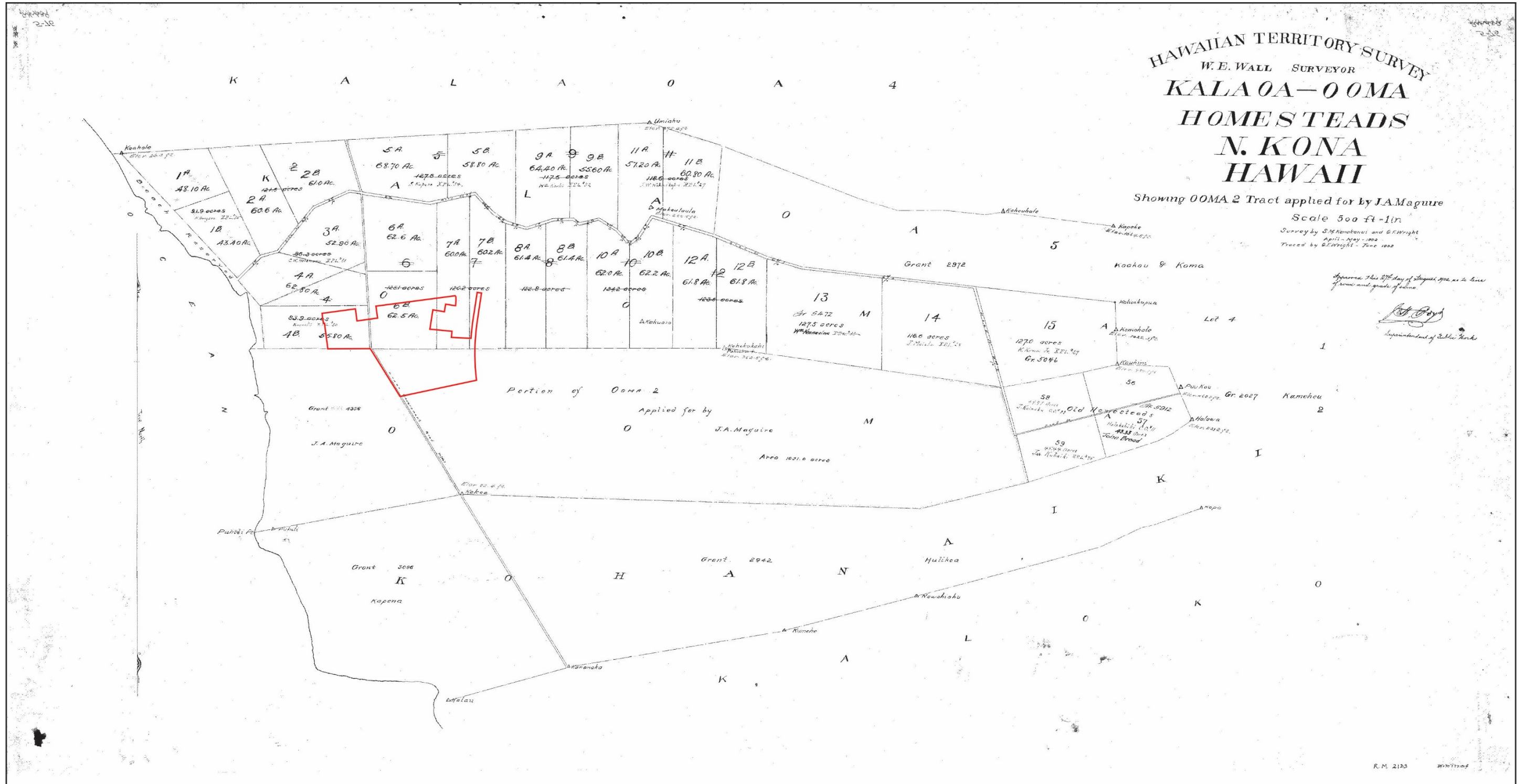


Figure 32. Hawai'i Registered Map No. 2123 (prepared by S. M. Kanakanui and G.F. Wright, May 1902) showing the current study area outlined in red.

2. Background

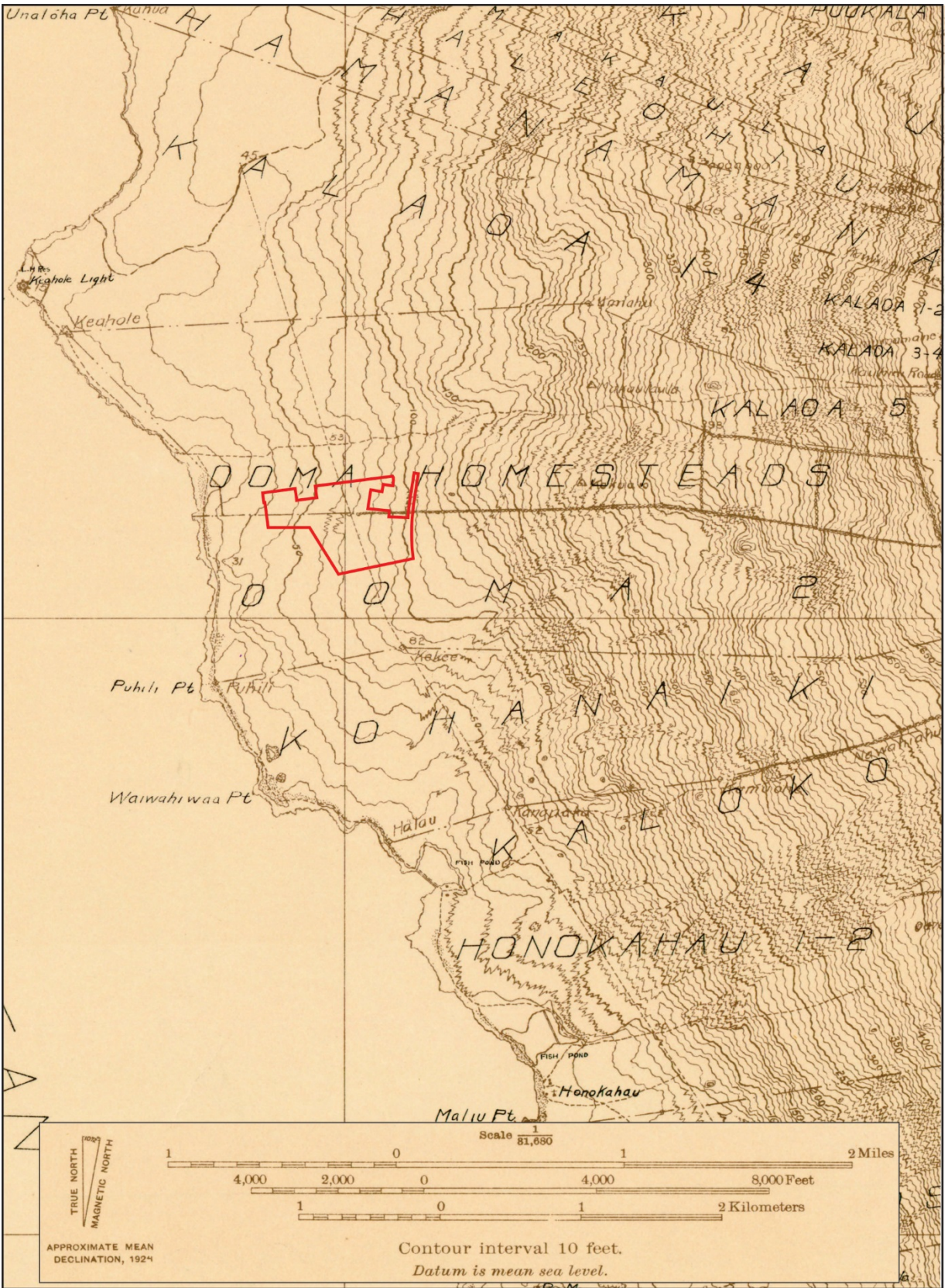


Figure 33. Portion of the 1924 U.S.G.S. Kāhōle Point quadrangle showing the current study area outlined in red.





Figure 34. Portion of North Kona Island of Hawai'i showing the ahupua'a between Kau and Kealahou (July 1930).

2. Background

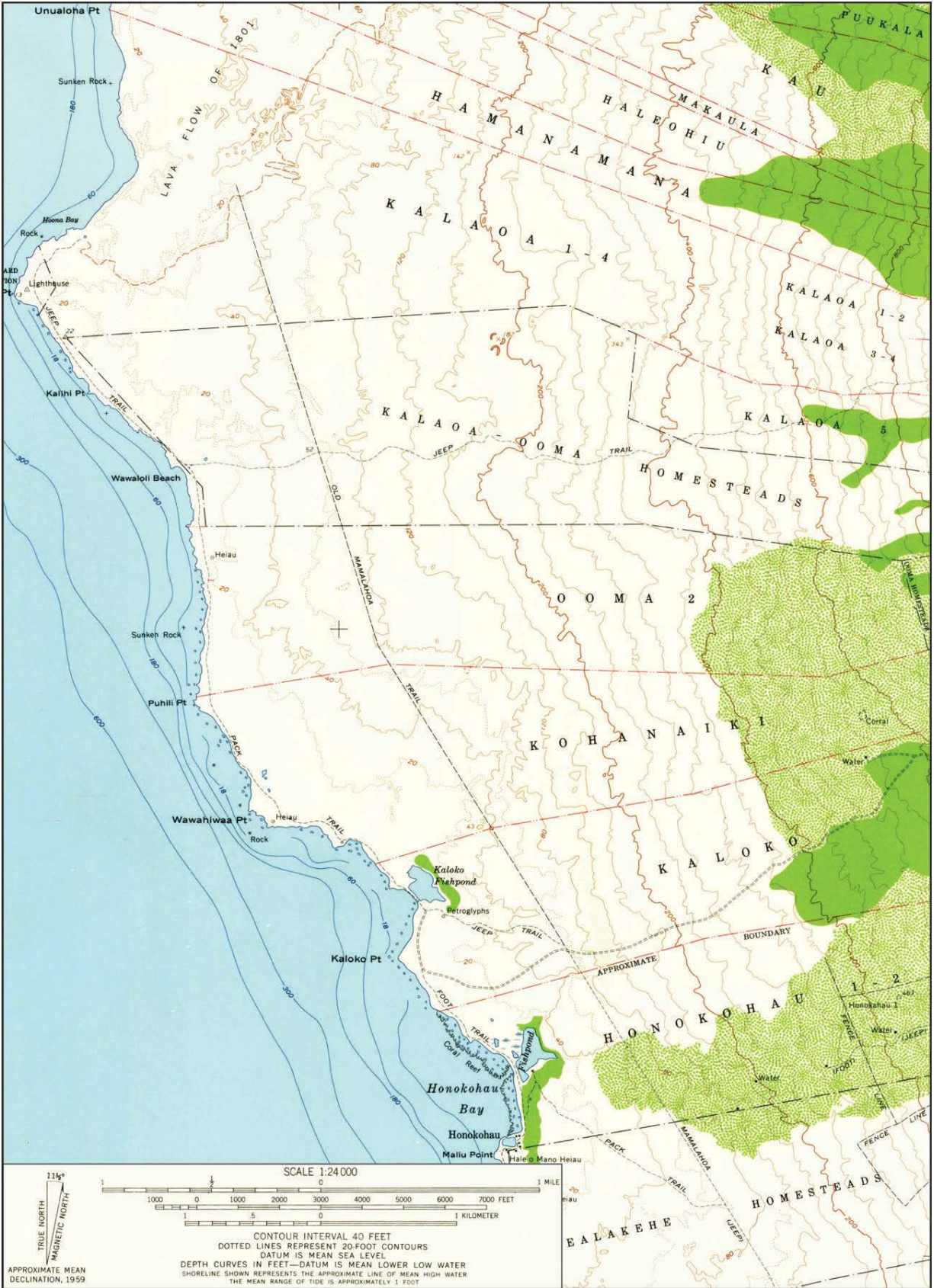


Figure 35. Portion of the 1959 U.S.G.S. Keāhole Point quadrangle.

The coastal lands of Kekaha in the vicinity of the current study area, many of which became State-owned lands after statehood in 1959, remained untouched by modern development through the 1960s (Figure 36). It was not until 1968 when construction began on a section of the new Queen Ka‘ahumanu Highway right-of-way between Kealakehe Ahupua‘a and the newly planned Keāhole Airport on State-owned lands in Awalua, ‘Ōhiki, Pu‘ukala, Kau, Maka‘ula, Haleohi, Hamanamana, and Kalaoa 1<sup>st</sup>-4<sup>th</sup> ahupua‘a that the landscape of Kekaha began to drastically change. Work on the Keāhole Airport facility began on May 27, 1969, when the first 1,000 pound ceremonial charges of dynamite signaled the start of construction, and was completed thirteen months later (Figure 37), when the airport was dedicated on July 1, 1970 (<http://hawaii.gov/hawaiiaviation/hawaii-airfields-airports/hawaii/kona-international-airport-at-keahole/>). The Keāhole Point airport facility has substantially expanded since its 1970 dedication. The Queen Ka‘ahumanu Highway, between the airport and Kawaihae, was completed by ca. 1973, once again opening up travel across the *kula kai* (shoreward plains) of Kekaha to the general public.

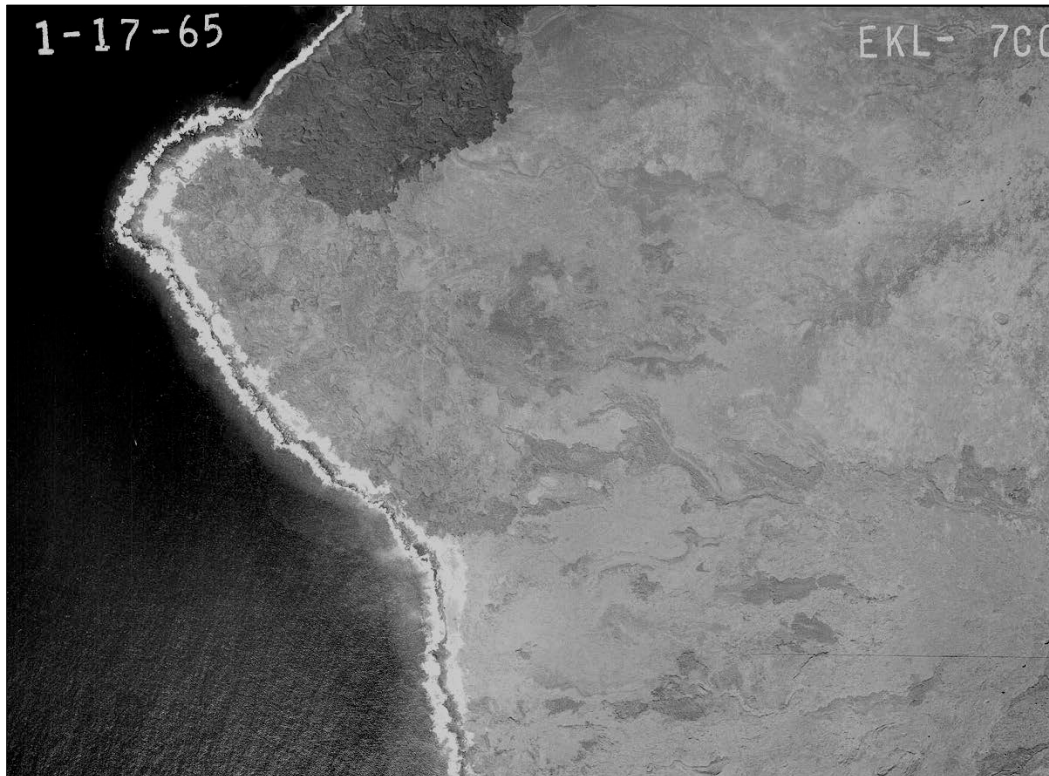


Figure 36. January 17, 1965 aerial photograph showing the Kekaha lands in the vicinity of the current study area.

The construction of the Queen Ka‘ahumanu Highway to Keāhole Airport opened up access to the Kekaha lands in the vicinity of the current study area, and created opportunities for further development of these lands. Recognizing the area’s potential for ocean related research, thermal energy conversion demonstration, and aquaculture, the State of Hawai‘i, in 1974, established the Natural Energy Laboratory of Hawai‘i (NELH) at Keāhole Point (Group 70 2011). The initial NELH site (Figure 38) consisted of an access road easement from the highway and 322 acres of coastal land adjacent to (south and west of) the airport. The access road (Makako Bay Drive) was in place by 1977 (Figure 39), and construction of the initial offices, research facilities, and an Ocean Thermal Energy Conversion (OTEC) plant at NELH had begun by ca. 1980 (Figure 40). After the construction of the NELH access road, Kauhini Road and the coastal Jeep Road were no longer regularly used to access the shoreline in the vicinity of the current study area. In 1986, in an effort to provide sites for the commercialization of research activities initiated at NELH, the State added an additional 548 acres of land (including the current study area) for the creation of the Hawai‘i and Ocean Science and Technology (HOST) Park. These two properties, although their missions were complementary, were administered separately until 1990, when the State Legislature (Chapter 227D, HRS) consolidated management of NELH and HOST Park’s 870 acres of lands and facilities (Figure 41) under a single state agency, the Natural Energy Laboratory of Hawai‘i Authority (NELHA) (Group 70 2011). Today, with several deep water pipelines pumping seawater at a rate of more than 43,000 gallons per minute to the facility, there are more than forty tenants engaged in aquaculture, water bottling, energy projects, research, and education on the NELHA lands.

2. Background



Figure 37. Oblique aerial view of the completed Keāhole Airport facility taken on October 6, 1971.

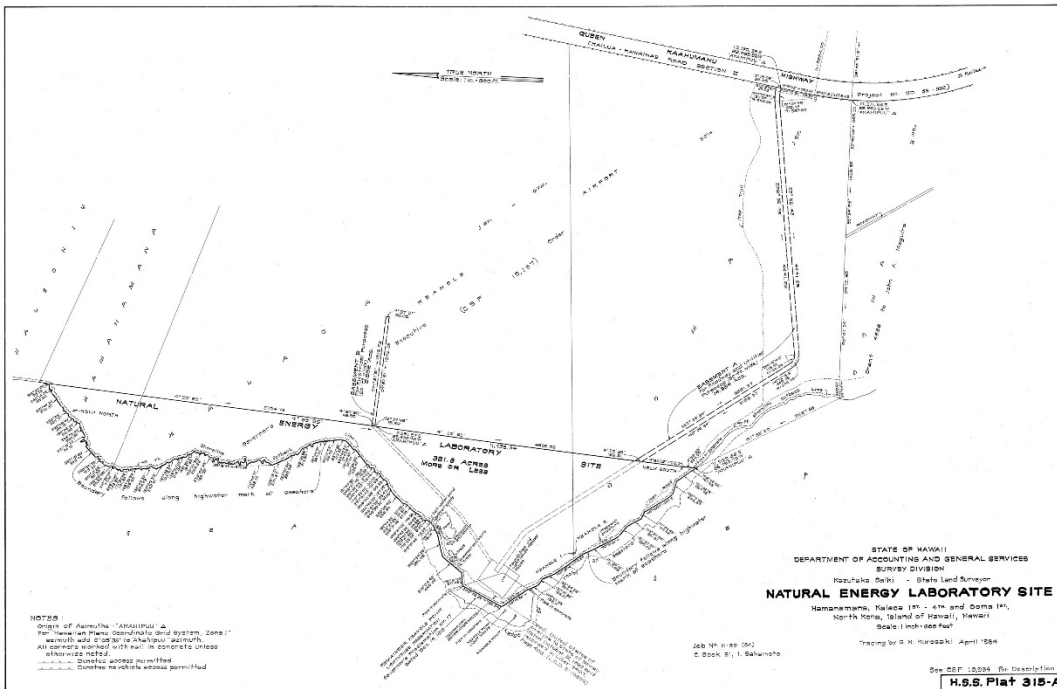


Figure 38. Map of the initial 322-acre NELH site (traced by G.H. Kurosaki on April 1984).



Figure 39. March 27, 1977 aerial photograph showing the completed NELH access road.



Figure 40. Oblique aerial view of the initial NELH facilities under construction in 1980.

2. Background

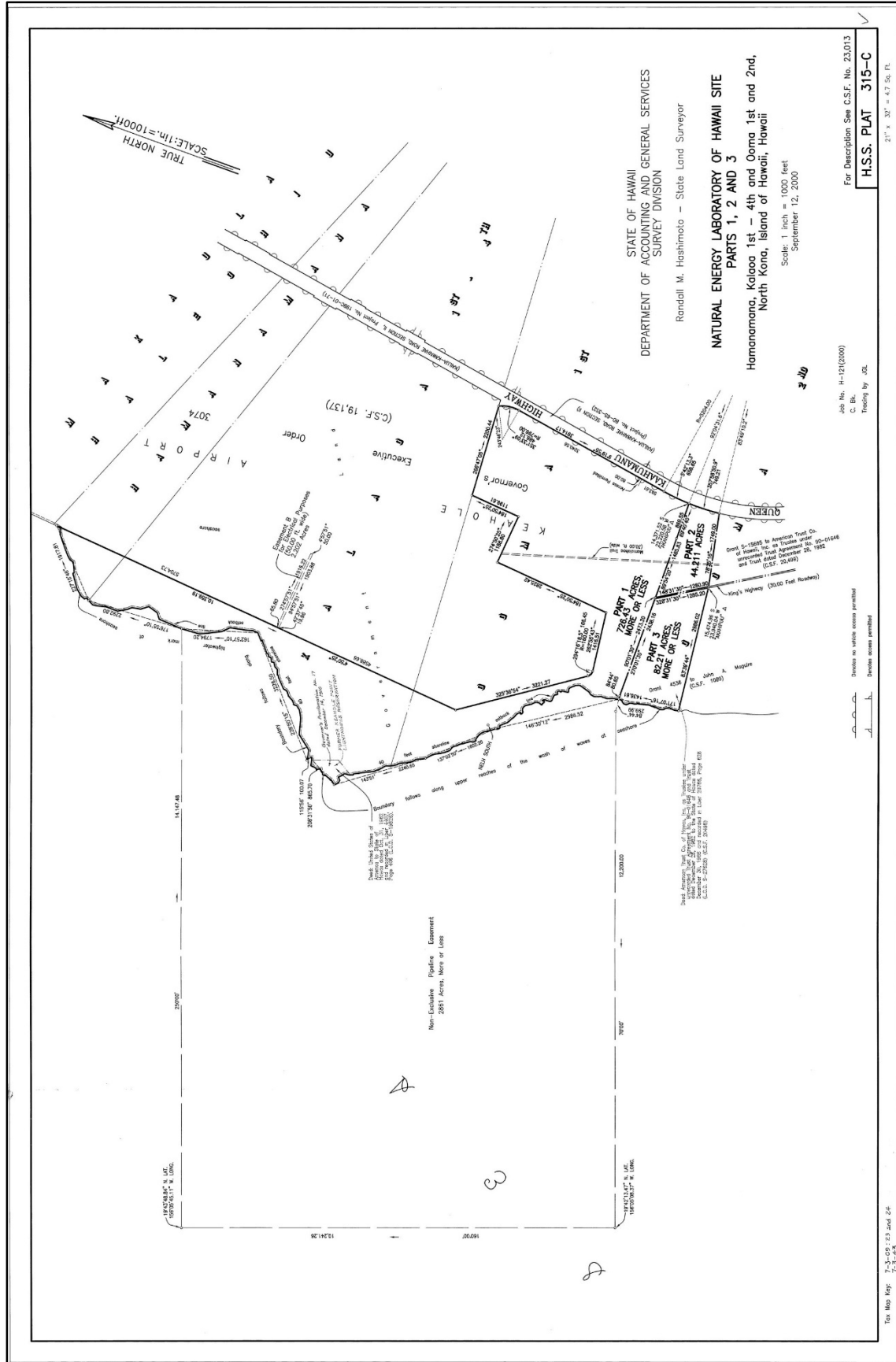


Figure 41. Map of the expanded NELH and HOST Park site (prepared on September 12, 2000).

## PREVIOUS ARCHAEOLOGICAL STUDIES

The NELHA HOST Park lands encompassed by the current study area were previously the subject of an archaeological reconnaissance survey conducted by Barrera (1985a). As a result of that survey, Barrera identified forty-five sites, eight of which were situated within the current study area (SIHP Sites 2, 10151, 10152, 10153, 10164, 10165, 10173, and 10178). Barrera (1989) later conducted archaeological data recovery at selected sites within the NELHA administered lands, including at two of the sites contained within the current study area (SIHP Sites 10165, 10173). More recent studies conducted within and adjacent to the NELHA HOST Park, in areas that were previously surveyed by Barrera, have shown that while no additional sites are present in some areas (Rechtman 2007, 2010a, 2010b, 2010c, 2012a, 2012b), they are present in others (Rechtman and Clark 2012). Barrera (1985a) did not include a *mauka/makai* wall (SIHP Site 6432) previously documented by Davis (1977) located within the area of his reconnaissance survey, and Rechtman and Clark (2012) recently recorded three sites, in the area north of Makako Bay Drive (SIHP Sites 29272, 29273, and 29274) that were not identified by Barrera (1985a).

To assist in generating a set of expectations regarding the nature of additional historic properties that may be encountered within the current study area, the following archaeological background summarizes the findings of not only the studies discussed above, but all relevant studies previously conducted in the coastal portions of ‘O‘oma 1<sup>st</sup> and 2<sup>nd</sup> and Kalaoa 5<sup>th</sup> *ahupua‘a* (Table 2), from Reinecke’s (n.d.) 1929-1930 survey of the coastal sites of West Hawai‘i to Monahan et al.’s (2012) inventory survey for the proposed widening Queen Ka‘ahumanu Highway. The locations of the previously conducted studies, relative to the current study area, are shown in Figure 42.

**Table 2. Archaeological studies conducted in the coastal portions of ‘O‘oma and Kalaoa *ahupua‘a*.**

<i>Year</i>	<i>Author</i>	<i>Area</i>	<i>Type of Study</i>
n.d.	Reinecke	Various	Survey
1968	Ching and Rosendahl	Honokohau to Pu‘ukala	Survey
1969	Ching et al.	‘O‘oma 2 <sup>nd</sup> to Pu‘ukala	Survey and Testing
1975	Rosendahl and Kirch	‘O‘oma/Kalaoa	Reconnaissance Survey
1975	Cordy	Various	Survey and Testing
1976	Rosendahl	‘O‘oma/Kalaoa	Reconnaissance Survey
1977	Davis	‘O‘oma/Kalaoa	Survey
1978	Rogers-Jourdane	‘O‘oma/Kalaoa	Reconnaissance Survey
1979	Barrera	‘O‘oma/Kalaoa	Survey and Testing
1984	Clark	‘O‘oma 1 <sup>st</sup> to Hamanamana	Reconnaissance Survey
1985a	Barrera	‘O‘oma/Kalaoa	Reconnaissance Survey
1985b	Barrera	‘O‘oma 2 <sup>nd</sup>	Reconnaissance Survey
1985	Cordy	‘O‘oma/Kalaoa	Archaeological Review
1986	Cordy	‘O‘oma 2 <sup>nd</sup>	Field Check
1987	Donham	‘O‘oma 2 <sup>nd</sup>	Survey and Testing
1989	Barrera	‘O‘oma/Kalaoa	Data Recovery
1992	Barrera	‘O‘oma 2 <sup>nd</sup>	Data Recovery
1999	Moore et al.	Kalaoa 5 <sup>th</sup>	Inventory Survey
2000	Corbin	‘O‘oma 2 <sup>nd</sup>	Data Recovery
2001	Roberts and Roberts	Kalaoa 5 <sup>th</sup>	Data Recovery
2001	Roberts	Kalaoa 5 <sup>th</sup>	Preservation Plan
2004	Rechtman and Clark	‘O‘oma/Kalaoa	Preservation Plan
2006	Rechtman and Clark	‘O‘oma 2 <sup>nd</sup>	Preservation Plan
2007	Rechtman	‘O‘oma 2 <sup>nd</sup>	Update Inventory Survey
2010a	Rechtman	‘O‘oma 1 <sup>st</sup>	Field Inspection
2010b	Rechtman	‘O‘oma 1 <sup>st</sup>	Field Inspection
2010c	Rechtman	Kalaoa 5 <sup>th</sup>	Field Inspection
2012a	Rechtman	‘O‘oma 1 <sup>st</sup>	Field Inspection
2012b	Rechtman	‘O‘oma 1 <sup>st</sup>	Field Inspection
2012	Rechtman and Clark	‘O‘oma/Kalaoa	Update Inventory Survey
2012	Monahan et al.	Various	Inventory Survey

2. Background

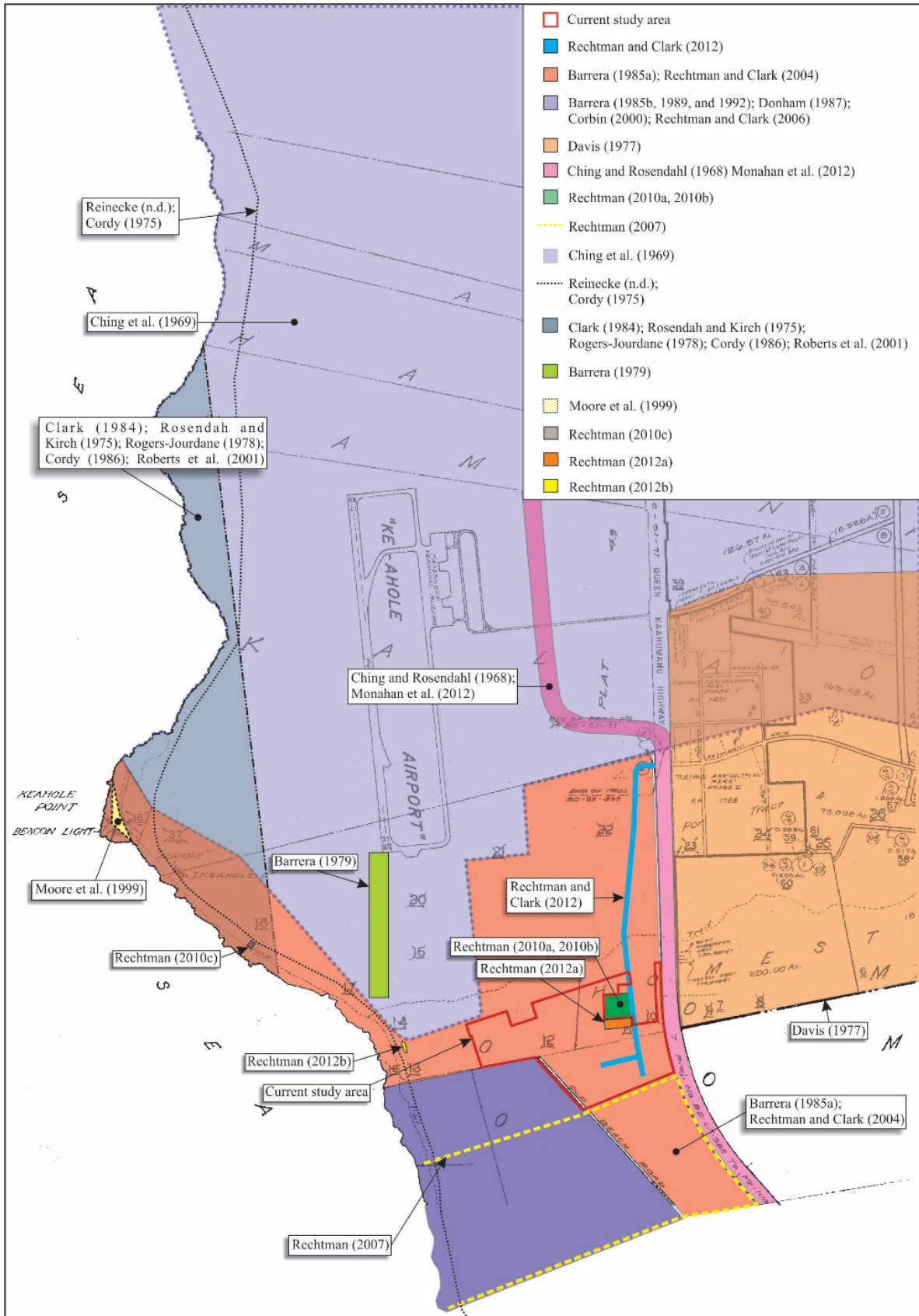


Figure 42. Previous archaeological studies conducted in the vicinity of the current study area.



In 1929-1930, the Bishop Museum contracted John Reinecke to conduct a survey of Hawaiian sites in West Hawai'i; this was the first attempt at a survey of sites of varying function, ranging from ceremonial to residency and resource collection (Reinecke n.d.). A portion of Reinecke's survey fieldwork, extended north from Kailua as far as Kalāhuipua'a, and included the coastal portions of the 'O'oma *ahupua'a*. During his study, Reinecke traveled along the shore, documenting near-shore sites. Where he could, he spoke with the few native residents he encountered. Among his general descriptions of the Kekaha region, Reinecke observed:

This coast formerly was the seat of a large population. Only a few years ago Keawaiki, now the permanent residence of one couple, was inhabited by about thirty-five Hawaiians. Kawaihae and Puako were the seat of several thousands, and smaller places numbered their inhabitants by the hundreds. Now there are perhaps fifty permanent inhabitants between Kailua and Kawaihae—certainly not over seventy-five.

When the economy of Hawaii was based on fishing this was a fairly desirable coast; the fishing is good; there is a fairly abundant water supply of brackish water, some of it nearly fresh and very pleasant to the taste; and while there was no opportunity for agriculture on the beach, the more energetic Hawaiians could do some cultivation at a considerable distance *mauka*.

The scarcity of remains is therefore disappointing. This I attribute to four reasons: (1) those simply overlooked, especially those a short distance *mauka*, must have been numerous; (2) a number must have been destroyed, as everywhere, by man and by cattle grazing; (3) the coast is for the most part low and storm-swept, so that the most desirable building locations, on the coral beaches, have been repeatedly swept over and covered with loose coral and lava fragments, which have obscured hundreds of platforms and no doubt destroyed hundreds more; (4) many of the dwellings must have been built directly on the sand, as are those of the family at Kaupulehu, and when the posts have been pulled up, leave no trace after a very few years.

The remains on this strip of coast have some special characteristics differentiating them from the rest in Kona. First, there is an unusual number of petroglyphs and papamu, especially about Kailua and at Kapalaoa. Second, probably because of the strong winds, there are many walled sites, both of houses and especially of temporary shelters... (Reinecke n.d.:1-2)

The following site descriptions are quoted from Reinecke's manuscript of fieldwork conducted between Pūhili Point on the Kohanaiki-'O'oma 2nd boundary, and Keāhole Point near the Kalaoa 5th boundary. In the site descriptions below, Reinecke references the occurrence of at least six house sites; seven enclosures and pens (one of which is an "old cattle pen"); eleven terraces and platforms (one of which he felt was a "heiau"); two caves; two ahu; a stepping stone trail; three waterholes and a well; and eleven rock shelters. Apparently, no one was residing in the area at the time of his field survey. Reinecke's description of the features, albeit limited, contains valuable information about site condition and provides a seventy plus year perspective on natural degradation along this coastline (c.f., Donham 1987:7). Reinecke's site descriptions, from south to north, across 'O'oma 2<sup>nd</sup>, 'O'oma 1<sup>st</sup>, and Kalaoa 5<sup>th</sup> *ahupua'a* (Sites 66 to 85), are as follows:

Site 66. Very doubtful dwelling site. Then a row of sand-covered platforms at the border of the sand and the beach lava, enough for 6-10 homes. Remains of an old, large pen.

Site 67. Dry well on the crest of the beach.

Site 68. Water hole, two small platforms, four or more shelters, pens with very small platform.

Site 69. Large cattle pen. Doubtful old, rough platform at its north end. Remains of two old platforms by an ahu to the north.

Site 70. Walled platform, S.E. corner terraced, badly broken down. Platform *mauka*. The walls of this and of Site 73 are built of thin pieces of pahoehoe surface lava, rather unusual in appearance.

Site 71. A knob partly walled on its slopes, with house site. Adjoining it on the south is a rough platform with three smooth boulders – heiau and kuula? Back of this a house platform and a platform about a fine shelter cave. Another platform and wall are about a slight natural depression filled with bones, including those of a whale.

Site 72. Ruins of a pen.

Site 73. Apparently a modern dwelling site of unusual construction; two terraces of pebbles, the upper 29x25x2 in front and 4-5' high elsewhere; the lower 19x10x25x3, with a three-sided pen at N.E.; surrounded by a carefully laid wall.

## 2. Background

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- Site 74. A shelter about a shallow cave; remains of another shelter; an ahu.
- Site 75. Trace of site; house platform; enclosure on shore. There are many faint traces of sites on this strip of coast. Toward the north is an unmistakable small site.
- Site 76. Modern shelter pen; house or shelter site; shelter mauka by kiawe tree.
- Site 77. Platform; tiny pen; sites of some kind marked by stones in lines on the pahoehoe flow.
- Site 78. Slightly brackish springs and pools; house site, shelters, stepping stone path leading to the walled house site...
- Site 79. An old platform; remains of pen; second old platform.
- Site 80. An old platform; traces of several ruins on the beach.
- Site 81. Two pens, one with modern house platform; several ruins along the coast; a heap of stones on the pahoehoe – probable dwelling site.
- Site 82. Cairn on knob; dwelling site adjacent to south.
- Site 83. A string of ruined sites in the coral sand. Two dwelling sites on the pahoehoe stand out. There even seems to be a papamu, (?) 11x10 – a sign of leisured settlement. More traces of ruins follow.
- Site 84. By the Keahole boundary ahu: small platform and enclosure, with walled cave behind.
- Site 85. A broken series of ruined platforms, some apparently large, running along the coast.
- [Reinecke n.d.:15-16]

No further archaeological study of this area was undertaken until the late 1968 when, prior to the construction of Queen Ka'ahumanu Highway and the Keāhole Airport, Francis Ching, Jr. of the DLNR- Division of State Parks and Paul H. Rosendahl, a graduate student at the University of Hawai'i conducted an archaeological reconnaissance survey of Section I of the Kailua-Kawaihae Road Corridor and the proposed Keāhole Point Airport (Ching and Rosendahl 1968). This survey, which covered the initial road corridor extending from Honokāhau to the airport and the airport area itself, was accomplished by helicopter with 4-wheel drive vehicles and helicopter landings used for ground checks. In the vicinity of the current study area three lava tube systems – one in 'O'oma 2<sup>nd</sup> *mauka* of the highway, one in Kalaoa 5<sup>th</sup> *mauka* of the highway, and one (with four openings) in Kalaoa 4<sup>th</sup> *makai* of the highway – were identified. The lava tubes were assigned temporary identification numbers, plotted on a large scale map, briefly described, and photographed. An interesting array of artifacts were recovered from the lava tubes and photographed, including fishhooks, adzes, abraders, a coral saw, and stone sinkers. Ching and Rosendahl recommended that all of the sites be salvaged archaeologically prior to construction of the airport and roadway.

Additional archaeological survey at the proposed Keāhole Point Airport and salvage operations along the route of the proposed airport access road were conducted by Francis Ching, Deborah Cluff, and Thomas Riley of the DLNR- Division of State Parks between December 26, 1968 and January 4, 1969 (Ching et al. 1969). The survey area was expanded, and initial survey was once again by helicopter with follow-up ground survey conducted south of the 1801 lava flow, within the highway corridor, and along trails. Apparently more than 500 archaeological features were recorded (Clark 1984), and some of the sites along the road corridor were excavated (Cordy 1985), but unfortunately the preliminary report submitted for the study (on the shelves at the UH Hilo Mookini Library, Hawaiian Collection), which does include a site location map, lacks any specific site information and is missing the chapter on the road corridor work. None of the recorded sites are situated within the current study area. An appendix to the Ching et al. (1969) report prepared by Jeanie Peterson (1969) does briefly discuss the trails identified during the study, but also does not include any specific trail descriptions.

In 1971-72, DLNR-Division of State Parks began an inventory of known archaeological sites on the Island of Hawai'i and visited the sites Reinecke (n.d.) recorded along the 'O'oma-Kalaoa coastline. These sites were assigned State Inventory of Historic Places (SIHP) site numbers, site forms were completed, and sketch maps were made. Reinecke's sites were assigned SIHP Sites 1911–1920.

In 1975, Paul H. Rosendahl and Patrick V. Kirch of the B. P. Bishop Museum conducted an archaeological reconnaissance survey of the Natural Energy Laboratory Hawai'i (NELH) facility at Keāhole Point (Rosendahl and Kirch 1975). This brief two day survey included a corridor that extended from Queen Ka'ahumanu Highway to the coast along the 'O'oma 1<sup>st</sup>/2<sup>nd</sup> boundary and then along the shore to Keāhole Point. Fourteen sites and site complexes along the coast were identified and briefly described in the survey report.

Later, in November/December of 1975, Ross Cordy carried out an intensive survey and subsurface testing program along the coast of 'O'oma and eight other *ahupua'a* of Kekaha, and synthesized the data he generated as part of his doctoral dissertation (Cordy 1981). The survey covered the immediate shoreline area extending to roughly a quarter or a half-mile inland in some areas, and located and mapped all sites fitting Cordy's criteria (size, form, etc.) for permanent habitation. Test units were excavated at twenty sites; volcanic glass and surface artifacts were collected from others. The methods and interpretive analyses used by Cordy are reported on in Cordy (1978, 1981) and Cordy and Kaschko (1980).

In May of 1976 Rosendahl returned to NELH and conducted a one day reconnaissance survey of an alternative road corridor between Queen Ka'ahumanu Highway and the coast, and an area along the periphery of the airport property. Rosendahl (1976) noted several cairns and apparent foot trails, but did not describe them or plot them on a map.

In 1977, Bertell D. Davis of the Archaeological Research Center Hawai'i, Inc. (ARCH) surveyed the Keāhole Agricultural Park located in Kalaoa 1<sup>st</sup>-4<sup>th</sup>, Kalaoa 5<sup>th</sup> and 'O'oma 1<sup>st</sup> *ahupua'a* along the *mauka* edge of Queen Ka'ahumanu Highway, directly opposite the current study area (see Figure 42). As a result of the survey, Davis (1977) recorded twenty-two archaeological sites including surface complexes of habitation features, lava tubes used for habitation and refuge, a wall, several cairns or *ahu*, and two trails. Four large lava tube habitation sites, two smaller shelter caves, and six of the surface sites were the subject of an archaeological data recovery project conducted by ARCH in 1980 (Hammatt and Folk 1980). The wall (SIHP Site 6432), located along the 'O'oma 1<sup>st</sup>/2<sup>nd</sup> boundary, extends into the current study area.

In May of 1978 Elaine Rogers-Jourdane of the B. P. Bishop Museum conducted an archaeological reconnaissance survey of additional areas within the Natural Energy Laboratory Hawai'i at Keāhole Point, including the access road corridor previously surveyed by Rosendahl and Kirch (1975) and the development footprint for the initial office and research facilities. During the Rogers-Jourdane (1978) study eleven site areas were located, briefly described, and photographed. Feature types identified with the survey area included cairns, walls, cave shelters, a modified depression, enclosures, and platforms. All of the site areas noted by Rogers-Jourdane (1978) were situated in the coastal portion of the NELH property. The reconnaissance survey was followed by a more intensive survey and salvage excavations (Rosendahl 1980) at eight of the eleven sites identified by Rogers-Jourdane (1978). The excavations yielded data, including traditional Hawaiian artifacts such as files, abraders, fishhooks, and octopus lures, and later Historic artifacts, that attested to the extent of marine resource exploitation in the area.

In January of 1979, William Barrera of Chiniago Inc. surveyed two emergency service road corridors extending off either end of the of the Keāhole Airport runway. The southern corridor extended across Kalaoa 5<sup>th</sup> into 'O'oma 1<sup>st</sup> Ahupua'a, and contained two sites – a cave shelter and a feature complex composed of two enclosures, a C-shape shelter, four walls, and two mounds. A test unit was excavated within an L-shaped enclosure that was part of the feature complex recorded in 'O'oma 1<sup>st</sup> Ahupua'a.

In 1984, Stephan D. Clark of the B. P. Bishop Museum conducted an archaeological reconnaissance of the entire *makai* portion of the NELH facility between Hamanamana and 'O'oma 1<sup>st</sup> Ahupua'a. Clark (1984) identified twenty-four sites with more than sixty individual features including eight platforms, fourteen enclosures, two Historic house sites, four trails five cairns, two *papamū*, nine rock-filled crevices, a petroglyph area, two C-shaped shelters, four walls, and numerous rock alignments. The previously identified sites were correlated with their earlier Reinecke (n.d.), Rosendahl and Kirch (1975), and Cordy (1978) Bishop Museum site numbers; newly identified sites were assigned new Bishop Museum site numbers. Clark notes that in the vicinity of NELH “few features are found further inland on the barren pahoehoe lava flows”, and that, “those present include cave shelters, ahu, enclosures, and trails” (1984:11).

In 1984, William Barrera of Chiniago Inc. began a series of archaeological studies, survey and data recovery that included most of the previously surveyed NELH lands, and all of the newly created HOST Park lands (Barrera 1985a, 1985b, 1989). The first study, an archaeological reconnaissance survey of a 450-acre portion of the NELHA and HOST Park lands located between Queen Ka'ahumanu Highway and the coast in Kalaoa 5<sup>th</sup>, 'O'oma 1<sup>st</sup> and 2<sup>nd</sup> *ahupua'a* (Barrera 1985a), included the northern portion of the area previously surveyed by Clark (1984), and the current study area in its entirety (see Figure 42). During this survey Barrera conducted pedestrian sweeps across the area at intervals of 100-feet looking for evidence of past use. He identified 45 sites including the Māmalahoa Trail (SIHP Site 2) and four other sites previously assigned the SIHP designations (Sites 1917, 1919, 5603, and 5604), and 40 sites not previously assigned SIHP designations (Sites 10151-10190).

Specifically the sites recorded by Barrera (1985a) included the Māmalahoa Trail, fourteen habitation shelters or shelter complexes, two midden scatters, twelve isolated stone mounds, four mound complexes, a habitation cave, three *pāhoehoe* excavations, six C-shaped enclosures, and two “petroglyphs” interpreted as Historic boundary markers (Site

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10178). Twenty three of the recorded sites were situated at elevations proximate to the current study area (greater than 40-feet above sea level; Table 3), and ten of those sites, if still extant, have the potential to be situated within (or adjacent to) the current study area (SIHP Sites 2, 10151, 10152, 10153, 10154, 10164, 10165, 10172, 10173, and 10178; Appendix A). None of the sites were recorded in detail, but all were briefly described, plotted on a scaled map of the project area (Figure 43), and photographed; some artifacts were also surface collected by Barrera (Cordy 1985). Barrera summarizes his findings as follows:

The sites located during this reconnaissance indicate a light, probably temporary utilization of the inland area and primary concentration of settlement at the coast. Such inland features as were found are small, scattered mounds and crude shelters with little or no midden deposits. The coastal sites, on the whole, can be characterized as large, well built structures of a more permanent nature, as evidenced by the presence of considerably greater amounts of midden materials and artifacts. (1985a:48)

**Table 3. Sites identified by Barrera (1985a) at elevations proximate to the current study area (at elevations greater than 40 feet above sea level).**

<i>SIHP #</i>	<i>Site Type</i>	<i>Ahupua'a</i>	<i>Approx. Elevation (ft. above sea level)</i>
2*	Māmalahoa Trail	'O'oma 1, 2, Kalaoa 5	50-90
10151*	Midden scatter	'O'oma 1	70
10152*	Stone mound	'O'oma 1	70
10153*	Stone mound	'O'oma 1	70
10154*	Habitation shelter	'O'oma 2	110
10155	Habitation cave	'O'oma 2	85
10156	Stone mound	'O'oma 1	60
10157	Stone mound	'O'oma 1	60
10158	<i>Pāhoehoe</i> excavation	'O'oma 1	90
10159	Four C-shaped shelters	'O'oma 1	60
10160	Stone mound	Kalaoa 5	95
10161	Stone mound/C-shaped shelter complex	Kalaoa 5	115
10162	Stone mound	Kalaoa 5	80
10163	C-shaped shelter	'O'oma 2	70
10164*	<i>Pāhoehoe</i> excavation	'O'oma 1	60
10165*	C-shaped shelter	'O'oma 1	55
10172*	C-shaped shelter	'O'oma 1	50
10173*	C-shaped shelter	'O'oma 1	45
10178*	Historic petroglyphs	'O'oma 2	55
10187	Four stone mounds	Kalaoa 5	60
10188	Two stone mounds	Kalaoa 5	55
10189	Stone mound	'O'oma 1	50
10190	C-shaped shelter	'O'oma 1	55

\*Site potentially located within or adjacent to the current study area.

Following the completion of this initial study, Barrera (1985b) conducted an archaeological reconnaissance of a 314-acre parcel occupying the entire seaward portion O'oma 2<sup>nd</sup> Ahupua'a between the coastal jeep road and the previous survey area for a private ('O'oma II) resort development (the northern portion of this area would eventually become part of the NELHA administered lands). As a result of the reconnaissance survey Barrera (1985b) located and briefly described some of the sites previously documented by Cordy (1975), and recorded an additional twenty-nine new sites containing a total of fifty-six features. A later DLNR-SHPD field check of the area (Cordy 1986; see below) concluded that while the inland portion of the Barrera (1985b) project area had been adequately surveyed, the coastal portion had not. Cordy (1986:5) found the survey to be deficient because it did not include the coastal portion of the parcel between the Jeep road and the ocean, and it failed to record numerous small coastal sites that were noted, but not reported on. Cordy (1986) actually identified six new sites during the field check. The Barrera (1985b) survey area would later be re-examined by Donham (1987).

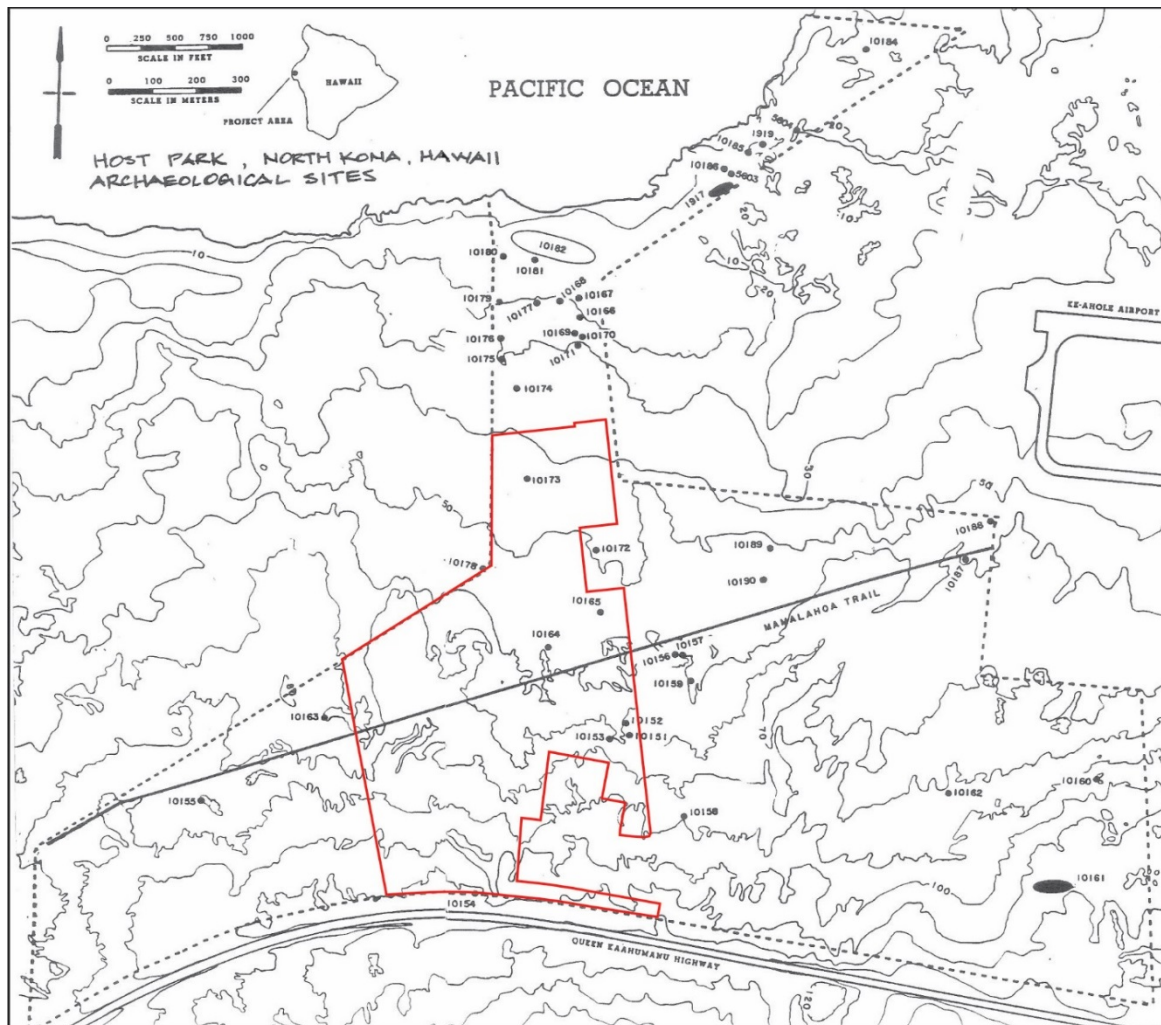


Figure 43. Barrera's (1985a) site location map showing the current study area (outlined in red).

In 1985 Ross Cordy, while at the Historic Sites Section of the DLNR-Division of State Parks, prepared a working paper summarizing the archaeology of 'O'oma and Kalaoa *ahupua'a* (Cordy 1985). The paper synthesizes the collective site data and presents a summary of site patterning by environmental zones (i.e. the coastal zone, barren zone, and upland forest zone). In the barren zone, which includes the current study area, [Cordy notes that:

Interestingly, from the 20 foot contour c. 0.8–1.4 km (0.5–0.9 miles) inland, the site density is extremely low in these ['O'oma and Kalaoa] *ahupua'a*. Here, sites consist of a few inland heading trails (Peterson [1969]), the early Historic Mahalaho Trail which runs parallel to the shore, a few C-shaped enclosures and caves quite possibly located along these trails, and cairns along or quite possibly along these trails. Deposits in the clearly temporary habitation sites (caves and c-shapes) are again quite shallow – with some exceptions.

At the inland end of the barren zone at 200–400 foot elevation, the density of sites in Kalaoa 5 and Ooma 1 increases. (No sites have been found at this elevation in Kalaoa 1–4 – Davis 1977.) In these *ahupua'a* a large number of cave shelters were found located in lava tubes off lava sinks, and the floor of the sinks also had features. Deposits, other than in platforms, varied in depth from 5–30 cm, and many areas back in the tube shelters and on the sink floors had no surface deposits. These caves had extensive features reflecting recurrent, short-term usage – multiple hearths, many tiny platforms and enclosures (Hammatt and Folk 1980). Davis (1977) suggests that surface cairns in the vicinity might mark trails, and the Ching, Cluff & Riley [Ching et al. 1969] site location map shows trails heading inland toward this area. Thus these caves may well be shelters associated with the trails. One permanent house of historic (1800s) age is present at the upper end of the barren zone in

this area – a typical walled compound with an internal house enclosure and other features (6417). [1985:32]

In conclusion, noting the sprawl of encroaching development that has gradually moved into the area in the nearly twenty years since the opening of Queen Ka'ahumanu Highway and the Keāhole Airport, Cordy (1985) offers expectations and recommendations for further study in the *ahupua'a* (also by environmental zones). Cordy suggests that “in the barren zone, widely scattered remnants of temporary occupation (caves, cave-sink complexes, c-shaped shelters, shell scatters, etc.), markers (cairns), and perhaps some inland heading trails are expected” (1985:43). He also notes that one type of site yet to be found in the *ahupua'a* (with the exception of the remains of a few single individuals in barren zone caves) are burial sites, and suggests that since most larger coastal platforms have already been investigated, burial caves in the barren zone are the likely site type in which to expect additional burials.

In early June 1986, Ross Cordy, still at the Historic Sites Section of the DLNR-Division of State Parks, was asked by the 'O'oma II resort planners to review the reconnaissance survey prepared by Barrera (1985b). Cordy (1986) found that Barrera had failed to identify some of the previously recorded sites in the coastal portion of the *ahupua'a* (Cordy 1975, 1981), and poorly described others, raising concerns that inland sites had also been missed. On June 12, 1986, in an effort to evaluate the thoroughness of the earlier survey work, Cordy conducted a field check of a portion of the inland area (extending beyond the Barrera 1985b survey area into the 1985a survey area) and a small part of the coastal section (see Figure 42). Cordy identified six new sites (seven features) within the inland field check area, but described them as “minor sites,” and indicated that only limited additional information would need to be collected at inland areas to “verify ideas on site function” (1986:5). In contrast, in the coastal area, Cordy reported that Barrera's “survey definitely is not complete enough for inventory purposes” (1986:5), and recommended that more intensive survey be conducted both *mauka* and *makai* of the coastal Jeep road to identify smaller sites, and adequately record the previously documented larger sites.

To remedy the deficiencies of the earlier archaeological work, the 'O'oma II resort planners hired Paul H. Rosendahl, Inc. (PHRI) to conduct additional archaeological survey and subsurface testing within the 314-acre study area. Fieldwork was conducted on July 16-23, 1986, and the results of the study (Donham 1987) were presented as an appendix to an Environmental Impact Statement prepared for the 'O'oma II resort development in 1991. Donham (1987) recorded a total of seventy-four sites containing 279 features – forty seven of which, containing ninety-five features, had been previously identified by Cordy (1975, 1986) and Barrera (1985b). The recorded sites included numerous formal feature types that were interpreted as having been used for temporary and permanent habitation, ceremonial, burial, transportation, quarry, and indeterminate purposes. The revised findings indicated that the earlier Barrera (1985b) study had indeed been inadequate, especially in the coastal portions of the project area. Two of the sites reported on by Donham (1987) were later the subject of an archaeological data recovery report prepared by Corbin (2000).

Following the completion of the Barrera (1985a, 1985b) reconnaissance surveys, but prior to the Donham (1987) survey, a mitigation program entitled “Hawaii Ocean Science and Technology Park Work Program for Archaeological Data Recovery” was generated by DLNR-SHPD for the Barrera (1985a) project area. Three levels of further work were called for in the plan including additional recording only (SIHP Sites 10154, 10159, 10161, 10163, 10165, 10170, 10172, 10173, 10179, 10180, 10187, 10188, and 10190), further recording and excavation (SIHP Sites 10166, 10171, 10175, and 10182), and excavation only (SIHP Sites 1917, 1919, and 10185). Two of the sites recorded by Barrera (1985a) within the current study area were included for additional recording in this data recovery plan (SIHP Sites 10165 and 10173; see Table 3). Barrera (1989) also provided SIHP designations, descriptions, and plan views for sites recorded by Cordy (1975) and Clark (1984) within the coastal portions of the NELH and HOST Park lands (SIHP Sites 10191-10214). Figure 44 shows the locations of all of these sites. During the course of the data recovery fieldwork six more sites in the coastal area, including three sites originally documented by Clark (1984) were added to the original scope of work and also excavated (SIHP Sites 10169, 10170, 10181, 10194, 10201, and 10214).

The data recovery program at the NELHA and HOST Park lands (in 'O'oma 1<sup>st</sup> and 2<sup>nd</sup> and Kalaoa 4<sup>th</sup> and 5<sup>th</sup> *ahupua'a*) was implemented by Barrera (1989). The two sites situated within the current study area were mapped and described in greater detail, but no excavation was undertaken at them (Appendix B). In describing the findings of the data recovery excavations, Barrera (1989) suggests that the earliest occupation of the general study area likely occurred around the middle of the sixteenth century, with occupation continuing and increasing throughout the seventeenth and early eighteenth centuries, but that by the end of the eighteenth century, most of the sites had been abandoned. The archaeological evidence overwhelmingly indicated that the exploitation of marine resources was the primary occupation of residents at the coastal structures in 'O'oma and Kalaoa. Human skeletal remains were identified at one of the excavated sites, a small well-constructed *ahu* on the *pāhoehoe* between the NELHA access road and the coast (SIHP Site 10214).

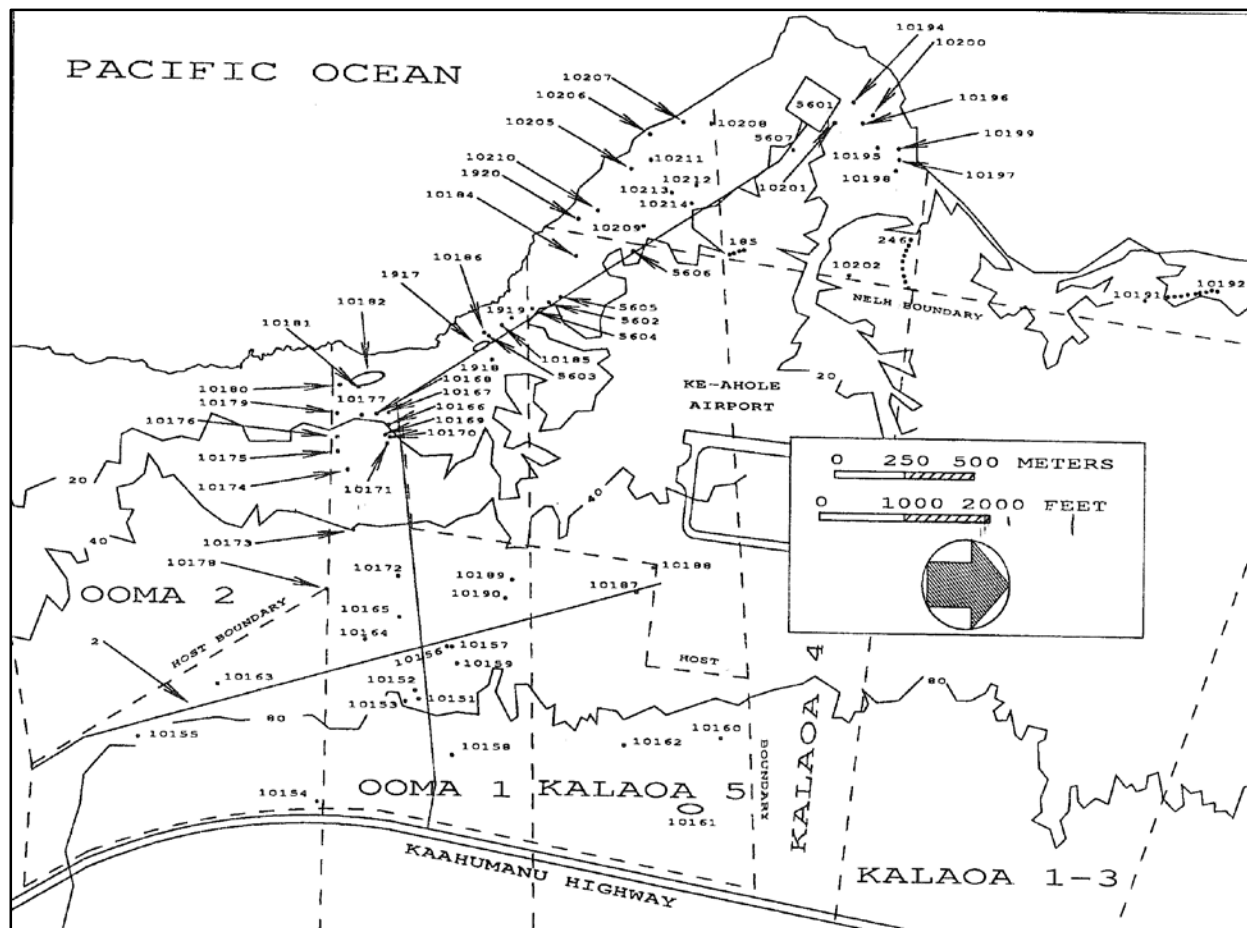


Figure 44. Barrera's (1989) site location map showing all of the sites in the project area.

In 1992, Barrera excavated three additional sites (SIHP Sites 16093, 16094, and 16132) situated near the coastal/inland boundary of 'O'oma 2<sup>nd</sup> Ahupua'a established by Cordy (1986). These sites were located in the northern portion of the Barrera (1985b) and Donham (1987) survey areas on a parcel of land that was transferred to NELHA control subsequent to the Donham (1987) study. The three features excavated during the investigation – each “a well constructed platform or straight-sided cairn” that was “built over some sort of modified natural feature” with “more than usual amounts of coral fragments” (Barrera 1992:13) – were interpreted by Barrera as having some sort of unspecified ceremonial association.

In this same area in 1999, near the coastal/inland boundary of 'O'oma 2<sup>nd</sup> Ahupua'a in the northern portion of the Barrera (1985b) and Donham (1987) survey area near the sites excavated by Barrera (1992), PHRI (Corbin 2000) extensively excavated two habitation complexes (SIHP Sites 1916 and 18028). Radiocarbon dates collected from the sites indicated that both of the complexes were established around A.D. 1600 to 1650, and that, based on the artifact assemblage, the exploitation of marine resources was the primary activity of residents of there.

Also in 1999, Archaeological Consultants of the Pacific, Inc. (Moore et al. 1999) conducted an archaeological inventory of the land around the Keāhole Point lighthouse in Kalaoa 5<sup>th</sup> Ahupua'a. One site of historic significance was identified within the project limits (SIHP Site 21350). This site consisted of the concrete lighthouse structure itself (Feature A; built in 1915) and three adjacent petroglyphs including a faint, indecipherable image (Feature B), and two sets of Historic names of individuals associated with the lighthouse and the coastal lands of Kalaoa (Features C and D). The lighthouse structure was replaced in 2009. Archaeological monitoring of the replacement by Rechtman Consulting, LLC revealed no additional sites or features in the area (Ketner and Rechtman 2009).

In 2001, Garcia and Associates (GANDA) conducted archaeological data recovery at three sites within NELHA, in the coastal portion Kalaoa 5<sup>th</sup> Ahupua'a (Roberts and Roberts 2001). The three sites (SIHP Sites 10211, 10212, and 10213; see Figure 42), originally documented by Clark (1984), included two rock shelters and a complex containing a small platform, a C-shaped enclosure, and an anthropomorphic petroglyph. Radiocarbon analyses did not provide a

## 2. Background

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clear indication of the chronology of site occupation, but the recovered cultural material suggested temporary, recurrent use of the rock shelters beginning during the Precontact Period and lasting into the Historic Period, that the C-shaped enclosure may have been infrequently utilized for short-term habitation purposes, and that the small platform, based on the presence of coral, was likely a fishing shrine.

With the exception of the 2001 data recovery discussed above, most of the more recent archaeological work within the NELHA administered lands has focused on preservation planning, updates of earlier archaeological surveys, and field inspections of specific development parcels. A preservation plan for SIHP Site 10211 in coastal Kalaoa 5<sup>th</sup> Ahupua'a was prepared by Roberts (2001), the section of the Māmalahoa Trail (SIHP Site 2) across the NELHA lands was prepared by Rechtman and Clark (2004), and a preservation plan for seven sites (SHIP Sites 1913, 1914, 1915, 16132, 18025, 18026, and 18027) in 'O'oma 2<sup>nd</sup> Ahupua'a, within the northern portion of the Barrera (1985b) and Donham (1987) survey area, was prepared by Rechtman and Clark (2006). To the south of NELHA, an update inventory survey of the southern portions of the combined Donham (1987) and Barrera (1985a, 1985b) project areas (see Figure 42) was conducted by Rechtman (2007). This update inventory survey revealed the presence of two additional sites (SIHP Site 25932 and 26678) within the Barrera (1985b) and Donham (1987) survey area. Both sites consisted of lava tubes containing human skeletal remains that were located approximately 200 meters *makai* of the Māmalahoa Trail (SIHP Site 2). One site previously recorded by Barrera (1985a), a crude C-shaped shelter (SIHP Site 10163), was not relocated during the update survey.

Field inspections of specific development parcels within the NELHA HOST Park, in areas that were previously surveyed by Barrera (1985a), have generally matched the findings of the early reconnaissance survey, confirming the lack of sites in some areas (Rechtman 2010a, 2010b, 2010c, 2012a), and the presence of previously recorded sites in others (albeit with some modern disturbance that has impacted or completely removed some of the features from the site; Rechtman 2012b). A 2012 archaeological inventory survey update conducted by Rechtman Consulting, LLC (Rechtman and Clark 2012) for the proposed NELHA Roads C, D, and E within a roughly 60 meter wide road corridor across the HOST Park lands previously surveyed by Barrera (1985a) did, however, reveal the presence of three archaeological sites that had not been previously documented (SIHP Sites 29272, 29273, and 29274). The undocumented sites included two *mauka/makai* trail segments (a stepping-stone trail and a trail/road that corresponds to the location of the Kauhini Road shown on the 1924 U.S.G.S. Keāhole Point quadrangle; see Figure 33) and a grouping of two cairns thought to mark a turn in the Kalaoa-'O'oma Homestead road laid out by surveyors in 1902, situated north of the NELHA access road within the Road C corridor across the current study area (Figure 45). In addition to the previously undocumented sites, Barrera overlooked a Historic wall marking the boundary of 'O'oma 1<sup>st</sup> and 2<sup>nd</sup> *ahupua'a* (SIHP Site 6432) that extends into the current study area and was previously documented by Davis (1977). Limited preservation was the recommended treatment for the boundary wall and trails, and no further work was recommended for the two cairns (Rechtman and Clark 2012).

The Queen Ka'ahumanu Highway right-of-way, which forms the *mauka* boundary of the current study area and was originally surveyed for archaeological sites by Ching and Rosendahl (1968), has been the subject of several recent surveys conducted by Cultural Surveys Hawai'i, Inc. (CSH) (Walsh and Hammatt 1995; Monahan et al. 2011; Monahan and Wilkinson 2012; Monahan and Yucha 2012), culminating in an archaeological inventory survey for the proposed Phase II widening between Kealakehe and the Keāhole Airport prepared by Monahan et al. (2012). As a result of this study three archaeological sites were recorded within the right-of-way adjacent to the current study area (Figure 46). These sites include a portion of the same wall alignment that was recorded by Davis (1977) and Rechtman and Clark (2012) within the NELHA Road D corridor (SIHP Site 6432), a walled enclosure (SIHP Site 10154) that was previously documented by Barrera (1985a), and a newly discovered rock mound interpreted as a possibly marker or quarrying feature of indeterminate age (Appendix C). While the initial Walsh and Hammatt (1995) survey of the right-of-way had failed to identify Sites 10154 and 29347, Site 6432 was included in that report. During subsequent consultation with the Kaloko-Honokāhau National Park Service (NPS) staff and other Native Hawaiian Organizations (NHOs), however, it became clear that a number of features within the road corridor had been overlooked during the earlier surveys (Monahan and Wilkinson 2012; Monahan and Yucha 2012). Site 29347, located adjacent to the current survey area, and many other sites in other portions of the survey corridor, were pointed out to CSH archaeologists by Isaac Harp (2011), a member of one of the NHOs that provided comments on the 2011 inventory report; this feature was subsequently recorded and incorporated into the Monahan et al. (2012) inventory survey. As a result of that study Sites 10154, 6432, and were recommended for no further work, and it was recommended that Site 29347 be avoided during highway construction, as its location would be outside the impacted area.



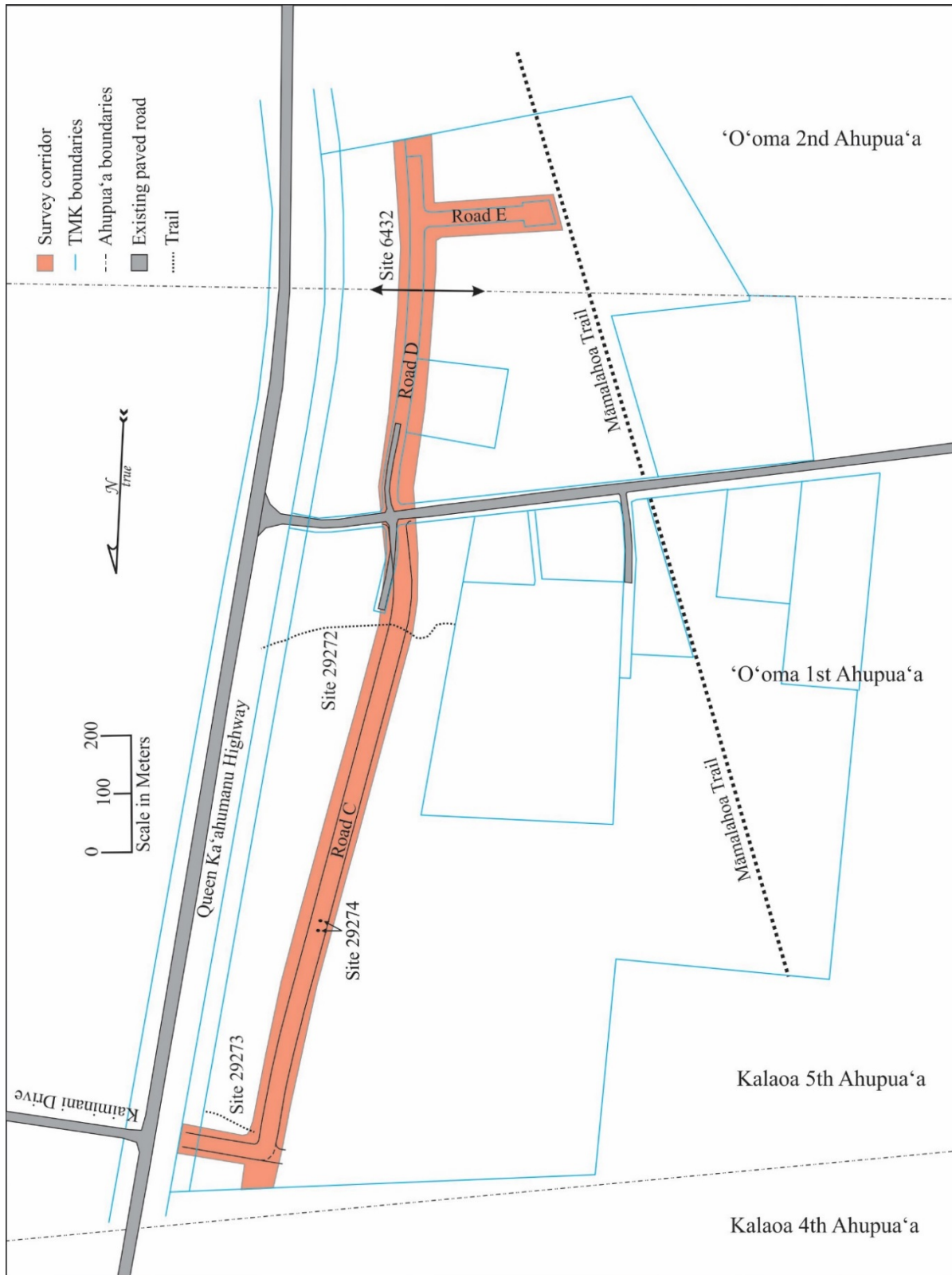


Figure 45. Rechtman and Clark's (2012) site location map.

2. Background

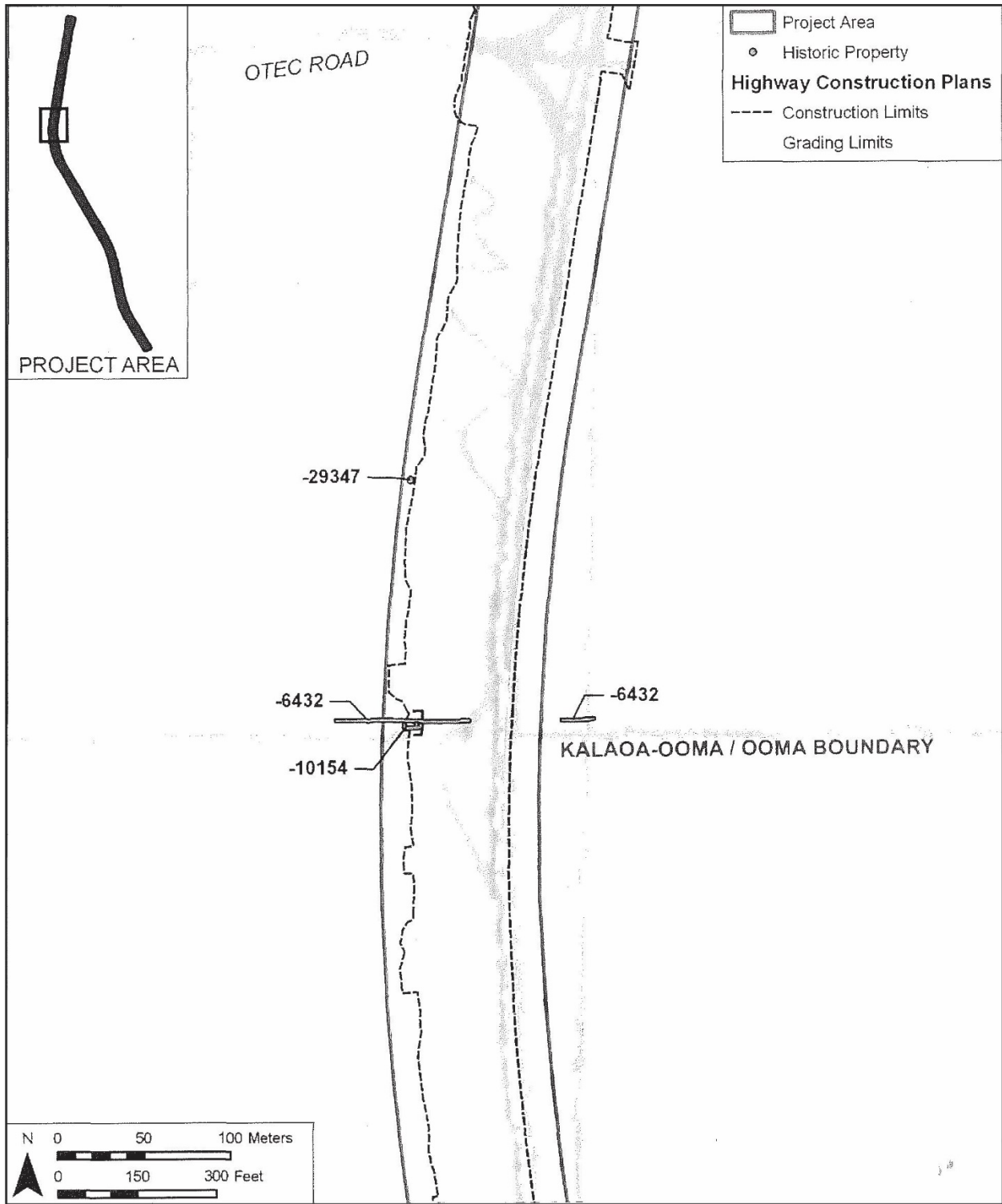


Figure 46. Portion of the Monahan et al. (2012) site location map showing the sites recorded adjacent to the *mauka* boundary of the current study area.

## 4. PROJECT AREA EXPECTATIONS

The comprehensive set of project area expectations presented below is based on the expected settlement patterns for the barren zone of the Kekaha Region of North Kona and the findings of prior archaeological studies conducted within and adjacent to the current study area (Barrera 1985a, 1989; Clark and Rechtman 2012; Monahan et al. 2012). Cordy (1985) provides a summary of expected site patterns by environmental zone (i.e. the coastal zone, barren zone, and upland forest zone) specific to the *ahupua'a* of 'O'oma and Kalaoa. In the lower barren zone of these *ahupua'a*, from roughly the 20-foot contour to about 0.8–1.4 kilometers (0.5–0.9 miles) inland, Cordy (1985:43) indicates that site density is extremely low, and that the expected site types in this area are limited to a few inland heading trails, the early Historic Māmalahoa Trail (SIHP Site 2) extending parallel to the shore, cairns possibly marking the trail routes, and widely scattered C-shaped enclosures and caves, also possibly located along the trail routes, that contain shallow cultural deposits indicative of use for temporary habitation purposes.

Previous archaeological survey of the current study area (Barrera 1985a, 1989; Rechtman and Clark 2012) has generally confirmed Cordy's (1985) model of expected site patterning. Barrera (1985a), during his reconnaissance survey of 450-acres within NELHA, identified and briefly described ten archaeological sites within or immediately adjacent to the current study area (see Figure 44 and Appendix A). The sites included the 1847 Government Road (Māmalahoa Trail; SIHP Site 2), a shell scatter (SIHP Site 10151), two individual stone mounds (SIHP Sites 10152 and 10153), a habitation structure (SIHP Site 10154), a *pāhoehoe* excavation (SIHP Site 10164), three C-shape shelters (SIHP Site 10165, 10172, and 10173), and two Historic petroglyphs (SIHP Site 10178). Barrera (1989) later revisited four of these sites (SIHP Sites 10154, 10165, 10172, and 10173; see Figure 43) and provided additional documentation including plan views and more detailed descriptions (see Appendix B). As a result of the "data recovery" Barrera (1989) suggested that the C-shaped structures at Sites 10165, 10172, and 10173 were utilized for temporary habitation purposes during the Precontact Period.

It is possible that all but two of the sites previously documented by Barrera (1985a, 1989) within, or nearby, the current study area, given the reported site locations (see Figure 44) and the subsequent development of certain parcels within the NELHA HOST park (see Figure 4), will still be present. It is unlikely that Site 10172, consisting of a single C-shaped shelter identified by Barrera (1985a), will still be extant, as the plotted location of this sites places it adjacent to Makako Bay Drive within the previously developed Kona Deep Corporation parcel. Additionally, Site 10154 appears to be situated just outside the current study area's eastern boundary, and Sites 10151, and 10152 are situated near graded areas along the boundary of the study area, and may have been damaged or destroyed by modern development activities. Site 2, the Māmalahoa Trail, extends across the study area within a 30-foot wide preservation easement, and is known to still exist. The archaeological preservation plan for this site (Rechtman and Clark 2004) indicates that the trail is periodically maintained across the NELHA lands by a Kona community group, suggesting that the site may have been modified since it was last recorded. As indicated by Cordy (1985), if trails are identified, they are likely to be marked by cairns, and other temporary habitation structures, such as C-shaped enclosures or caves, could occur along their routes.

Also known to exist within the study area is a *mauka/makai* boundary wall (SIHP Site 6432) previously recorded by Davis (1977). This site was not discussed by Barrera (1985a), indicating that other sites may have been overlooked within the previously surveyed areas. While the portion of Site 6432 within the 200 foot wide Rechtman and Clark (2012) survey corridor was documented (see Figure 45), other sections of the wall outside that study's scope will be recorded. Adjacent to the *mauka* boundary of the study area, within the Queen Ka'ahumanu right-of-way, Monahan et al. (2012) updated the records of Site 6432, the wall previously documented by Davis (1977), and Site 10154, a walled enclosure previously documented by Barrera (1985a). Monahan et al. (2012) also recorded Site 29347, a rock mound (see Figure 46 and Appendix C). It is possible additional sites similar to the rock mound recorded by Monahan et al. (2012) will also be found within the current study area.

## 5. FIELDWORK

Fieldwork for the current project was conducted on November 4 and 5, 2014 and December 10, 15, and 16, 2014 by Ashton Dirks-Ah Sam, B.A. Owen F. Moore, M.A., Genevieve L. Glennon, B.A., Samuel K. Plunkett, B.A., and J. David Nelson, B.A. under the direction of Robert B. Rechtman, Ph.D.

### METHODS

Fieldwork included a visual inspection of the surface of the entire survey area, and detailed site recordation. Fieldworkers walked north/south transects across the width of the project area, spaced at twenty meter intervals. The entire study area was accessible, and the ground surface visibility was excellent. A map was prepared of the study area using Garmin Vista HCx handheld GPS technology (with sub three-meter accuracy), and GPS data for all the observed surface features (both historic and modern) was collected using a Trimble Geo XH Geo Explorer 6000 series handheld GPS receiver. Existing previously recorded sites were relocated and in some instances, their records were expanded to include features or cultural constituents that were originally overlooked. Newly discovered sites were assigned temporary site numbers in sequential order as they were recorded (T-1, T-2, T-3, etc.). Isolated or stand-alone features were assigned their own temporary site numbers, as were groups of features that appeared interrelated based on proximity, form, and presumed age. The features of multi-component temporary sites were assigned alphabetical feature designations (A, B, C, etc.). Each site identified within the project area was marked with a metal site tag containing the site number, the date the site was recorded, and the recorder's initials. After being cleared of vegetation the sites and features were mapped in detail (using a measuring tape and compass), photographed (both with and without a meter stick and north arrow for scale and orientation), and described using standardized site record forms. No subsurface testing was conducted during the current study.

### FINDINGS

As a result of the surface survey, fourteen sites were recorded (Table 4), six of which were previously documented, and seven that are newly discovered sites. The previously documented sites include the Māmalahoa Trail (SIHP Site 50-10-27-2), a Historic boundary wall (SIHP Site 50-10-27-6432) recorded by Davis (1977), and four sites recorded by Barrera (1985a) consisting of a cairn (SIHP Site 50-10-27-10153), one *pāhoehoe* excavation (SIHP Site 50-10-27-10164), two rock rings (SIHP Sites 10165 and 10173), and a Historic Period petroglyph (SIHP Site 50-10-27-10178). Two sites formerly documented by Barrera (1985a) within the current project area, a midden scatter (SIHP Site 50-10-27-10151) and a cairn (SIHP Site 50-10-27-10152), were destroyed by bulldozing and not relocated. The seven newly discovered sites within the current study area include two lava blisters with associated pathways (SIHP Sites 50-10-27-30380 and 30381), a blister shelter (SIHP Site 50-10-27-30382), three rock rings (SIHP Site 50-10-27-30384, 30385 and 30386), and a rock alignment (SIHP Site 50-10-27-30383). The locations of all of the recorded sites are shown in Figure 47.

**Table 4. Archaeological sites recorded within the current study area.**

<i>SIHP Site #*</i>	<i>Formal Type</i>	<i>Function</i>	<i>Age</i>
2	Trail	Transportation	Historic
6432	Wall	Boundary Marker	Historic
10153	Cairn	Marker	Unknown
10164	<i>Pāhoehoe</i> excavation	Quarry/Assay	Unknown
10165	Rock ring	Unknown	Unknown
10173	Rock ring	Unknown	Unknown
10178	Petroglyphs and cairns	Boundary Markers	Historic
30380	Lava blister	Habitation	Precontact
30381	Lava blister	Habitation	Precontact
30382	Lava blister	Shelter	Precontact
30384	Rock ring	Unknown	Unknown
30383	Rock alignment	Unknown	Unknown
30385	Rock ring	Unknown	Unknown
30386	Rock ring	Unknown	Unknown

\*All SIHP site numbers within the project area are preceded by the state, island, and U.S.G.S. quad prefix 50-10-27-.



Figure 47. Site location map.

#### 4. Fieldwork

While conducting the current inventory survey, it quickly became evident that the land has been mined during recent years for *pāhoehoe* slabs and cobbles. The excavations were so widespread and intensive in terms of the vast areas affected, and the scarring and discoloration on the rock material left at the excavations was so fresh, that it was determined that they were the result of modern rock collection by rock wall builders who, as is well known in West Hawai‘i, drive their trucks onto vacant lava beds and harvest stone for building material (Figure 48). The excavated areas were once accessed by a network of crude 4WD roads that can be traced over both smooth, flat *pāhoehoe* lava with the assistance of cairns, or over rougher ‘*a‘ā* and slabby *pāhoehoe* lava where they were created by the clearing of cobbles and filling cracks to create drivable routes (Figures 49 and 50). In addition to cairns seen alongside the truck roads, there were several other collections of piled or stacked slabs (usually adjacent to the excavated areas) that are thought to be stockpiles of excavated material left behind by the rock collectors.

This modern excavation is much more widespread than was observed within the Phase I study area north of Makako Bay Drive (Clark et al. in prep.), and has certainly had a detrimental effect on the earlier archaeological resources within the 110-acre study area. The locations of many of the modern excavation areas, some with adjacent rock piles or rock stacks, and the network of roads created to access them were plotted on satellite image of the study area (Figure 51), as was some of the modern debris left behind by the rock collectors (Figure 52) including soda cans and bottles (see Figure 14), truck parts (see Figure 15), a cooler (see Figure 16), and the ruins of a makeshift camp with a tarp structure (Figure 53). None of this modern excavation was noted by Barrera (1985a). It is possible that the modern rock collection disturbances were present during the 1985 study, but that Barrera intentionally (correctly) disregarded the rock stacks and excavations because he believed that they were modern in age. It is also possible that the project area was not subjected to such disturbances until after Barrera’s study. Whatever the case, Barrera (1985a) documented only one *pāhoehoe* excavation (SIHP Site 10164) and two cairns (SIHP Sites 10152 and 10153) within the current study area during the previous archaeological survey. For this reason, only the *pāhoehoe* excavation and cairns recorded by Barrera are considered archaeological sites (not to be related to modern rock collection activities), and all other cairn, rock stack, and excavation features are interpreted as modern disturbances that are not part of the archaeological record.



Figure 48. Fresh *pāhoehoe* excavation in the central portion of the study area, view to the south.

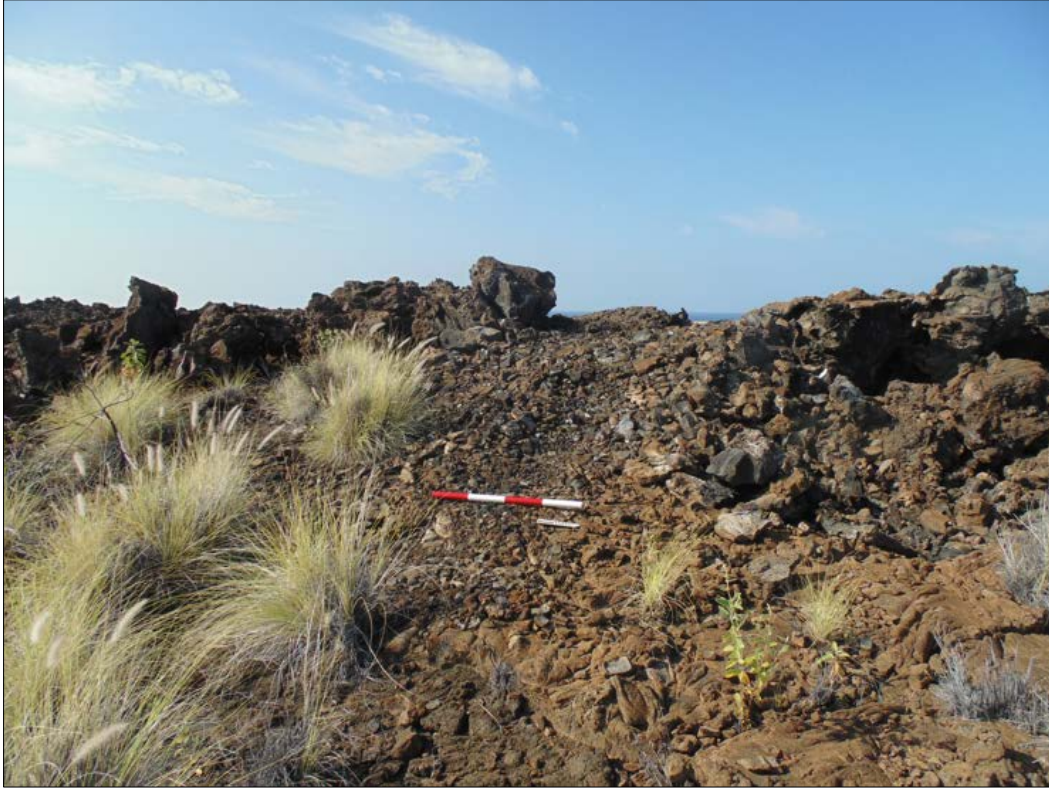


Figure 49. *Pāhoehoe* excavation access road created by trucks, view to the west.



Figure 50. *Pāhoehoe* excavation access road composed of leveled cobbles and bedrock, view to the west.

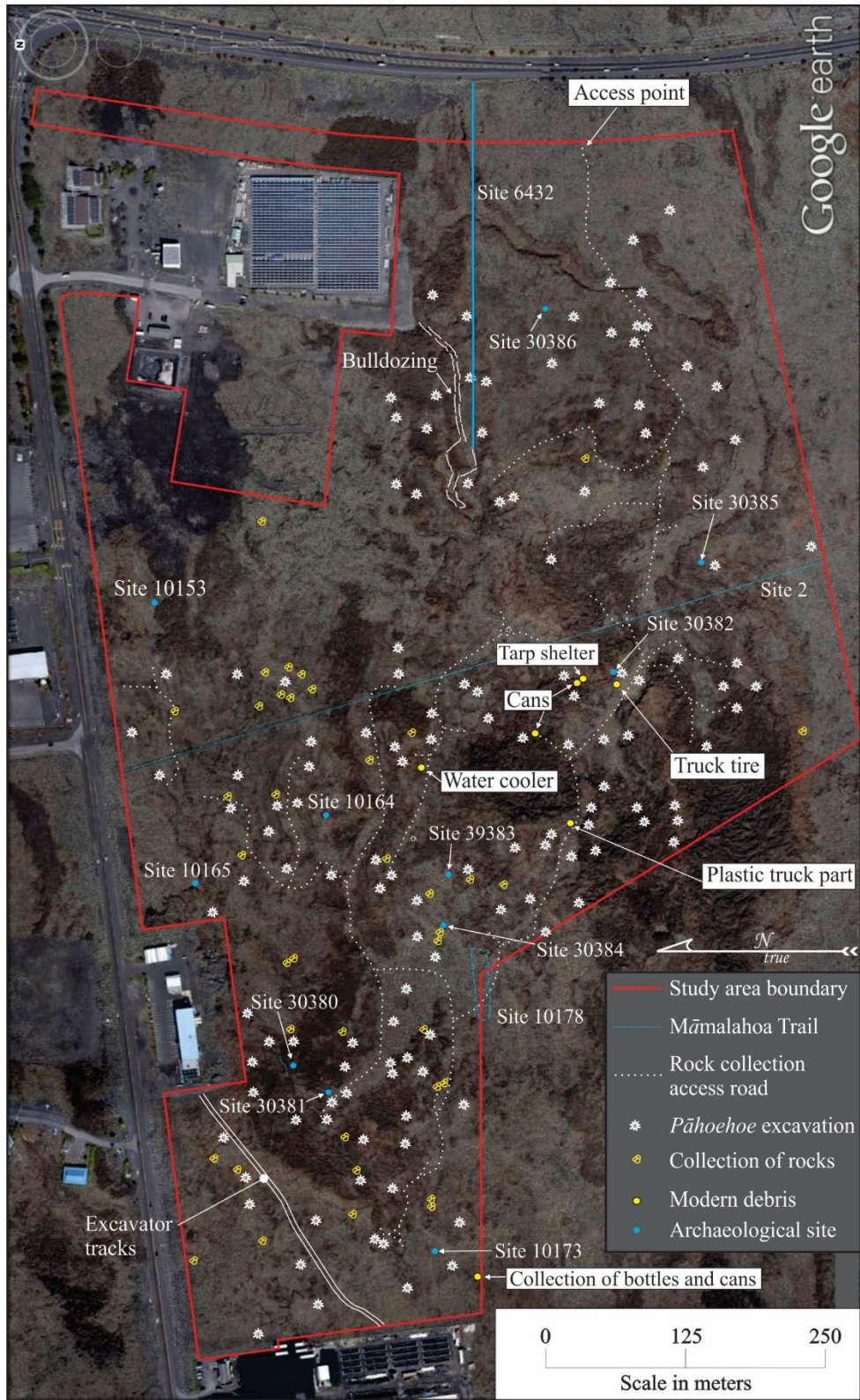


Figure 51. Satellite image of the project area showing the effects of modern *pāhoehoe* excavations (note: in some cases the disturbed areas around *pāhoehoe* excavations are larger than the symbol).





Figure 52. Modern cans discarded by rock collectors located in the southwestern portion of the study area.

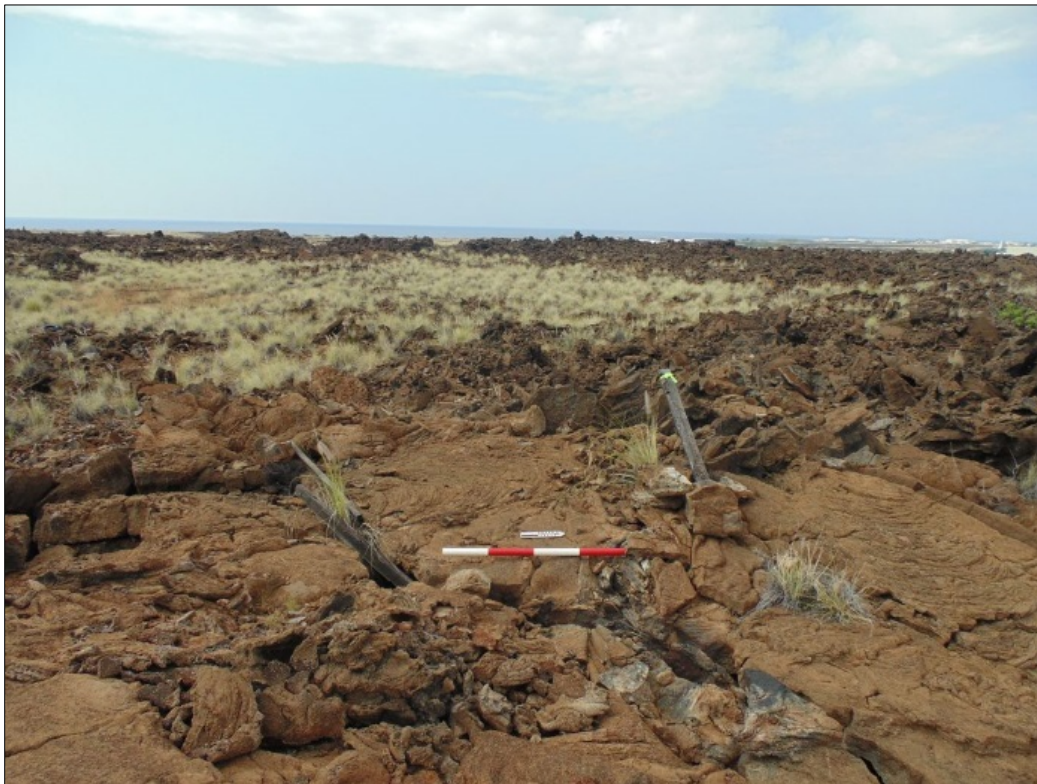


Figure 53. Upright boards of a former tarp structure located in the south/central portion of the study area.

## SIHP Site 2

Site 2 is the designation for the 1847 Government Road, also referred to as the Māmalahoa Trail and the King’s Highway. A preservation plan (Rechtman and Clark 2004) was previously prepared for the section of trail that crosses the NELHA property, and that portion of the trail is contained within an established preservation easement that extends 15 feet on either side of the trail centerline (see Figure 2). As dictated by the preservation plan, no construction or land modification is permitted within this preservation easement, and no buildings or fences will be erected (or ground-altering activity permitted) within an area extending an additional 10 feet on either side of the easement; effectively creating a 25-foot preservation buffer on either side of the trail centerline. The trail site has been maintained (kerbstone replacement and vegetation removal) in recent years through the efforts of a community-based group composed of student volunteers from Kealakehe Intermediate School, members of Kohanaiki ‘Ohana, and *kūpuna* of the area. A sign along the trail within the current study area, next to the primary NELHA access road, reads in part “MAMALAHOA TRAIL PROJECT...A collaborative project with Kealakehe Intermediate School 8<sup>th</sup> graders and the Kohanaiki Ohana. This project started in Oct. 1992 and continues with an annual maintenance program”. The maintenance appears to have occurred primarily on the trail section within the current study as opposed to the continuance of the trail north of the Makako Bay Drive, as the kerbing in this portion of the trail is more intact than the section to the north. There are six locations within the study area where the rock collection roads once crossed the Māmalahoa Trail (Site 2), however the kerbing at all six breaches had previously been reconstructed (Figure 54).

The section of trail situated within the current study area (see Figure 47) extends southeast from the southern edge of the NELHA access road, Makako Bay Drive, for roughly 650 meters across TMK: (3) 7-3-43:089. The trail continues northwest of Makako Bay Drive across TMK: (3) 7-3-43:073, and it continues southeast of the current project area across TMK: (3) 7-3-09:022. The trail is visible across the landscape as a straight, kerbstone alignment, approximately 2 meters wide (Figure 55) that has been elevated in select locations with stone filled “bridges” that level out the contour of the roadway. For much of its length across the study area the surface of the trail is paved with small cobbles, but in areas where it crosses smooth *pāhoehoe*, the natural ground surface has been left unmodified (Figure 56). The cobbles used to construct this Historic roadway were likely quarried from the adjacent lava flows, however, recent widespread rock collection activities have made the identification of any earlier excavation areas impossible within the current study area. Cultural debris observed along the trail route includes several fragments of marine shell, water-rounded chunks of coral, water-worn cobbles, and glass bottle fragments.



Figure 54. Reconstructed kerbning of Site 2 at the location of a rock collection road crossing, view to the northeast.



Figure 55. SIHP Site 2, upright kerbing slabs and cobbles, view to the southeast.

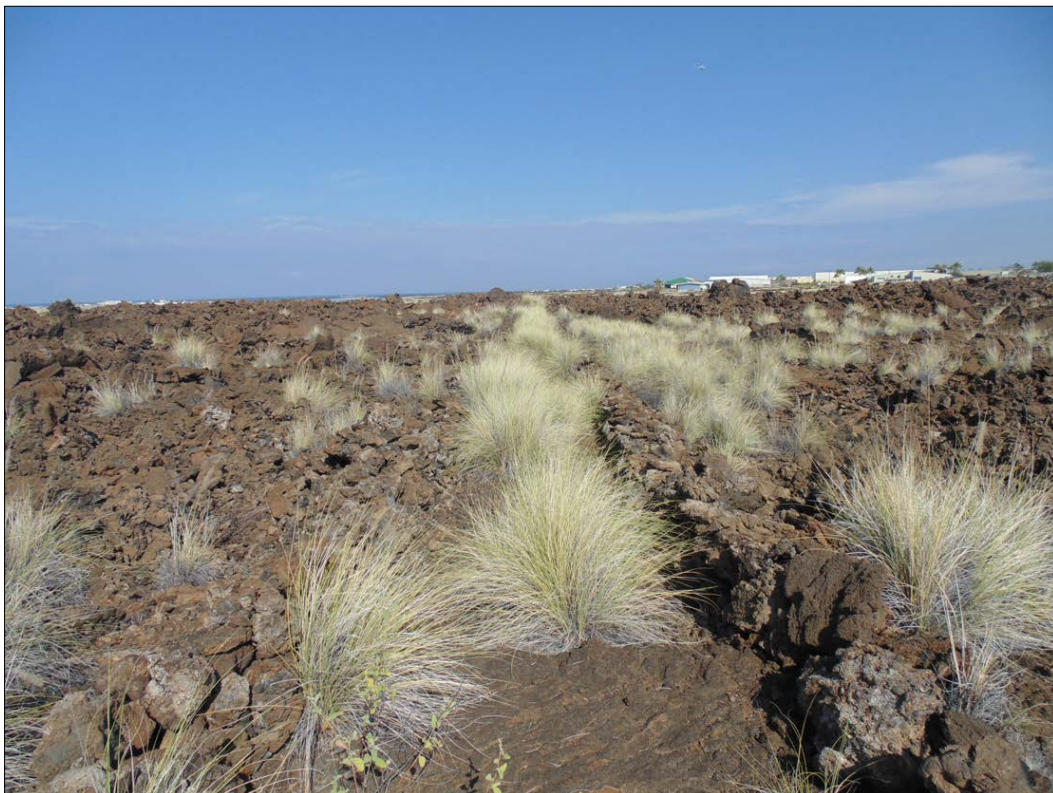


Figure 56. SIHP Site 2 trail surface of level *pāhoehoe* and small cobble pavement, view to the northwest.

### SIHP Site 6432

Site 6432 is a core-filled wall that extends into the eastern portion of the study area (see Figure 47). It was originally documented by Davis (1977) and was later noted by Henry et al. (1993), Haun and Henry (2000), and Monahan et al. (2012). This wall sits on a portion of the boundary between ‘O‘oma 1<sup>st</sup> and 2<sup>nd</sup> Ahupua‘a. *Mauka* of the study area, the wall is breached by Queen Ka‘ahumanu Highway, and can be seen continuing up the hill east of the highway breach. The 1924 U.S.G.S. Keāhole Point quadrangle shows the extent of the wall at that time, which extends along the *ahupua‘a* boundary for a total distance of roughly 4.15 kilometers (see Figure 33).

Within the study area, Site 6432 extends approximately 270 meters west from the eastern property boundary and averages 80 centimeters wide (Figure 57). The wall heights vary with the underlying bedrock contours and range from 70 centimeters to 140 centimeters tall (Figure 58). It is constructed of small to large *pāhoehoe* and ‘a‘ā cobbles, slabs, and boulders. The wall was built utilizing available nearby resources, depending on the type of flow surrounding that portion of the wall. There are numerous *pāhoehoe* excavations on both the north sides of the wall (Figure 59). At its western end, the wall cobbles are loosely stacked, but no collapse has occurred, and it appears to be its original end point. The ground surface at the western end consists of a junction of *pāhoehoe* and a ‘a‘ā flows (Figure 60) with significant disturbance including bulldozing and modern *pāhoehoe* excavations.

Although the exact date and purpose for the construction of Site 6432 are not known, it is likely that this wall was built sometime after 1899 when John Maguire, the founder of Hu‘ehu‘e Ranch, received General Lease No.’s 1001 and 590 for grazing purposes within this portion of the ‘O‘oma 2<sup>nd</sup> government lands. The wall, as shown on the 1924 U.S.G.S. Keāhole Point quadrangle, separates Maguire’s grazing lands from the Kalaoa-‘O‘oma Homesteads, and marks the northern boundary of the lease area and a portion of the northern boundary of ‘O‘oma 2<sup>nd</sup> Ahupua‘a.



Figure 57. SIHP Site 6432, boundary wall extending east outside the current study area, view to the east.



Figure 58. SIHP Site 6432, boundary wall following the bedrock contour, view to the northeast.



Figure 59. SIHP Site 6432, excavations along the edge of the wall, view to the west.



Figure 60. SIHP Site 6432, western termination at a *pāhoehoe* and 'a'ā flow junction, view to the east.

### SIHP Site 10153

Site 10153 is a cairn located in the north/central portion of the current study area (see Figure 47). The cairn is situated on a *pāhoehoe* bedrock surface in an area where neither a trail nor cultural material was observed. The feature is roughly square in shape measuring 0.85 by 0.85 meters, and stands 1 meter tall (Figure 61). This site was previously documented by Barrera (1985a; see Appendix A). The area to the south and east of Site 10153 has been bulldozed, and two sites also previously recorded by Barrera (1985a) roughly 50 meters to the north of Site 10153 were not relocated, and are thought to have been destroyed by grading activity alongside Makako Bay Drive. Those former sites were Site 10151 (midden scatter) and Site 10152 (cairn).

### SIHP Site 10164

Site 10164 is a *pāhoehoe* excavation located in the north/central portion of the current study area (see Figure 47). The site is situated along a crack at the base of the east side of an elevated *pāhoehoe* formation in an area that has been heavily impacted by modern *pāhoehoe* excavations and their associated roads. Site 10164 was previously documented by Barrera (1985a; see Appendix A).

The cavity produced from the excavation measures 1.5 meters long (north/south) by 1 meter wide (east/west) by 0.6 meters deep (Figure 62); the same measurements that were described by Barrera (1985a). Approximately 20 angular cobbles that were likely excavated from the void were observed on the ground to the east (Figure 63). One notable attribute of Site 10164 that was not mentioned in the Barrera inventory survey report (1985a), is the presence of a large water-worn cobble sitting among the cobbles on the east side of the excavated cavity, which may have been used to bash the bedrock and loosen it for removal (the water-worn cobble was visible in the photograph that accompanied their description of the site; see Appendix A). The vesicular water-worn cobble measures 29 centimeters long, by 20 centimeters wide, by 13 centimeters thick, and has use ware in the form of battering marks on its surface. The presence of the water-worn cobble suggests that, unlike the adjacent excavations, Site 10164 may have been created during the Precontact Period.



Figure 61. SIHP Site 10153, view to the east.

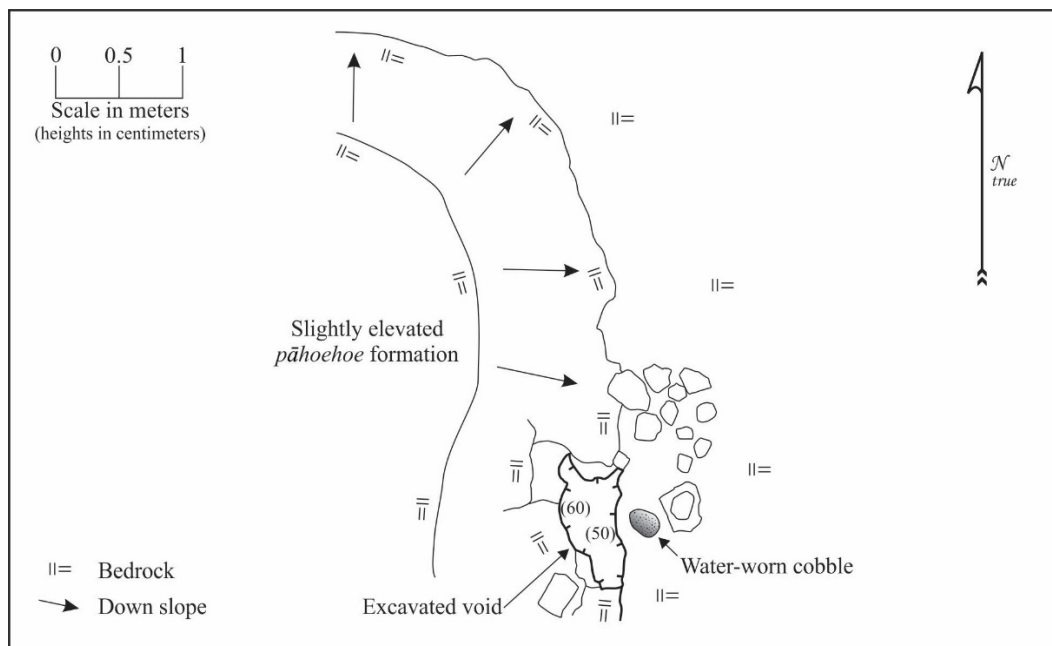


Figure 62. SIHP Site 10164 plan view.



Figure 63. SIHP Site 10164, *pāhoehoe* excavation and water-worn cobble (center), view to the southeast.

#### **SHIP Site 10165**

Site 10165 is a semi-circular rock ring located in the north/central portion of the current study area (see Figure 47). The site measures 1.4 meters (east/west) by 1.2 meters (north/south), and stands 15 centimeters tall (Figure 64). Site 10165 consists of slabs and cobbles arranged on smooth, flat *pāhoehoe* bedrock ground surface in a semi-circular shape that is open to the south (Figure 65). No cultural material was observed. Two stacks of slabs that were noted 4.3 meters to the northwest are likely associated with modern rock collection activity.

#### **SIHP Site 10173**

SIHP Site 10173 is a semi-circular rock ring located in the southwest portion of the study area, approximately 65 meters northeast of the southwest property boundary (see Figure 47). This feature was previously documented by Barrera (1985). The record of Site 10173 was updated during the current study. It measures 1.8 meters long by 1.8 meters wide and is open to the northeast (Figure 66). It is constructed of approximately 150 small and medium cobbles and slabs (Figure 67). Its exterior heights range from 13 to 22 centimeters tall and on the interior it stands 10 to 19 centimeters tall. The interior surface consists of level bedrock with a few small scattered slabs. The *pāhoehoe* bedrock east of the feature is fractured into small cobbles, which may have been caused by rock collecting vehicles. It appears that the feature was constructed using cobbles from an adjacent *pāhoehoe* excavation. No cultural material was observed.

#### **SHIP Site 10178**

Site 10178 is a complex of five features constructed as survey markers along the O'oma 1<sup>st</sup> and O'oma 2<sup>nd</sup> *ahupua'a* boundary. The site is located in a level area of smooth, flat *pāhoehoe*, and measures 55 meters (east/west) by 10 meters (north/south) (see Figure 47). The features are oriented along the *ahupua'a* boundary west to east (Figure 68), and consist of a Historic Period petroglyph panel (Feature A), a triangle shaped cobble alignment (Feature B), a stacked hollow-centered cairn (Feature C), and two piled cairns (Features D and E). The petroglyph panel (Feature A) was previously documented by Barrera (1985a), but the site has been expanded for the purpose of the current study to include the adjacent features. Features B and C mark the western and eastern edges of the surveyed route of the planned



realignment of the *makai* Government Road (SIHP Site 2) as seen on a 1969 survey map, Plat 312 (Figure 69), at the approximate location of an angle change and the *ahupua'a* boundary (see Figure 68). These were likely constructed in 1902 when surveyors of the Kalaoa-‘O‘oma Homesteads marked out a realignment of the Government Road to the west of the proposed homestead parcels (the realigned road was never built). A rock collection access road, identified by pressure-fractured *pāhoehoe*, passes in a north/south direction through the southern portion of the complex, but does not appear to have impacted the site. The five features of Site 10178 are described in detail below.

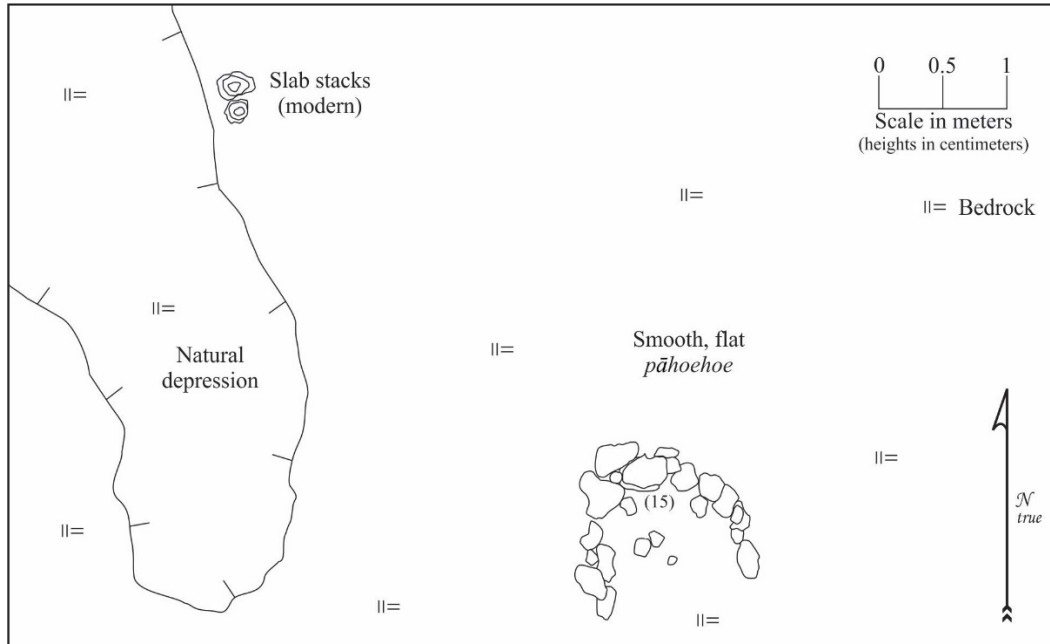


Figure 64. SIHP Site 10165 plan view.

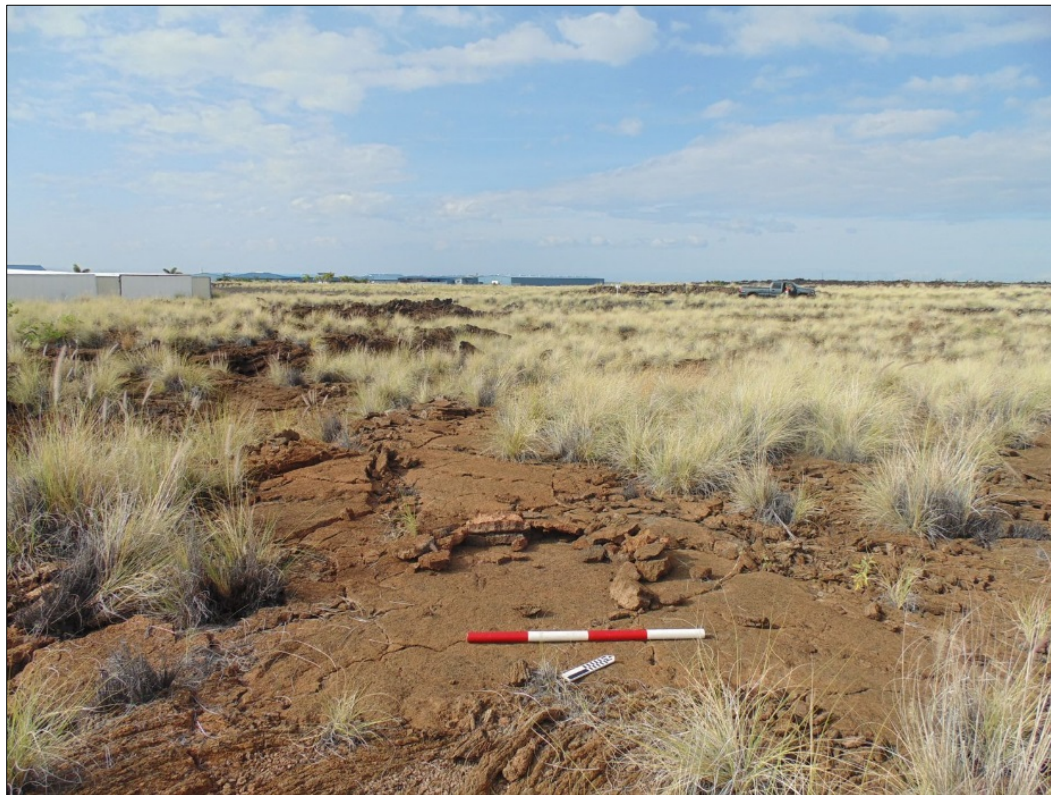


Figure 65. SIHP Site 10165, semi-circular rock ring, view to the northwest.

4. Fieldwork

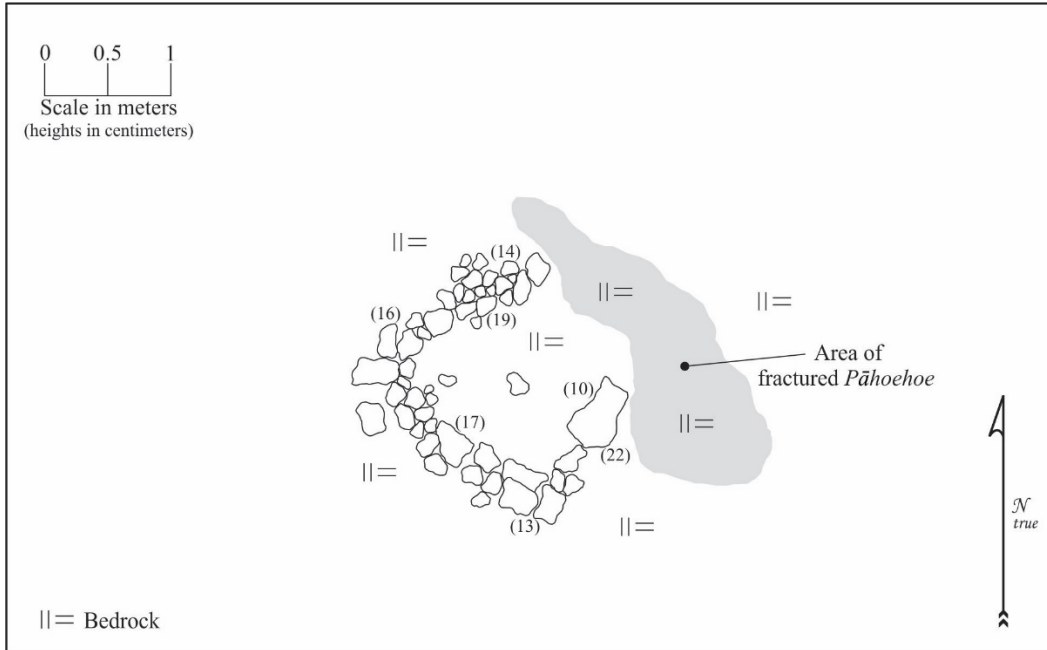


Figure 66. SIHP Site 10173 plan view.

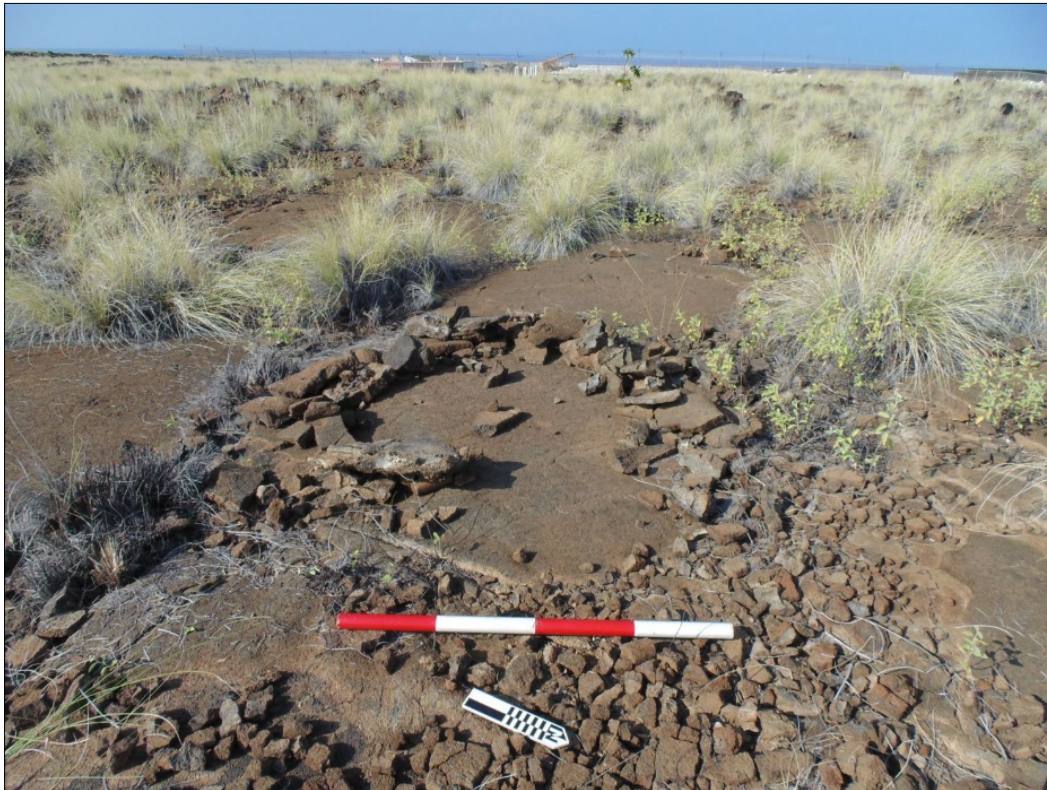


Figure 67. SIHP Site 10173, semi-circular rock ring, view to the southwest.

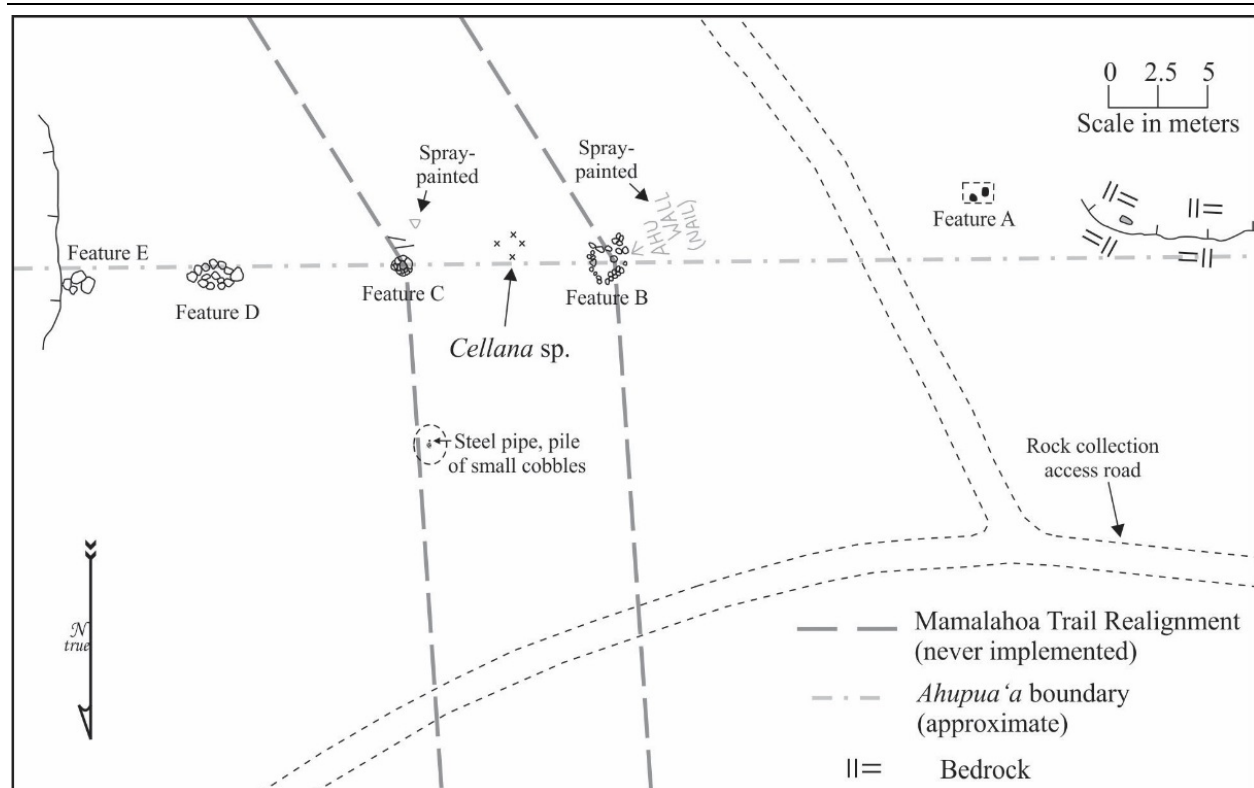


Figure 68. SIHP Site 10178 plan view.

#### Feature A

Feature A is a pair of petroglyphs located at the southern end of Site 10178 that may be located just south of the study area boundary (see Figure 68). The petroglyphs consists of an oval, and the letters “CN” that were carved into smooth, flat *pāhoehoe* bedrock that slopes slightly (10 degrees) to the northwest (Figure 70). The width of the grooves averages 1 centimeter, and they have been chiseled (with a metal tool) into the stone to a depth of 6 millimeters (Figure 71). The oval measures 16 centimeters (east/west) by 14 centimeters (north/south), and is situated 75 centimeters northeast of the “CN”, which measures 12 centimeters (east/west) by 26 centimeters (north/south). A water-worn, vesicular basalt cobble that measures 20.4 centimeters long by 11 centimeters wide by 8.5 centimeters thick, was observed 9 meters west of the petroglyphs. The Historic Period petroglyphs likely mark the *ahupua'a* boundary.

#### Feature B

Feature B is a triangular shaped cobble arrangement, located 19 meters east of Feature A in the central portion of Site 10178 (see Figure 68). The triangle points to true north and measures 3.5 meters (north/south) by 2.6 meters (east/west), stands up to 0.3 meters tall (Figure 72), and is constructed on flat *pāhoehoe* of piled small, medium and large cobbles (Figure 73). A collection of cobbles was also observed just south of the triangle shaped enclosure. Inside the enclosure is a spray-painted circle in the southwestern corner with a few iron fragments (likely a former surveyor’s spike), and a few wooden lath fragments were also observed. Just west of Feature B, written in spray paint on the flat *pāhoehoe* ground surface are the words (top to bottom) “AHU / WALL / (NAIL)”. Plat 312 notes the presence of the “AHU WALL (NAIL)” writing and that they found and adopted the “old spike in pahoehoe” (see Figure 69). Plat 312 plots this marker as the intersection of the western edge of the Government Road (Site 2) realignment and the *ahupua'a* boundary, and also represents an angle change at that location. A faded Coors Light pop top can is located adjacent to the northwest side of Feature B, and a few meters to the east, four *Cellana sp.* shells were observed.

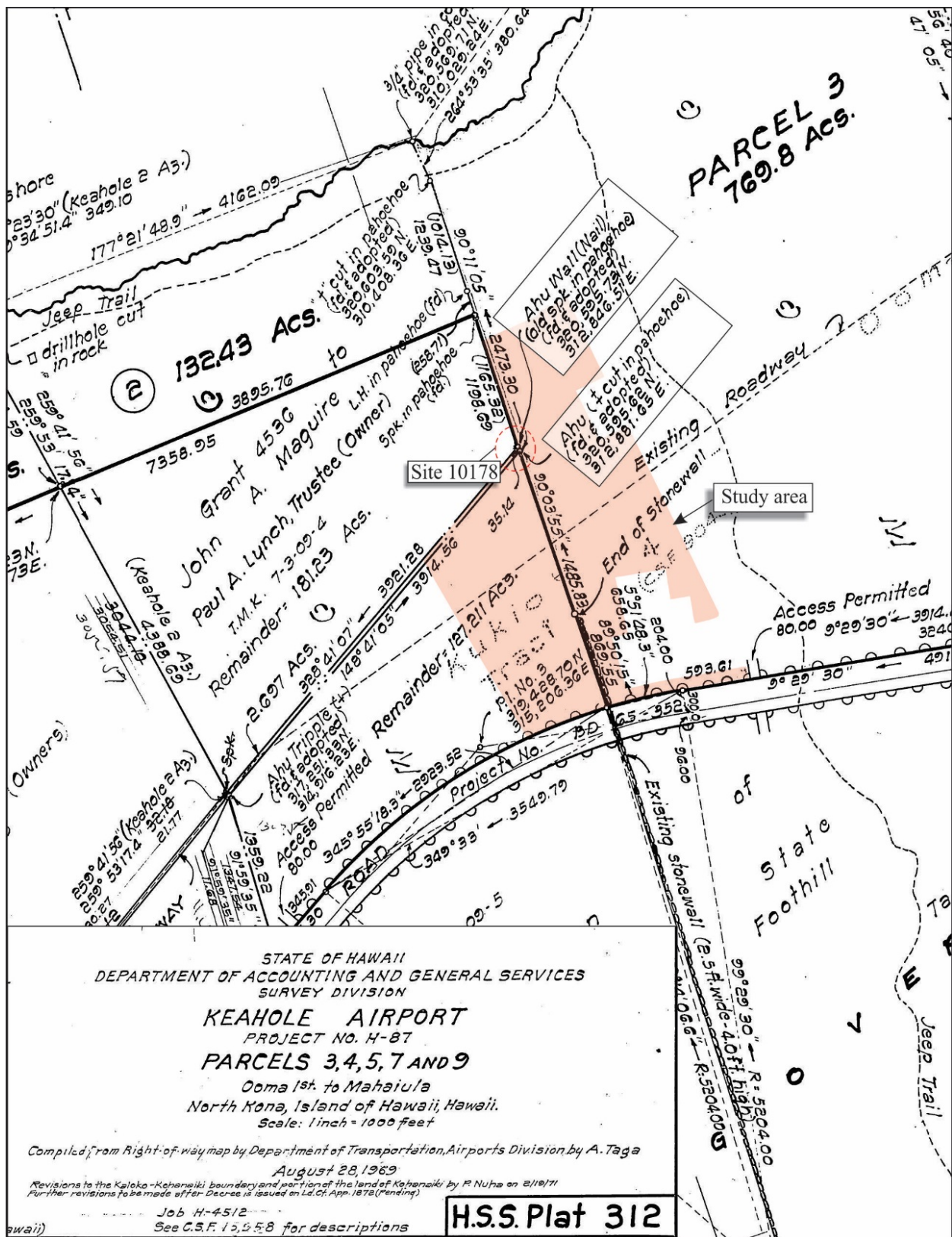


Figure 69. H.S.S. Plat 312 (compiled by A. Taga August 28, 1969) showing the locations of SIHP Site 10178 (Features B and C).

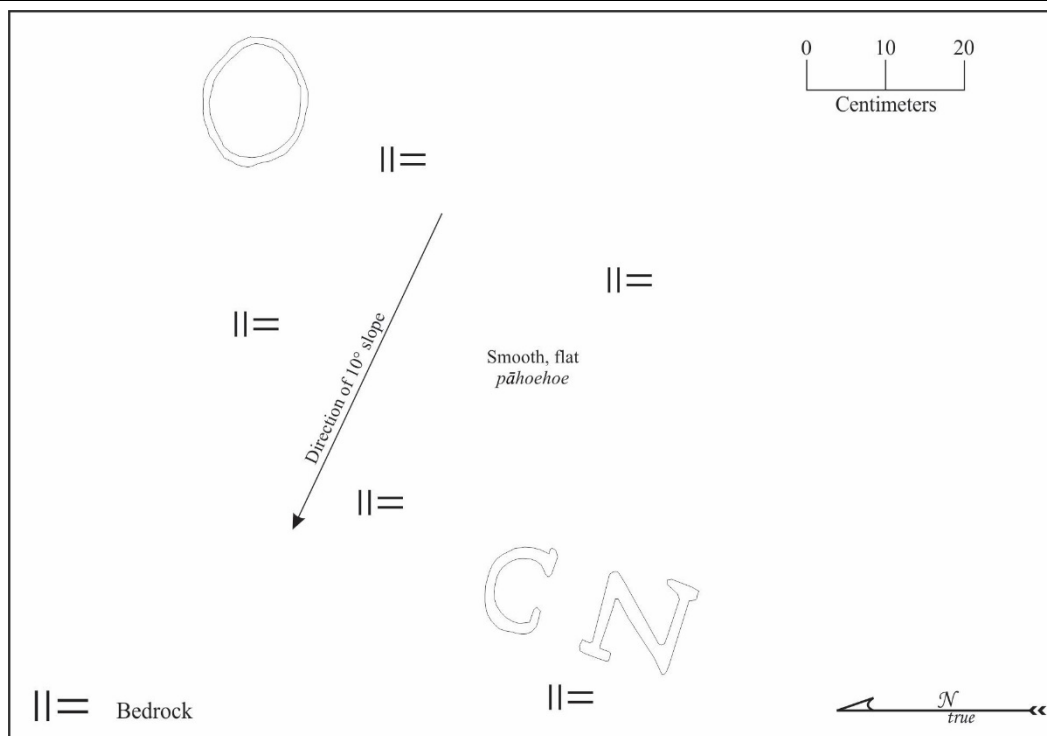


Figure 70. SIHP Site 10178 Feature A plan view.



Figure 71. SIHP Site 10178 Feature A, cairn, view to the northeast.

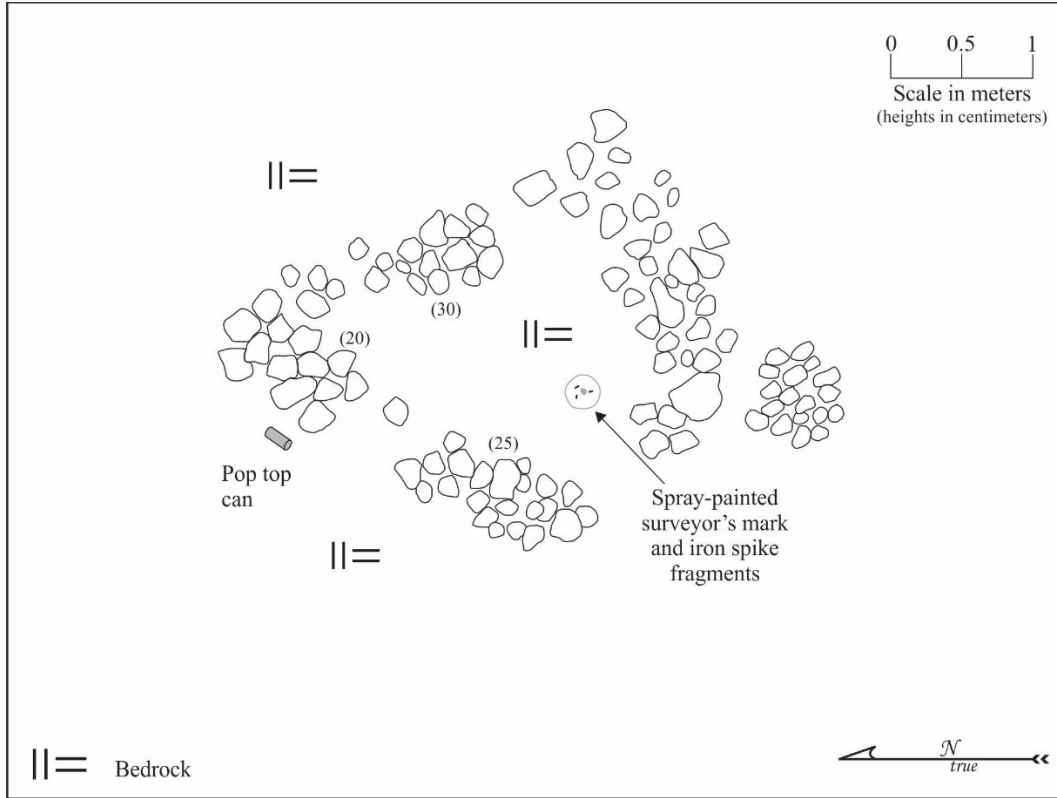


Figure 72. SIHP Site 10178 Feature B plan view.

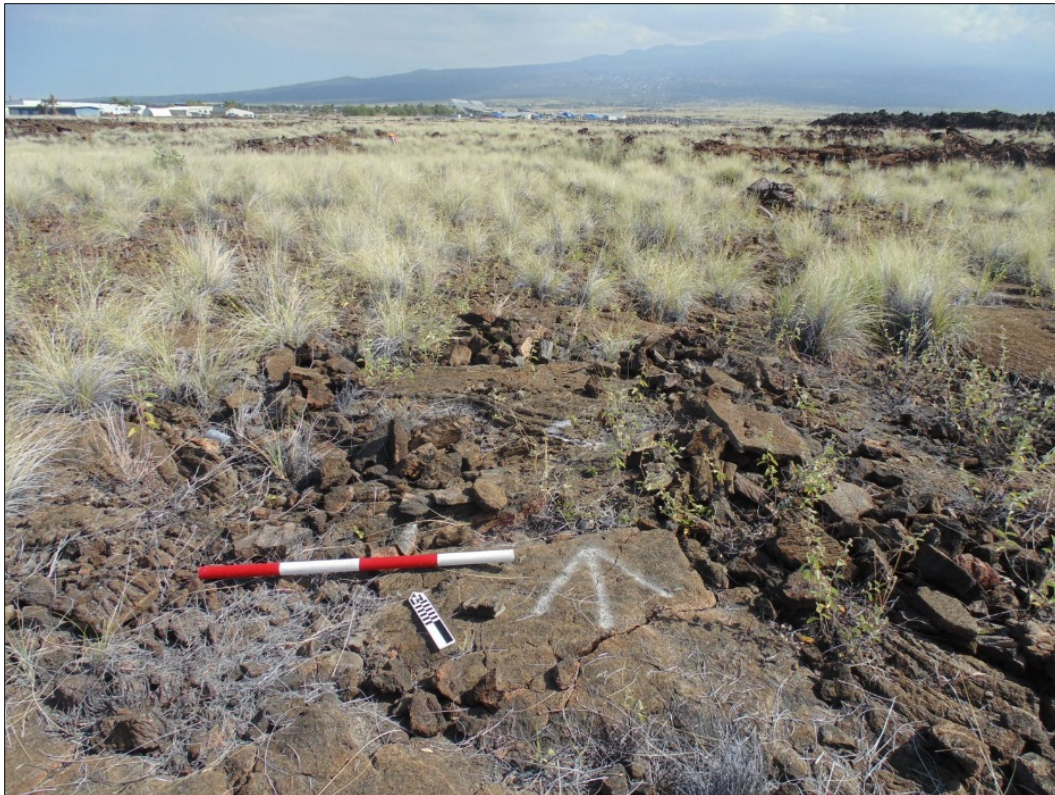


Figure 73. SIHP Site 10178 Feature B, triangular shaped cobble arrangement, view to the northeast.

*Feature C*

Feature C is a stacked cairn with a hollow central area that is located 9 meters east of Feature B in the central portion of Site 10178 (see Figure 68). The cairn is circular at the top although a few protruding slabs at the base of the eastern side give it an oval shape overall that measures 0.9 meters (north/south) by 1.1 meters (east/west), and stands 0.65 centimeters tall (Figure 74). It is constructed entirely of slabs that range from medium to large in size, and has been heavily spray-painted (Figure 75). Inside the cairn are fragments of flagging tape, and a “+” that was created by a man-made groove perpendicular to a natural groove in the *pāhoehoe*. An embedded modern looking steel pipe with a pile of small cobbles that likely supported a wooden lath is located 8 meters north of Feature C. Feature C is also mentioned on Plat 312 (see Figure 69), which notes “Ahu (++) cut in pahoehoe)”, and its location is plotted opposite Feature B at the intersection of the *mauka* edge of the realigned, but never built, Government Road (Site 2) and the *ahupua‘a* boundary, and it marks the location of an angle change in the realignment.

*Feature D*

Feature D is a collapsed cairn located 8 meters east of Feature C in the eastern portion of Site 10178 (see Figure 68). The feature consists of a collection of cobbles that measures 2.3 meters (east/west) by 1.5 meters wide, with a maximum height of 0.3 meters (Figure 76). The cobble collection sits on smooth *pāhoehoe* bedrock (Figure 77), and was likely constructed to mark *ahupua‘a* boundary based on its location.

*Feature E*

Feature E is a cairn located 5 meters east of Feature D in the eastern portion of Site 10178 (see Figure 68). The cairn is constructed on a bedrock outcrop of smooth *pāhoehoe*, measures 1.6 meters (east/west) by 0.8 meters (north/south) by 0.4 meters tall, and consists of eight large slabs (Figure 78). The cairn has partially collapsed, however, a few of the slabs are leaning diagonally on one another (Figure 79). This feature was also likely constructed to mark the *ahupua‘a* boundary based on its location.

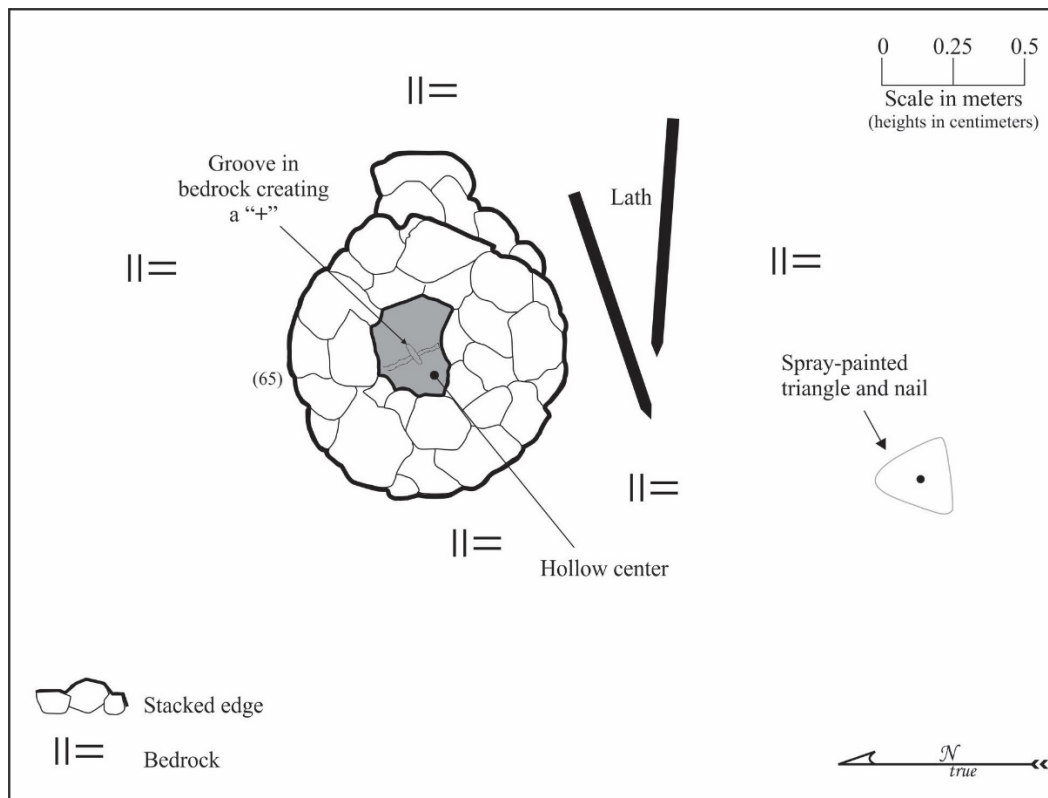


Figure 74. SIHP Site 10178 Feature C plan view.



Figure 75. SIHP Site 10178 Feature C, stacked cairn, view to the north.

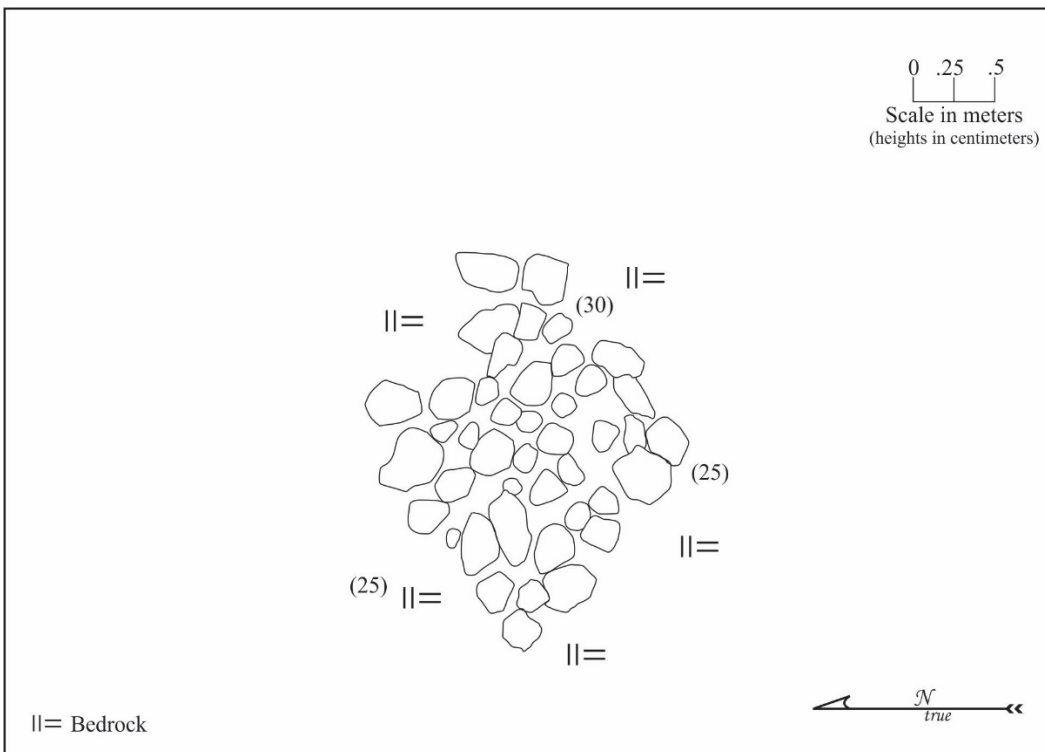


Figure 76. SIHP Site 10178, Feature D plan view.



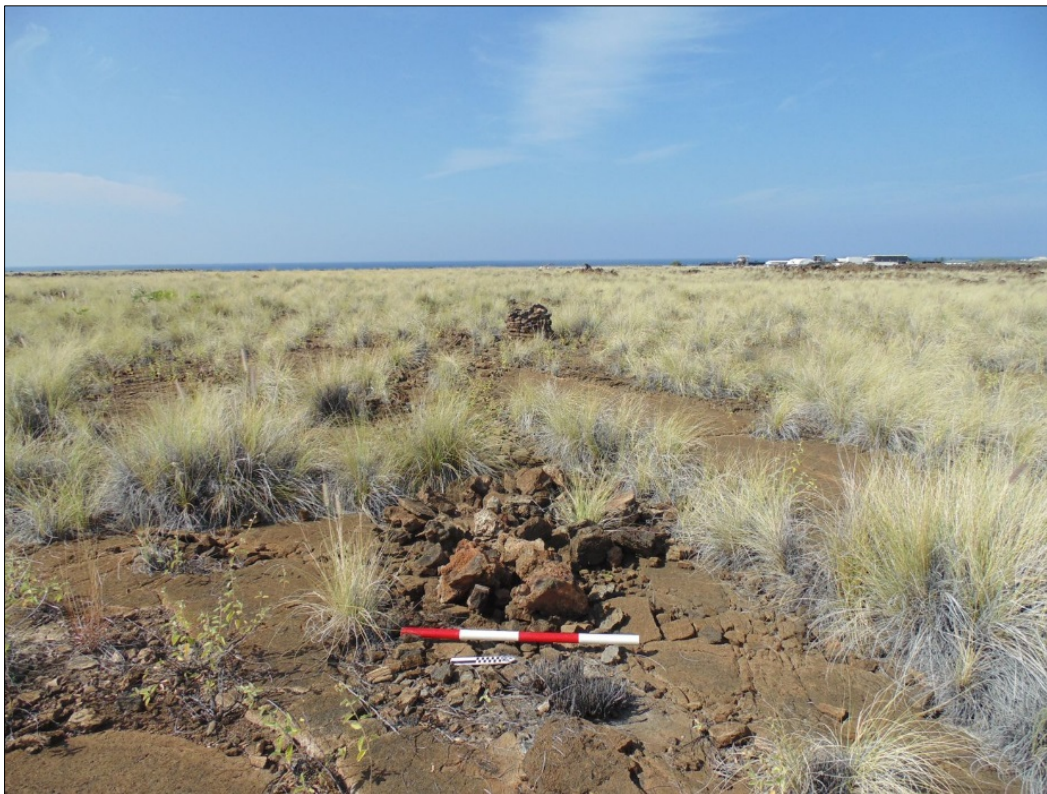


Figure 77. SIHP Site 10178, Feature D collapsed cairn, view to the west.

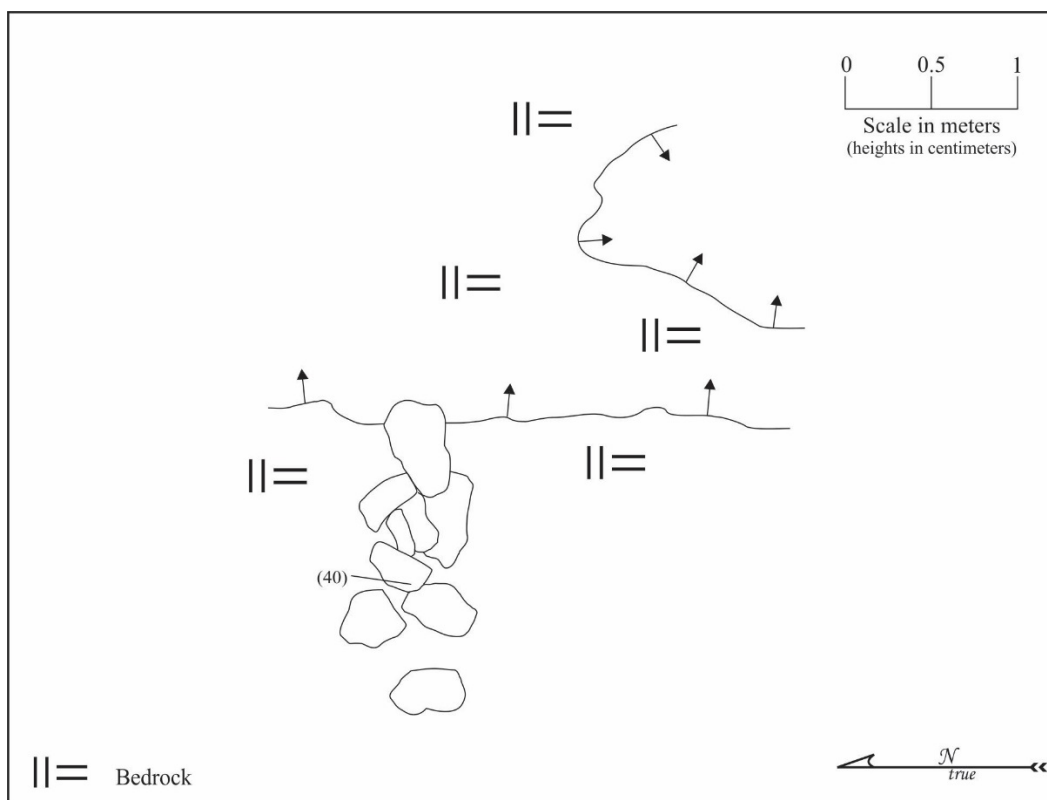


Figure 78. SIHP Site 10178, Feature E plan view.

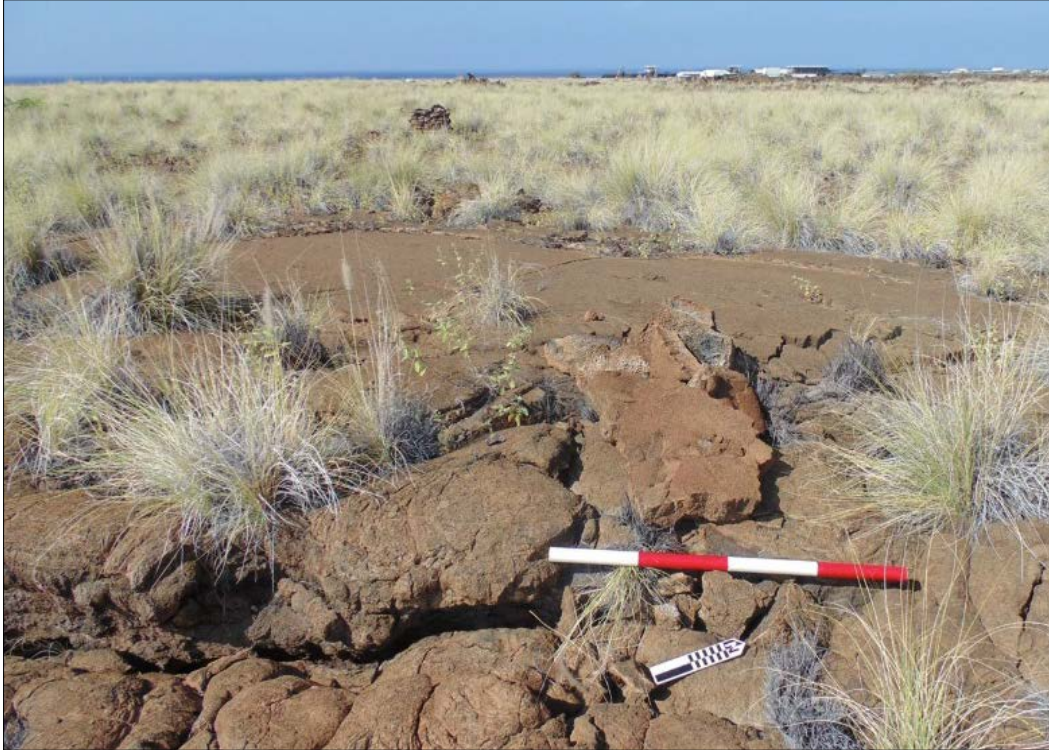


Figure 79. SIHP Site 10178, Feature E cairn, view to the west.

### SIHP Site 30380

Site 30380 consists of a lava blister (Feature A) and an associated trail (Feature B) located in the central/western portion of the study area (see Figure 47). The site measures 26 meters (east/west) by 22 meters (north/south), and is situated within a disaggregated *pāhoehoe* lava flow (Figure 80). This site is located approximately 40 meters north/northeast of Site 30381, a lava blister and associated trail. The trails may have connected, however smooth *pāhoehoe* between the two sites prevents tracing the trails beyond the disaggregated *pāhoehoe* zone. The following are descriptions of Features A and B.

#### *Feature A*

Feature A is a lava blister with a sprawling subsurface area with three separate interconnected chambers that measures roughly 22 meters (north/south) by 22 meters (east/west) overall (see Figure 80). The ceiling is low, with a maximum height of 97 centimeters. There are two entrances, one on the *makai* side (Figure 81) where the majority of the cultural material is located, and one on the *mauka* side, where two marine shells were observed. The ground surface just outside the *makai* entrance has been leveled and paved with small cobbles. The vertical entrance measures 2.4 meters wide by 0.9 meters tall. Cobbles have been piled up on the north (40 centimeters tall) and south (80 centimeters tall) sides of the entrance, blocking off gaps between the ground surface to bedrock of the overhanging ceiling. Just inside the entrance is a chamber that measures 8.8 meters (north/south) by 4.4 meters (east/west). The *pāhoehoe* floor of the chamber is level yet jagged.

Site 30380 contains a relatively dense scatter of marine shell (Figure 82) including *Cypraea* sp., *Drupa* sp., *Cellana* sp., *Echinoidea* sp., *Nerita* sp., *Cantharus* sp., and *Bractechlamys langfordi* (scallop). Also observed in and around the shell scatter were a coral file/abrader (artifact #1) that measures 4.2 centimeters long by 1.2 centimeters in diameter (Figure 83), a limestone abrader (artifact #2) that measures 8.3 centimeters long by 4.8 centimeters wide by 1.7 centimeters thick (Figure 84), *kukui* nutshell, charcoal, small dense wood fragments possibly from a former implement, water worn basalt cobbles, and a piece of milled wood. Cobbles observed around the perimeter of the blister were likely cleared from the central area. A low and narrow inaccessible tube extends south from the *makai* entrance behind the piled cobbles. To the north of the main chamber is a sterile chamber with a lower (0.6 meters) ceiling that extends 13 meters (east/west) by 4 meters (north/south). To the east of the shell scatter is an opening to a 15.5 meter (north/south) by 10 meter (east/west) low ceiling chamber. A few marine shells were observed in this chamber, and a shaped bone artifact, possibly a fishhook blank (artifact #3) that measures 1.3 centimeters long by 1.2

centimeters wide by 0.3 centimeters thick (Figure 85), was observed in the northwestern portion. In the southeastern corner of this chamber is the *mauka* entrance. Due to the low ceiling in the vicinity of the *mauka* entrance, this portion of the tube and the entrance shows little evidence of modification, however a few marine shells (*Cellana* sp. and *Drupa* sp.) were observed.

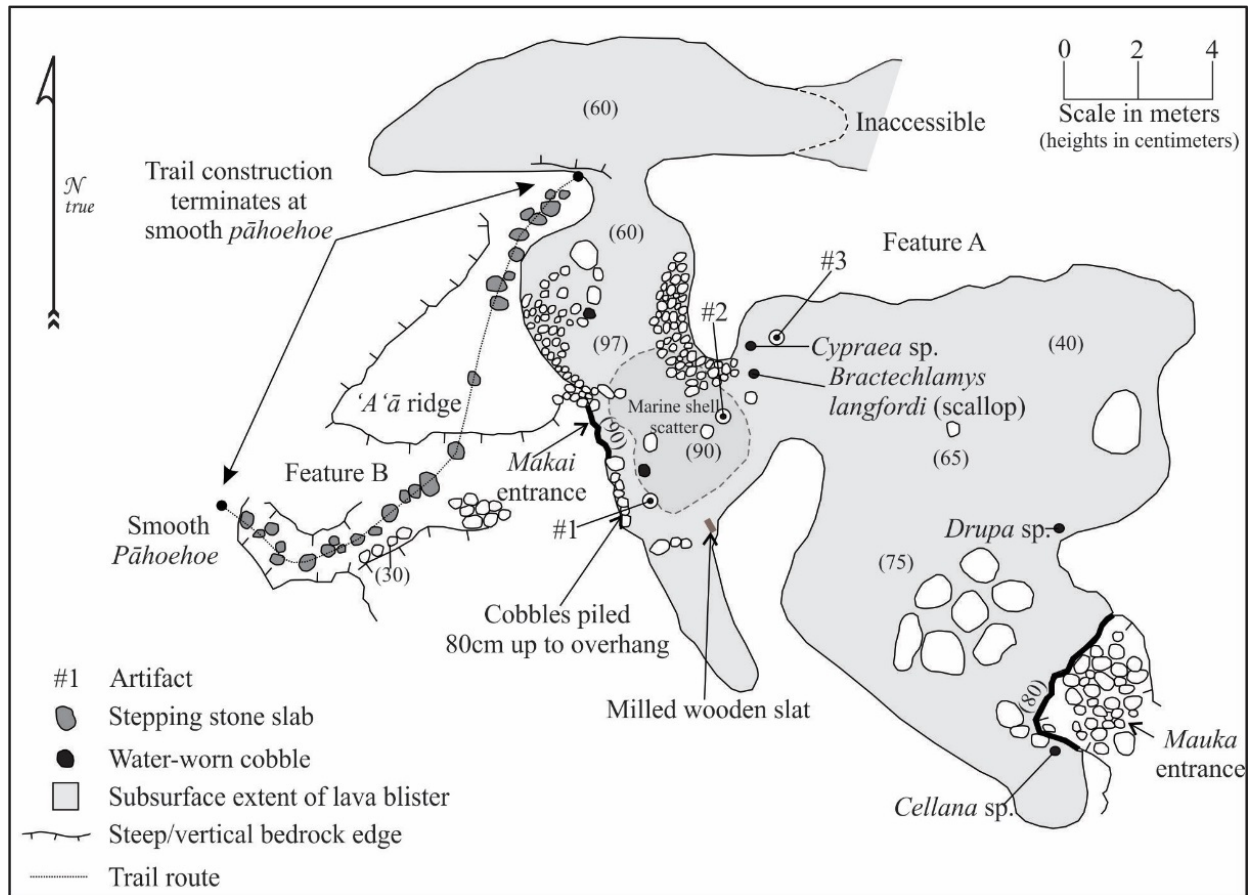


Figure 80. SIHP Site 30380 plan view.

### Feature B

Feature B is a trail segment that extends in a northeast/southwest direction through the 'a'ā flow in the western portion of Site 30380 (see Figure 80), and likely continues towards Site 30381, a lava blister with scattered marine shell located 32 meters to the southwest. The traceable portion of this trail is a section that extends across the jagged 'a'ā flow for approximately 18 meters. At both the southwest and northeast (Figure 86) ends, the rough ground surface transitions to level, smooth *pāhoehoe* which required no ground modification, and the trail is not traceable. Traveling from the southwest end, the trail consists of flat slab stepping stones that average 0.2 meters by 0.4 meters in size, are placed roughly 0.3 meters apart on a 1.2 meter wide cleared pathway. In one area, cleared cobbles are piled 0.3 meters tall on the south side. The trail runs a meandering route to the northeast over the rough terrain ascending a 1 meter tall bedrock formation located 3.3 meters west of the *makai* entrance to Feature B. In this section there are 2 meter gaps between the stepping stones, however, generally the stones were placed 0.3 meters apart, and measure roughly. No defined trail spur was observed extending east towards the Feature B entrance, however, the ground surface between the trail and the lava blister did appear to have been leveled.



Figure 81. SIHP Site 30380, *makai* entrance to Feature A, view to the east.



Figure 82. SIHP Site 30380, marine shell scatter inside the *makai* entrance of Feature A, view to the east.



Figure 83. SIHP Site 30380, Artifact #1 of Feature A, coral abrader.



Figure 84. SIHP Site 30380, Artifact #2 of Feature A, limestone abrader.



Figure 85. SIHP Site 30380, Artifact #3 of Feature A, shaped bone.

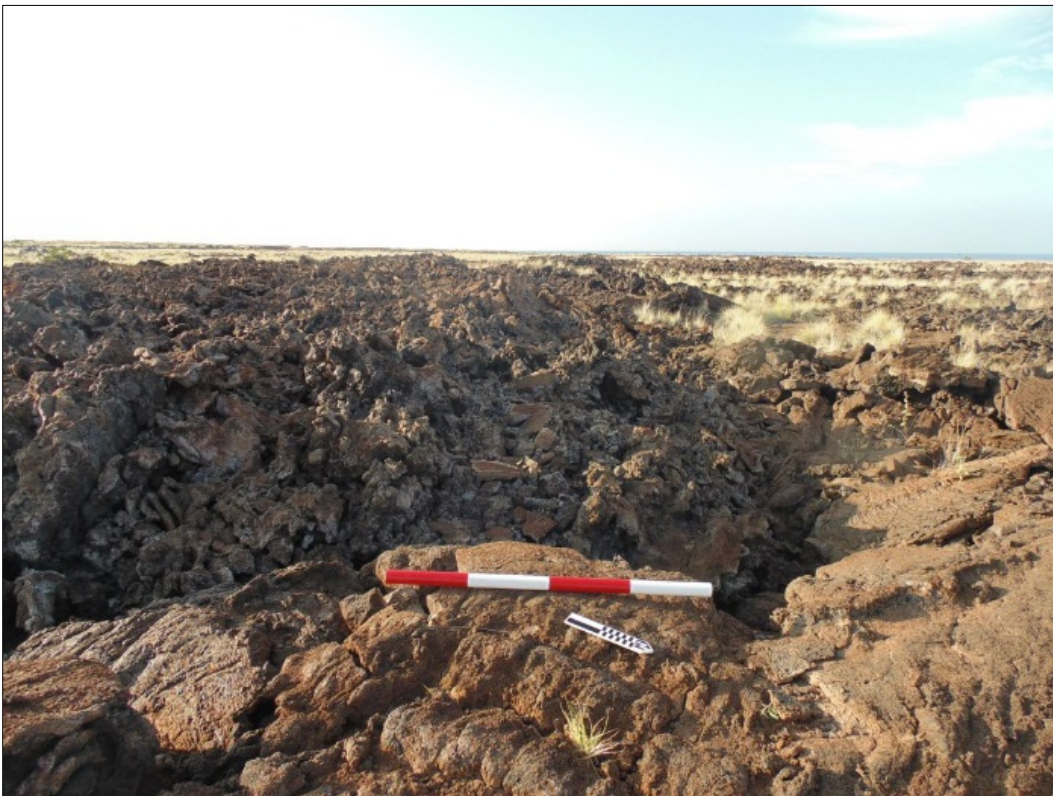


Figure 86. SIHP Site 30380, *pāhoehoe* bedrock at the northwestern end of Feature B, view to the southwest.

### SIHP Site 30381

Site 30381 consists of a lava blister (Feature A) and an associated trail (Feature B) located in the central/western portion of the study area (see Figure 47). The site measures 25 (north/south) by 17 meters (east/west), and is situated within an 'a'ā lava flow (Figure 80). This site is located approximately 40 meters south/southwest of Site 30380, another lava blister and associated trail, and the trails may have connected, however smooth *pāhoehoe* between the two sites prevents tracing the trails beyond the 'a'ā zone. The following are descriptions of Features A and B.

#### Feature A

Feature A is a lava blister with a low ceiling that measures roughly 25 meters (north/south) by 13 meters (east/west) overall. The ceiling height averages approximately 90 centimeters, with a maximum height of 100 centimeters. There is one overhang entrance on the southwestern side that is blocked in the center by a fallen boulder. The northernmost of the two is more accessible with a height of 1.1 meters, and the one to the south measures 0.5 meters tall (Figure 88). Cultural material observed within the blister consists of a few marine shells including *Drupa* sp. and *Cypraea* sp., including a *Cypraea* sp. shell *lūhe'e* lure part that is perforated on both ends measures 6.8 centimeters by 4.5 centimeters by 3.2 centimeters (Figure 89). Modern cultural materials were also present including a glass bottle located 4 meters west of the entrance, cloth rags just inside the entrance, and abalone shell (from Big Island Abalone Corp. located south of the project area). Three narrow blister chambers with ceilings too low to access extend to the west of the main tube chamber.

#### Feature B

Feature B is a trail segment that extends in a northwest direction from the main entrance of Feature A through the 'a'ā flow in the western portion of Site 30381 (see Figure 80). The trail surface consists of stepping stone slabs that are aligned down the center of a 0.7 to 1 meter wide a cleared pathway (Figure 90). Feature B is traceable for a length of 10 meters, and then disappears at the edge of a smooth *pāhoehoe* lava flow.

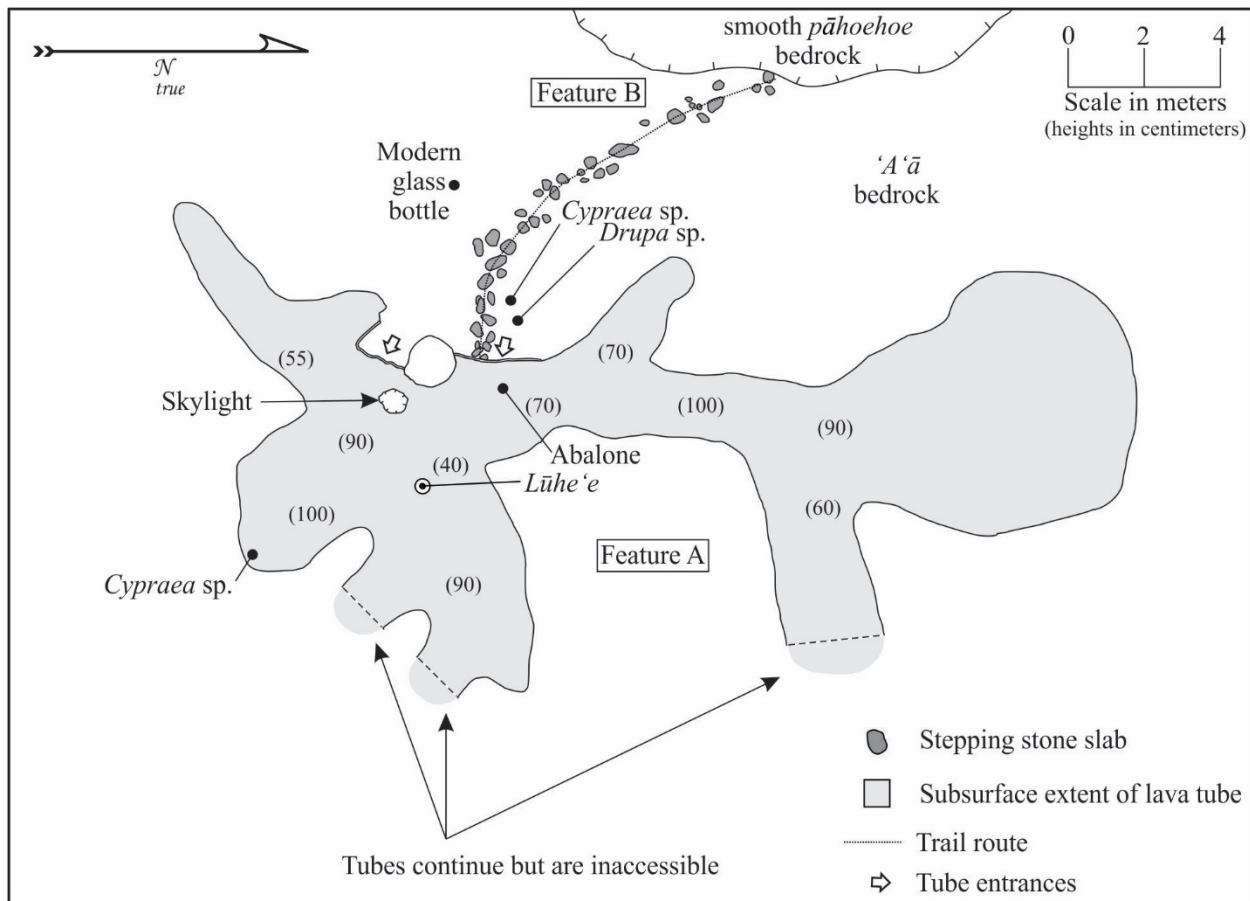


Figure 87. SIHP Site 30381 plan view.



Figure 88. SIHP Site 30381, entrances to Feature A, view to the east.



Figure 89. SIHP Site 30381, perforated *Cypraea* sp. shell (portion of *lūhe'e* lure).





Figure 90. SIHP Site 30381, Feature B stepping stone trail, view to the northwest.

### SHIP Site 30382

Site 30382 is a modified lava blister located in the south/central portion of the current study area (see Figure 47). The blister is accessed along the southwestern edge of an elevated 'a'ā flow (Figure 91). The blister chamber extends 4 meters (northeast/southwest) by 2.2 meters (northwest/southeast), and has a ceiling height of 0.7 meters near the entrance that tapers to 0.5 meters in the center (Figure 92). Outside the entrance the ground appears to have been cleared of cobbles that may have been deposited to the west where a large pile of cobbles extends along the flow edge. A second, more deliberate pile of cobbles and small boulders is located at the southern end of the entrance (Figure 93). The cobble pile measures 1.3 meters (east/west) by 1 meter (north/south), and stands 0.8 meters tall. The cobble pile extends from outside the overhang to the interior, and occupies a low, unusable section of the blister. Just north of the cobble pile, a *Cypraea* sp. shell was observed on the bedrock blister floor, 0.8 meters from the overhang, and goat skeletal remnants were scattered throughout the interior (Figure 94). At the northeast end of the chamber it narrows, and becomes inaccessible. A second accessible blister chamber located 1 meter to the north did not contain any cultural remains. The adjacent cave may have been utilized as a sitting area, as it is comparable to the ceiling height of the main blister, and it also has an inaccessible continuation extending to the northeast. The remnants of a modern camp consisting of 2 x 4 posts, scraps of a blue tarpaulin, and tin and aluminum cans were observed 24 meters north of Site 30382. The camp was likely constructed and used by rock collectors. Based on the attributes of Site 30382, it likely functioned as a temporary shelter or rest area.



Figure 91. SIHP Site 30382, blister openings in the side of the elevated 'a'ā lava flow.

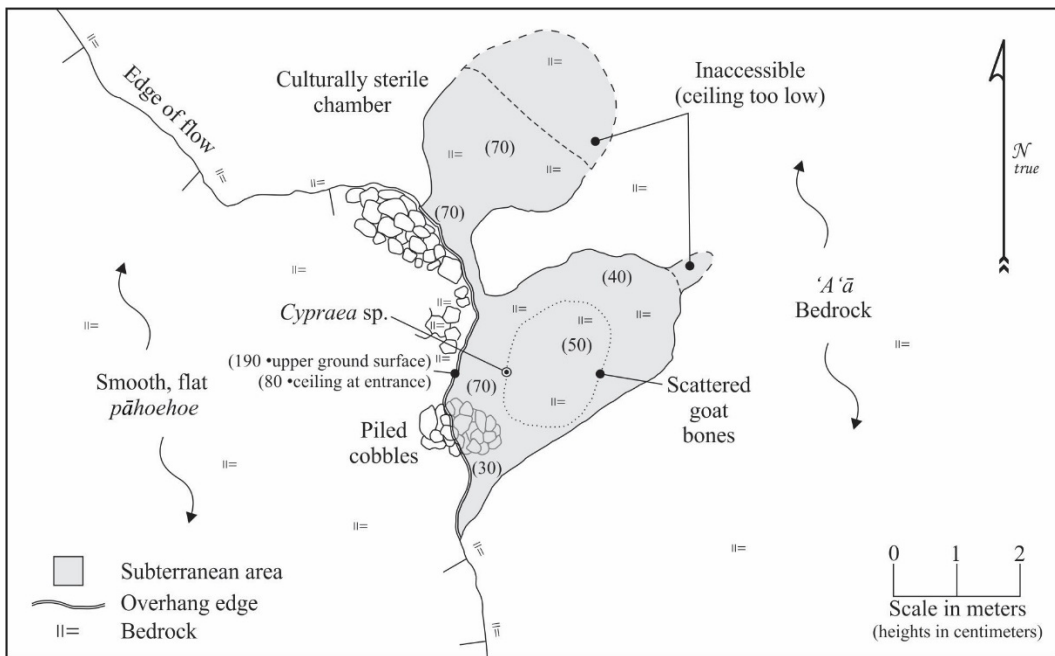


Figure 92. SIHP Site 30382 plan view.

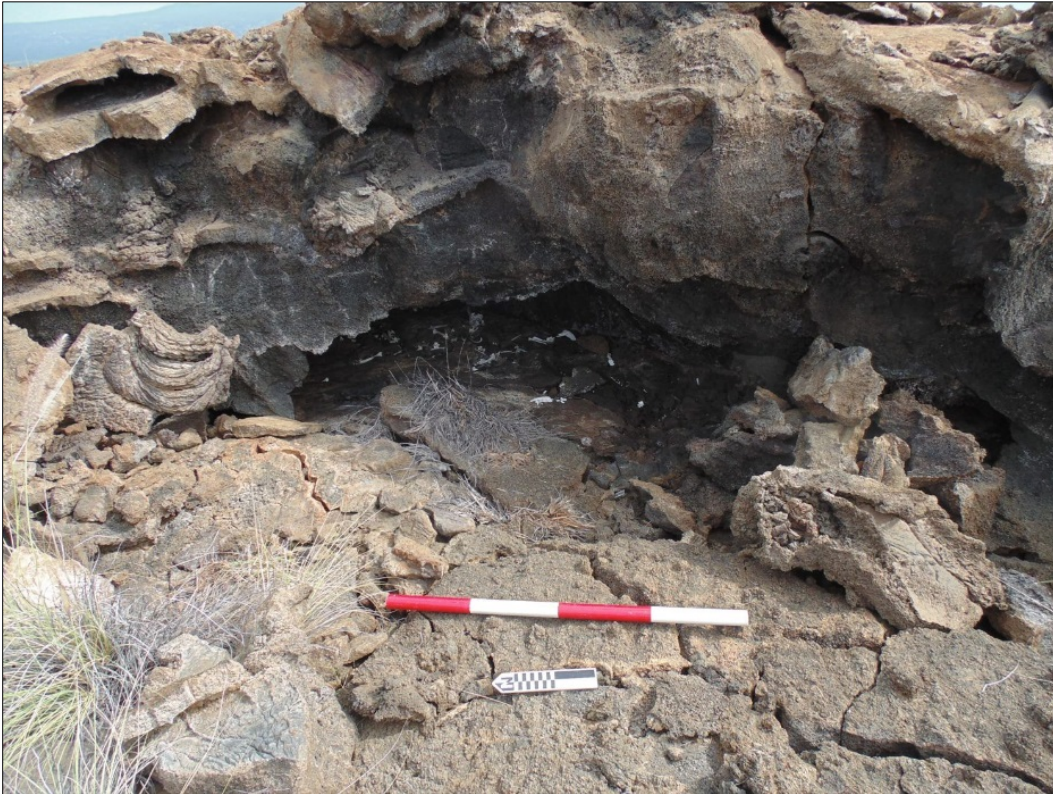


Figure 93. SIHP Site 30382, cleared blister entrance with cobble pile on the south side, view to the east.



Figure 94. SIHP Site 30382, scattered goat bones on the blister floor, view to the northeast.

### SIHP Site 30384

Site 30384 consists of a rock-ring located in the central portion of the study area (see Figure 47). It measures 1.8 meters in diameter, stands 0.2 meters tall, and is constructed of approximately 70 small to medium cobbles and slabs (Figure 95). The feature is constructed on a level *pāhoehoe* bedrock ground surface (Figure 96).

In the immediate vicinity of Site 30384 are three features that appear to be associated with modern rock collection activities centered around a heavily excavated domed *pāhoehoe* formation that is located 4 meters to the west of the rock ring (see Figure 97). The modern features include a small cairn composed of four small stacked slabs on the northeastern portion of the dome, and a collection of excavated slabs and a small cairn that are both located west of the formation (Figure 98).

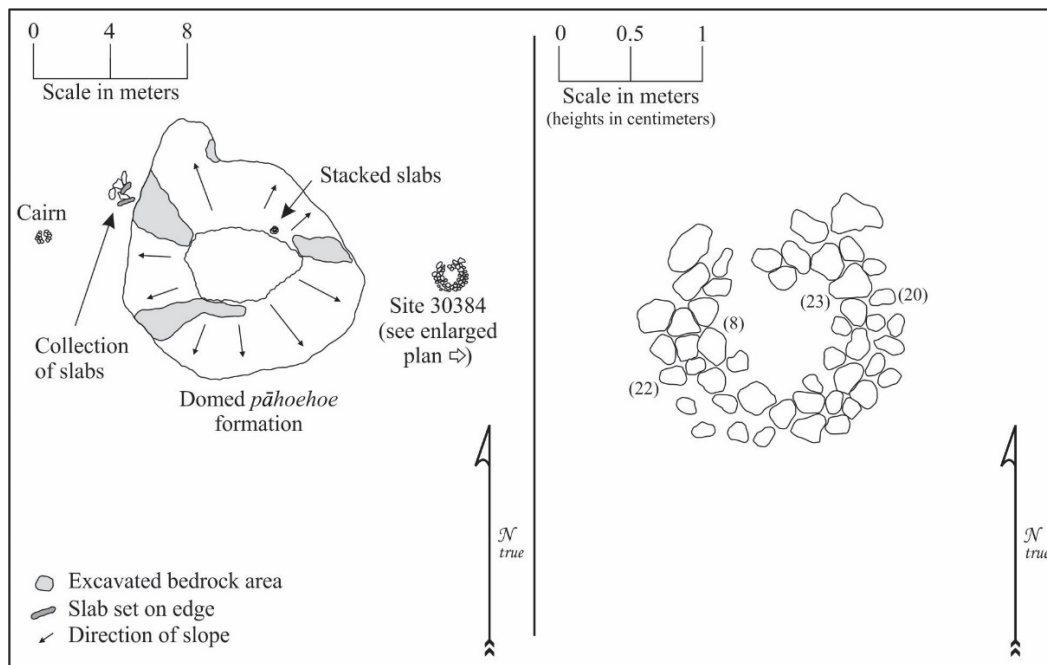


Figure 95. SIHP Site 30384 plan view.

### SIHP Site 30383

Site 30383 is a cobble alignment located in the central portion of the project area, approximately 60 meters northwest of the 'a'ā flow edge (see Figure 47). The alignment is situated on a level *pāhoehoe* bedrock surface and measures 3.5 meters long by 0.75 meters wide and stands 5 to 30 centimeters tall (Figure 99). The feature is constructed of loosely piled small to medium slabs and cobbles (Figure 100). No cultural material was observed.

Located approximately 15 meters southwest of the alignment is the end of a temporary rebar fence. A collection of 20 small and medium *pāhoehoe* slabs placed upright in a horizontal stack is located 13 meters southeast from the alignment. The collection of slabs measures 1.1 meters long by 0.5 meters wide and stands up to 38 centimeters tall (Figure 101). The slabs were likely stockpiled by rock collectors from adjacent *pāhoehoe* excavations observed to the south and west, and appears to be modern in age.

### SHIP Site 30385

Site 30385 is a rock ring located in the south/central portion of the current study area (see Figure 47), 20 meters *mauka* of the Māmalahoa Trail (SIHP Site 2). This site is situated among undulating slabby *pāhoehoe* and smooth *pāhoehoe* bedrock that has been heavily impacted by modern rock collection excavations. The rock ring measures 1.8 meters in diameter, stands up to 40 centimeters tall, and has a piled encircling wall with a few upright slabs that averages 0.4 meter wide (Figure 102). The site is constructed of small to large slabs, with a few angular cobbles on flat, smooth *pāhoehoe* (Figure 103).

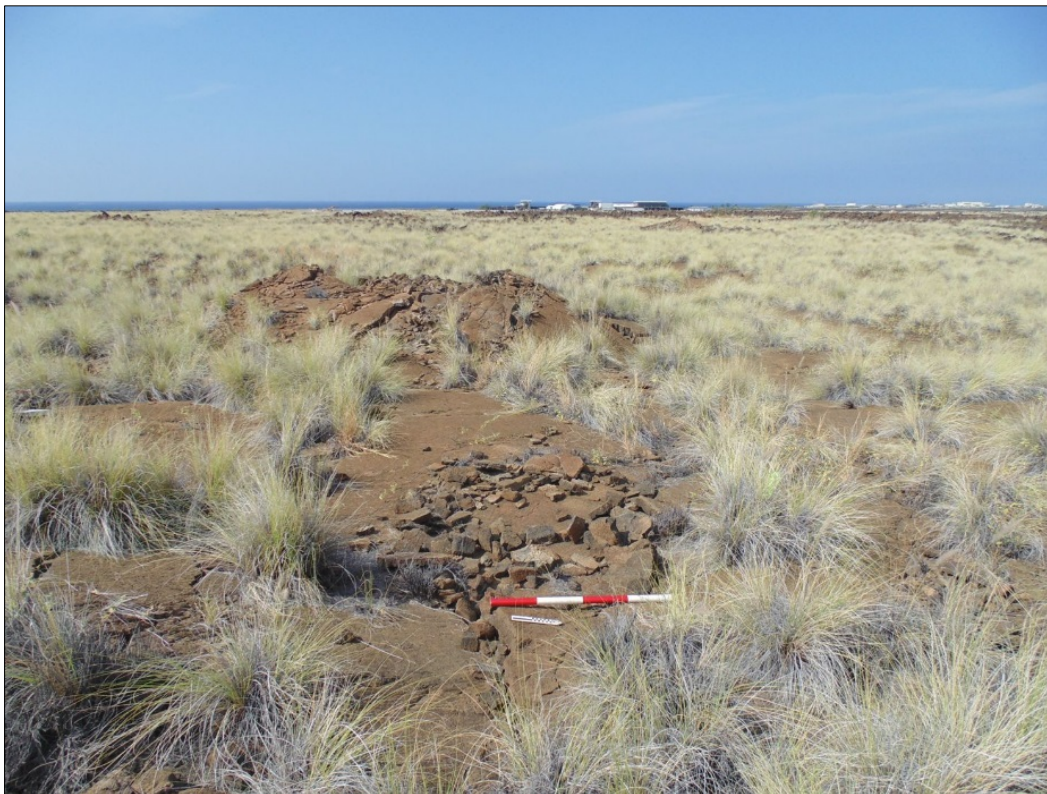


Figure 96. SIHP Site 30384, rock-ring, view to the west.

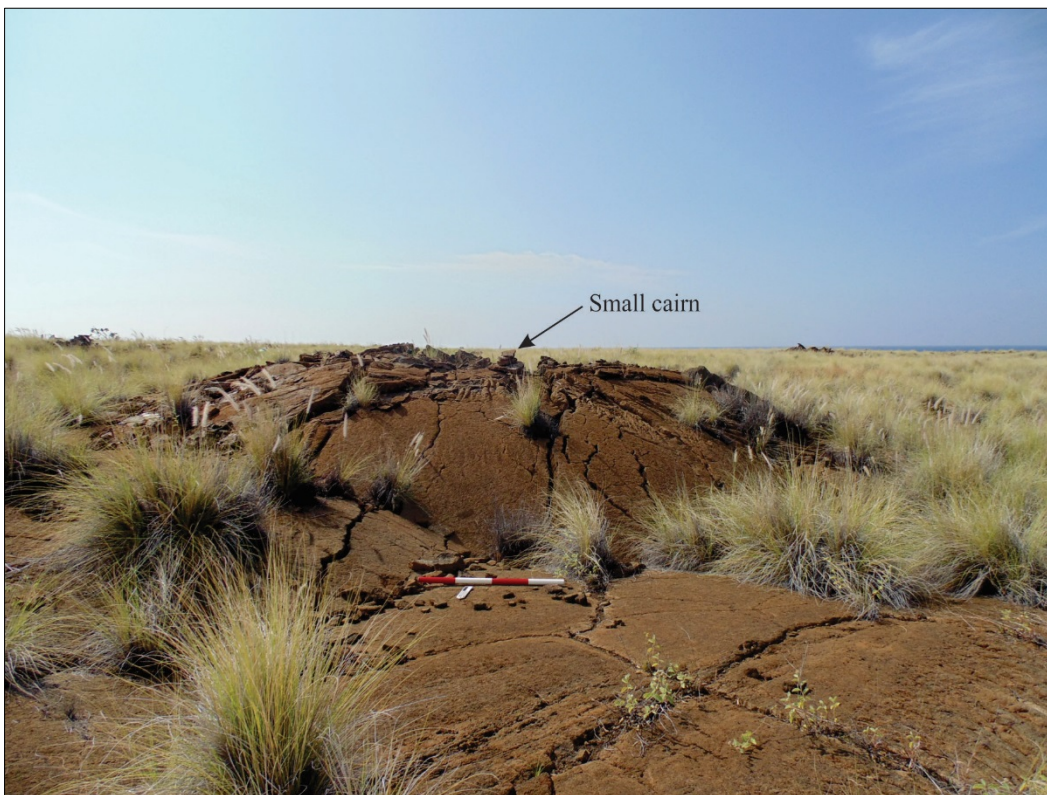


Figure 97. SIHP Site 30384, small cairn on the domed *pāhoehoe* formation, view to the south.

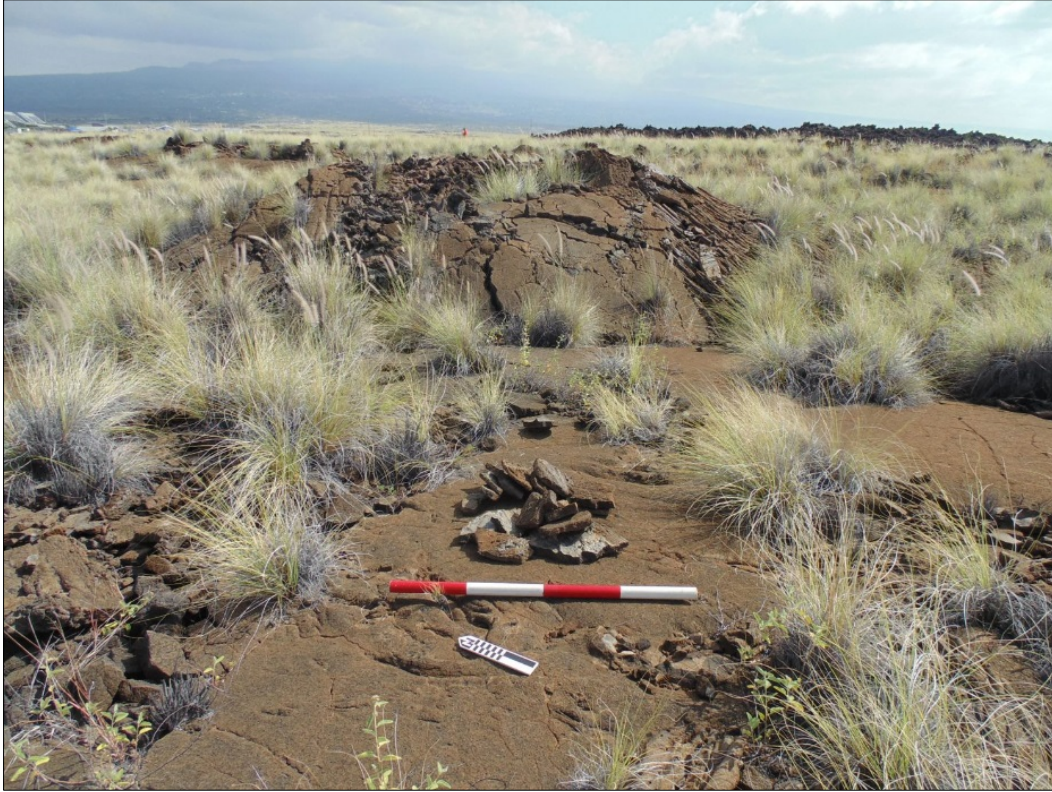


Figure 98. SIHP Site 30384, cairn on a level bedrock surface to the west of the domed *pāhoehoe* formation, view to the northeast.

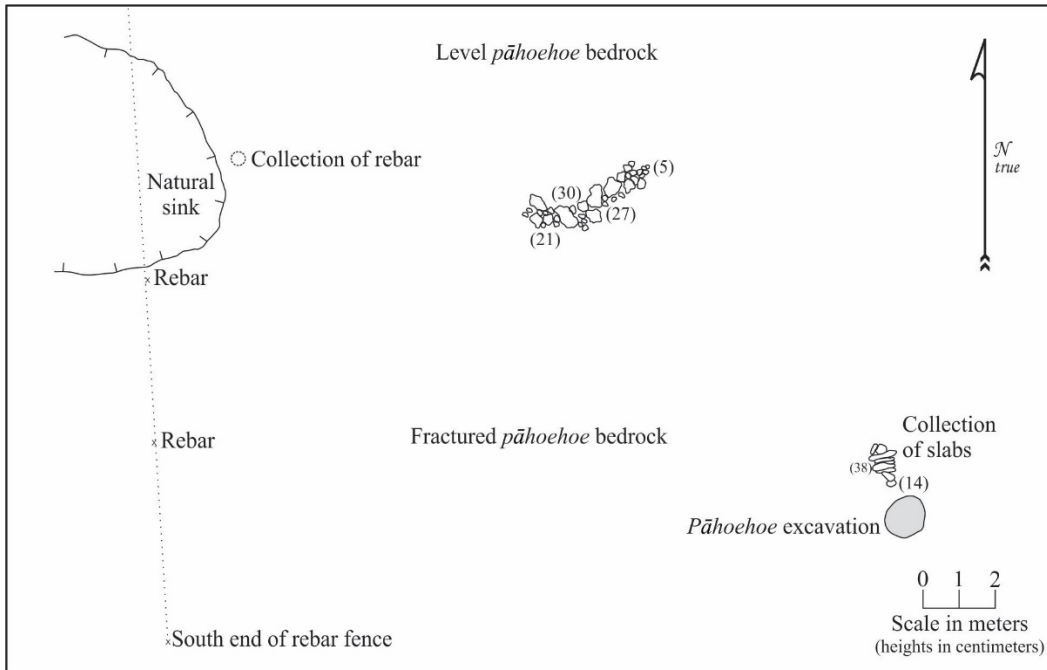


Figure 99. SIHP Site 30383 plan view.

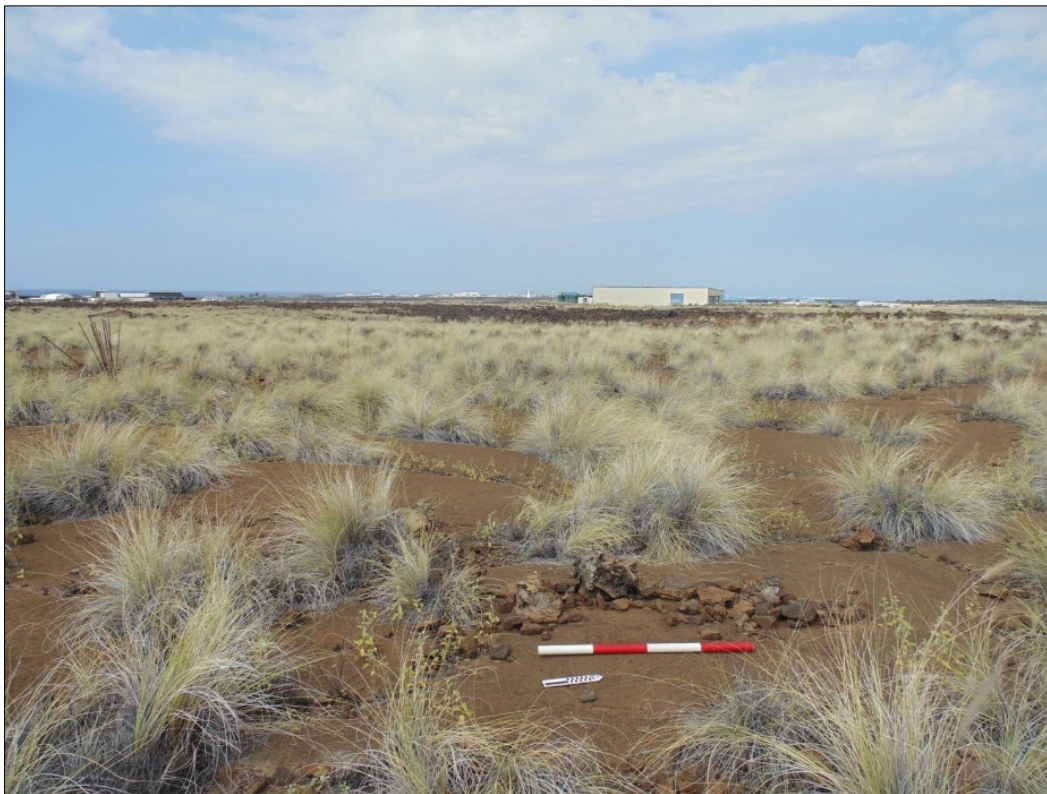


Figure 100. SIHP Site 30383 alignment with rebar fencing at left, view to the west.

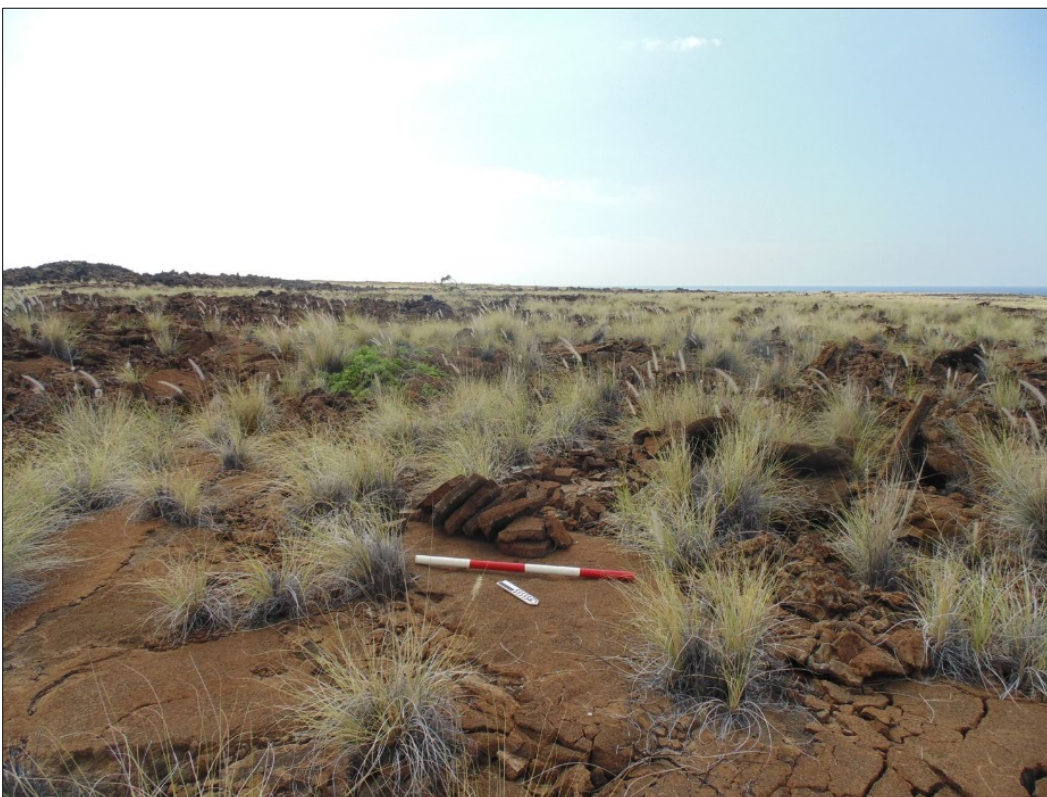


Figure 101. SIHP Site 30383, collection of slabs southeast of the alignment, view to the southwest.

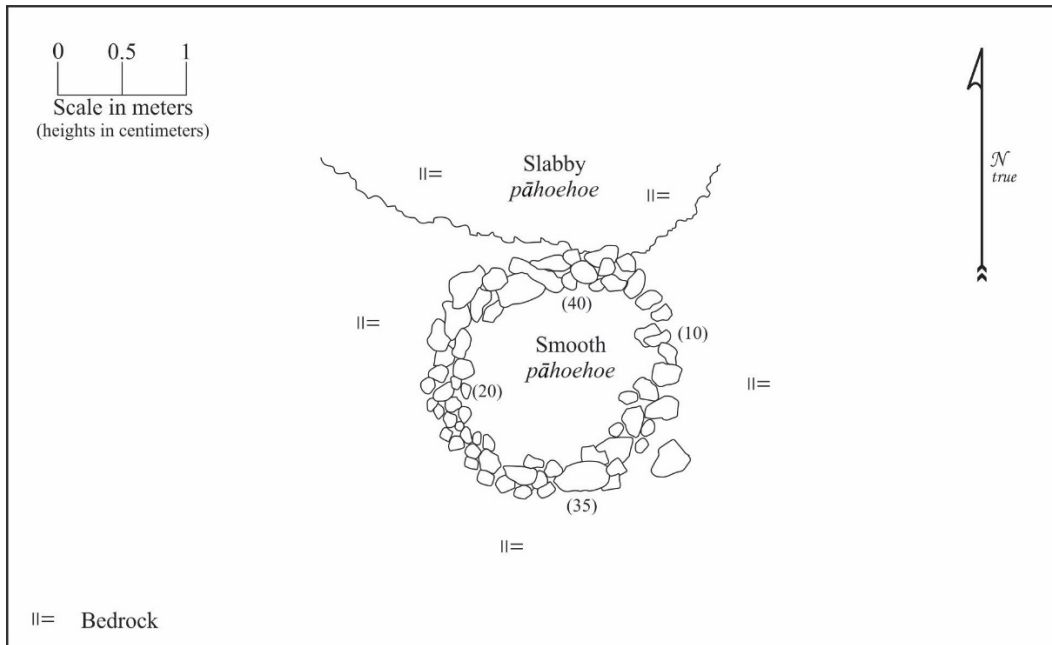


Figure 102. SIHP Site 30385 plan view.

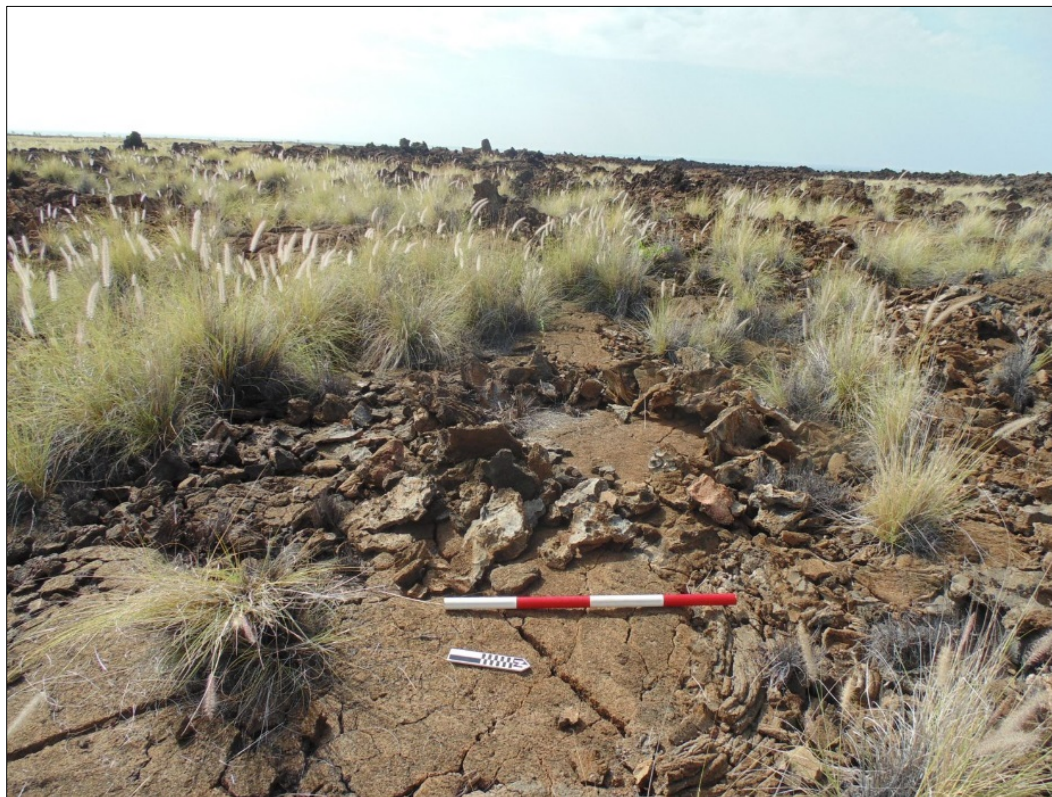


Figure 103. SIHP Site 30385, rock ring, view to the west.



### SIHP Site 30386

Site 30386 is a semi-circular rock ring located in the southeast portion of the project area, approximately 60 meters south of Site 6432 (see Figure 47). The feature is situated on a level, fractured *pāhoehoe* bedrock surface that slopes gently to the west. It measures 1.6 meters long by 1.25 meters wide and is open to the northeast (Figure 104). It is constructed of approximately 40 small and medium slabs and cobbles (Figure 105). It has exterior heights ranging from 10 to 15 centimeters tall and interior heights from 14 to 21 centimeters tall. There are numerous modern *pāhoehoe* excavations to the northeast and southwest of the feature.

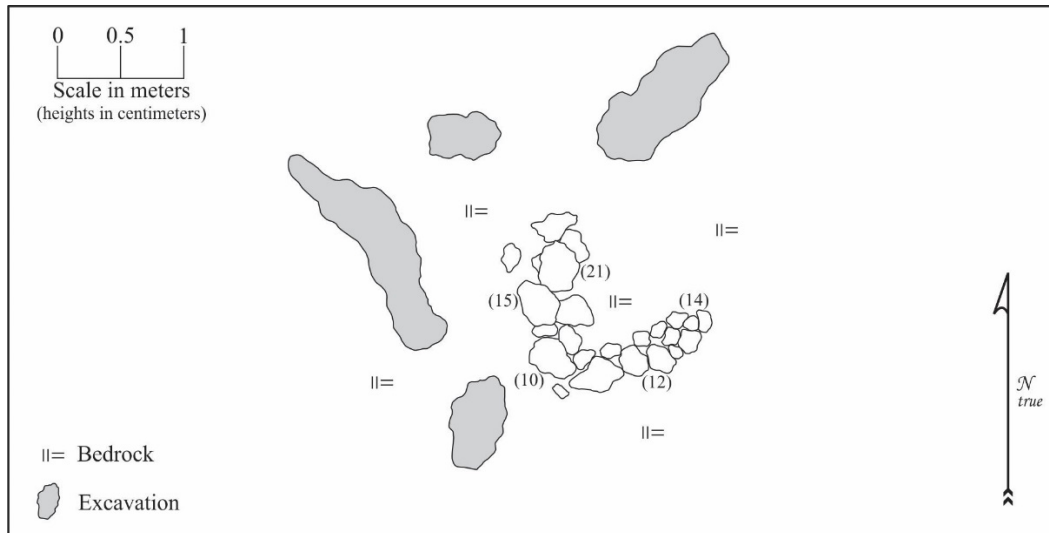


Figure 104. SIHP Site 30386 plan view.

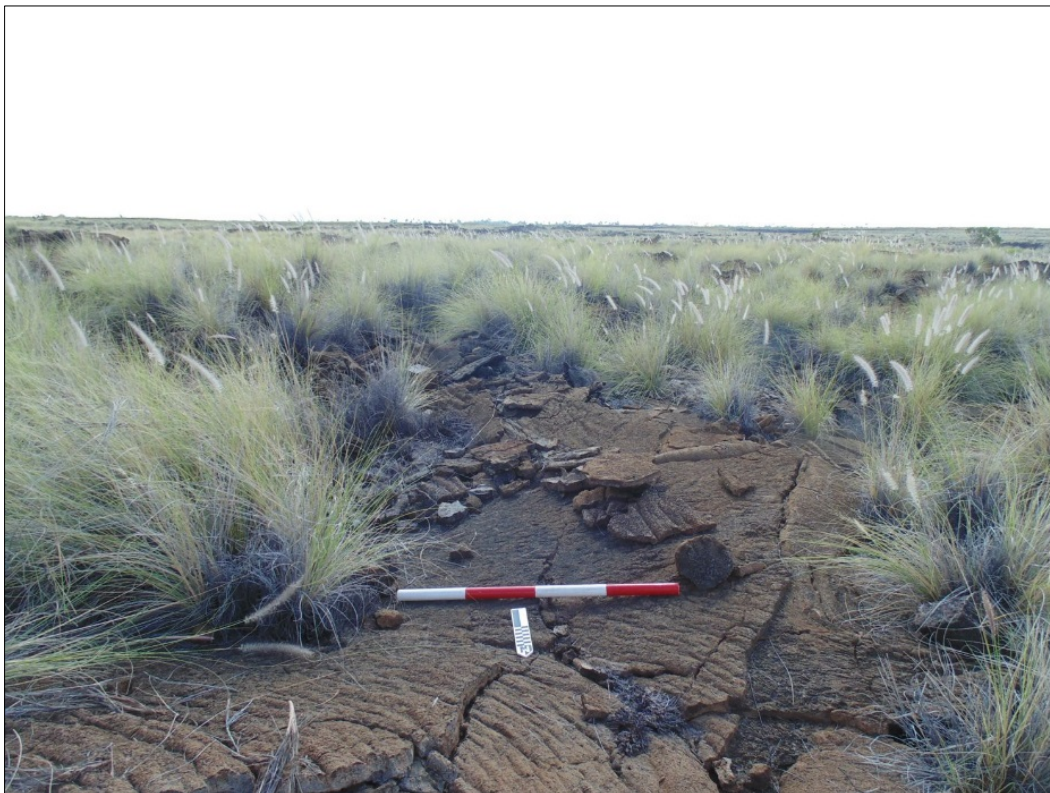


Figure 105. SIHP Site 30386, semi-circular rock ring, view to the south.

## SUMMARY AND DISCUSSION

As a result of the current inventory survey fourteen archaeological sites were recorded within the 110-acre portion of the NELHA HOST Park located south of Makako Bay Drive. Six of the sites within the study area were previously documented by Barrera (1985a, 1989) and Rechtman and Clark (2012); seven sites were newly identified. The previously documented sites include the Māmalahoa Trail (SIHP Site 50-10-27-2), a Historic boundary wall (SIHP Site 50-10-27-6432), a cairn (SIHP Site 50-10-27-10153), a *pāhoehoe* excavation (SIHP Site 50-10-27-10164), two rock rings (SIHP Sites 10165 and 10173), and a Historic Period petroglyph (SIHP Site 50-10-27-10178). Two sites formerly documented by Barrera (1985a), a midden scatter (SIHP Site 50-10-27-10151) and a cairn (SIHP Site 50-10-27-10152), were not relocated and are thought to have been destroyed by bulldozing. The seven newly recorded sites include three lava blisters used for shelter and habitation purposes (SIHP Sites 50-10-27-30380, 30381 and 30382), three rock rings (SIHP Site 50-10-27-30384, 30385 and 30386), and a rock alignment (SIHP Site 50-10-27-30383). The following summary and discussion of the archaeological sites encountered within the current study area is organized by site type, arranged (with the corresponding sites in parentheses) by Trails (SIHP Site 2), Lava Blisters (SIHP Sites 30380, 30381, and 30382), Boundary Markers (SIHP Sites 6432 and 10178), Rock Rings/Alignments (SIHP Sites 10165, 10173, and 30384 to 30386), and Cairns and *Pāhoehoe* Excavations (SIHP Sites 10153 and 10164).

### Trails

Trails were (and still remain) an integral part of the cultural landscape of Hawai‘i that provided access for local and regional travel, subsistence activities, cultural and religious purposes, and for communication between extended families and communities. Along the trails of Kekaha are found a wide variety of cultural resources, including, but not limited to residences (both permanent and temporary), enclosures and exclosures, wall alignments, agricultural complexes, resting places, shelters, storage areas, resource collection sites, ceremonial features, *ilina* (burial sites), petroglyphs, secondary trails, and other sites of significance that were important to those who once lived and travelled in the region (Rechtman and Maly 2003). Trail routes identified within the current study area (Figure 106) include two short stepping-stone pathways leading to the blister entrances of Sites 30380 and 30381, and a section of the Māmalahoa Trail (SIHP Site 2), that has already been preserved within an established preservation easement (Rechtman and Clark 2004).

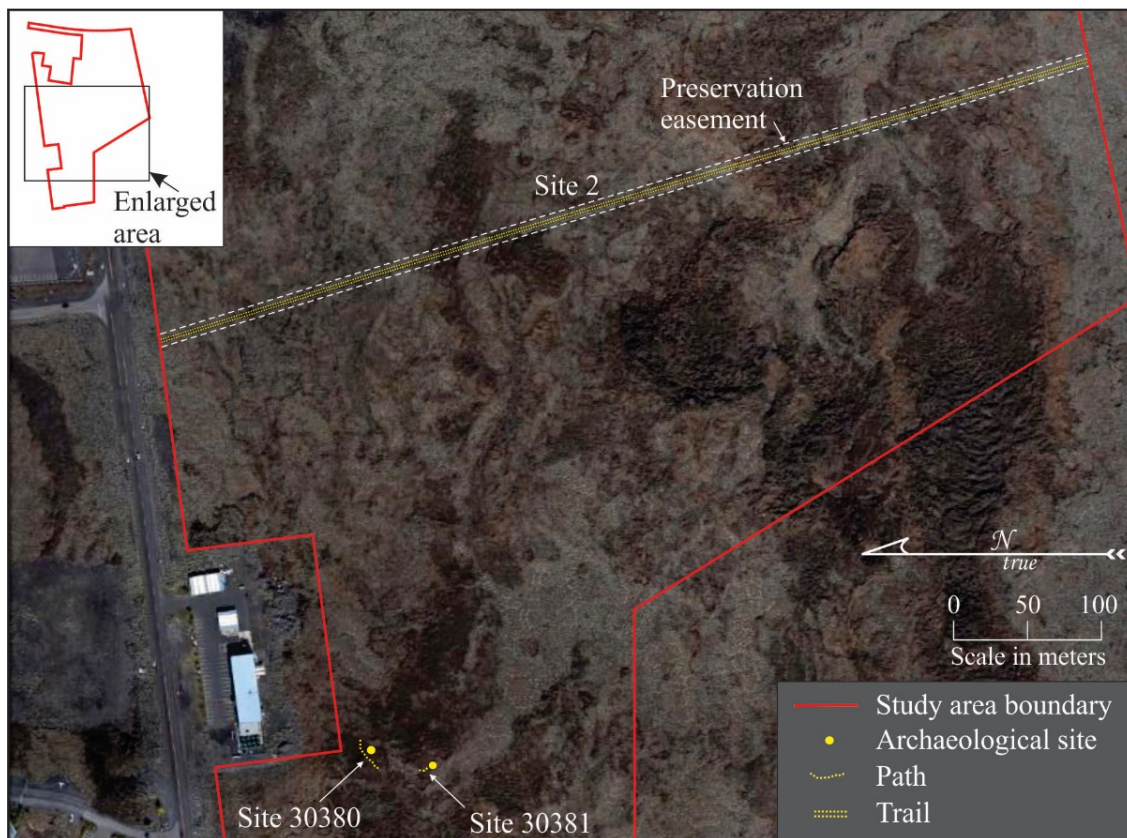


Figure 106. Satellite image showing the trail sites identified within the study area.

Most trails in ancient Hawai‘i began as unplanned, informal pathways that formed over time, as a result of frequent use (Hommon 2013), as the first settlers of an area established residency, sought out the diverse resources of their newly settled lands, and expanded. Eventually, the resulting network of trails included lateral trails (*alahahele*) that followed the shore linking the various communities and *ahupua‘a* of each region, and *mauka/makai* trails – trails that extended from the shore to the uplands (generally known as – *ala pi‘i uka* or *ala pi‘i mauna*). *Mauka/makai* trails were typically found within each *ahupua‘a*, and they connected the coastal communities with upland settlement, agricultural, and resource areas.

As the various trail networks expanded throughout the Precontact Period, regional thoroughfares (*alaloo*) were established that linked diverse communities around the entire island. In Kekaha, at the time of Western contact, two traditional trails were of regional importance – the near shore *alaloo*, and the upland route of *Kealaehu* (The path of Ehu; Rechtman and Maly 2003). The *alaloo* across ‘O‘oma 1<sup>st</sup> and 2<sup>nd</sup> *ahupua‘a* followed the coast *makai* of the current study area.

In ancient Hawai‘i, trails were maintained solely for foot travel (Kirch 1985). Their design was typically determined by the environmental zone and the natural topography of the land, and tended to meander following the easiest terrain between two points of travel. Owing to the varied terrain of Kekaha, the trails of this area exhibit a variety of construction methods, including the making and marking of cleared, worn paths on *pāhoehoe* or ‘*a‘ā* lava surfaces, cobble or slab stepping-stones across ‘*a‘ā* flows (such as are found at SIHP Site 30380 and 30381), and trails across sandy shores and dry rocky soils. Apple (1965) notes that stone cairns often marked the best route across smooth *pāhoehoe* surfaces where trail construction was not necessary. For nighttime travel coral was sometimes placed along trail routes to help travelers find their way in the moonlight (Hommon 2013). A few instances of kerbstone or coral-cobble lined trails were also found in Precontact Hawai‘i, but as Apple (1965) relates most trails lined with kerbstones were built or modified for horse travel during the nineteenth century, after Western contact.

By the mid-nineteenth century, as wheeled carts and draft animals became more common in the Kona District, portions of the nearshore *alaloo*, the upland route of *Kealaehu*, and other *alahahele* connecting them were realigned (straightened out), widened, and smoothed over, while other sections were simply abandoned for newer more direct routes (Rechtman and Maly 2003). These modified trail routes became a part of a system of “roads” called the *Alanui Aupuni*, or Government Roads. SIHP Site 2 is the designation for the *makai* Government Road through Kekaha (built in ca. 1847), an alignment that later become known as the Māmalahoa Trail or King’s Highway, a portion of which crosses the current study area (see Figure 106). In establishing this road, portions of the nearshore *alaloo*, including the section across the *ahupua‘a* of ‘O‘oma, were abandoned and the new road was realigned far enough inland to make a straight route across the landscape, and thus cut down on travel times to and from Kailua (or points in between). Where the 1847 Government Road crosses the lands of ‘O‘oma (Figure 107), the alignment includes several construction methods, including being lined with curbstones; elevated; and with stone filled “bridges” in areas that level out the contour of the roadway.

The realignment of the *alaloo* in favor of the 1847 Government Road took travel away from the coast, an area that had once been well settled, but that by the mid-1800s was only sparsely populated, as most of the residents of Kekaha had chosen to reside permanently in the more agriculturally productive upland areas (Rechtman and Maly 2003). Work on the roads was funded in part by Government appropriations, and through the labor or financial contributions (tax) of area residents and prisoners working off penalties; in general, in lieu of paying a tax, adult residents of a given *ahupua‘a* had to devote a portion of their time to maintaining the Government Roads across that *ahupua‘a*. By the middle to late 1800s, the *kula* lands, from around the 900-foot elevation to the shore, were primarily used for goat, cattle, and donkey pasturage. The families of the uplands regularly traveled to the coast via trails to go fishing, or to round up cattle, goats, or donkeys (Rechtman 2006). Maps of the late nineteenth century show the Government Road as the primary route of travel across the *makai* lands of Kekaha, but do not generally show the *mauka/makai* trails traveled by the residents of the uplands to the coast.

Two *mauka/makai* trail routes were identified within the NELHA lands to the north of Makako Bay Drive, one in ‘O‘oma 1<sup>st</sup> *Ahupua‘a* (SIHP Site 29272) and another in Kalaoa 5<sup>th</sup> *Ahupua‘a* (SIHP Site 30315), but evidence that such trail routes once existed within the current study area can only be inferred by the presence of the short stepping-stone paths associated with Sites 30380 and 30381. These pathways are similar constructions that both lead to lava blister habitations and are only traceable across the ‘*a‘ā* flows on which they are constructed. The pathways are not identifiable across the smooth *pāhoehoe* bedrock surfaces at which they terminate, indicating that they are likely spur routes extending to specific resources (i.e. the lava blister habitation/shelter locations) from a trail that once avoided the rough ‘*a‘ā* lavas and followed a meandering course across the smooth *pāhoehoe*. Identifying former trail routes across the *pāhoehoe* surfaces within the current study area has been made difficult by the activities associated with the widespread mining of materials for modern rock wall construction, including the creation of 4WD roads, the

#### 4. Fieldwork

removal of entire bedrock surfaces, the creation of new rock stacks and cairns, and the likely removal of older trail markers. The route of a former *mauka/makai* trail extending past Sites 30380 and 30381 can also be inferred by the presence of an inland heading trail recorded at the coast of ‘O‘oma 2<sup>nd</sup> Ahupua‘a in the vicinity of Site 1910 (see Donham 1987; Rechtman 2007). The route of this trail, if projected in a northeasterly direction from that site, would carry it past the two lava blisters, likely to Site 29272, a primary *mauka/makai* trail that extends from Wawaloli at the coast of ‘O‘oma 1<sup>st</sup> Ahupua‘a to the upper Government Road in Kalaoa 4<sup>th</sup> Ahupua‘a. This trail, which may have formed as a foot path during the Precontact Period, is labeled “Kauhini Road” on the 1924 U.S.G.S. Keāhole Point quadrangle. Site 29272 was converted to a Jeep trail during the 1940s, and served as the main *mauka/makai* access route in the ‘O‘oma until the 1970s.



Figure 107. SIHP Site 2, Māmalahoa Trail across the NELHA HOST Park lands in ‘O‘oma, view to the northwest.

#### Lava Blisters

Three lava blister sites (SIHP Sites 30380, 30381, and 30382) and one non-cultural blister were identified within the current study area (Table 5 and Figure 108). A lava blister is a small hollow within a solidified *pāhoehoe* lava flow that formed from gas bubbles pushing up the lava’s viscous surface during the flow event. Lava blisters become accessible when portions of the lava crust surrounding the hollow collapse inward or are pulled outward. A lava blister, like a lava tube, is also only considered an archaeological site if cultural material or modification is present. The lava blisters encountered within the current study area were used for habitation and shelter purposes during the Precontact and possibly early Historic Periods. None of these sites were identified by Barrera (1985a).

**Table 5. Lava blister sites identified within the current study area.**

<i>SIHP No.*</i>	<i>Functional Type</i>	<i>Age</i>
30380	Shelter/Habitation	Precontact
30381	Shelter/Habitation	Precontact
30382	Shelter	Precontact

\*SIHP Site numbers are preceded by the State, Island, and USGS quad prefix 50-10-27-.

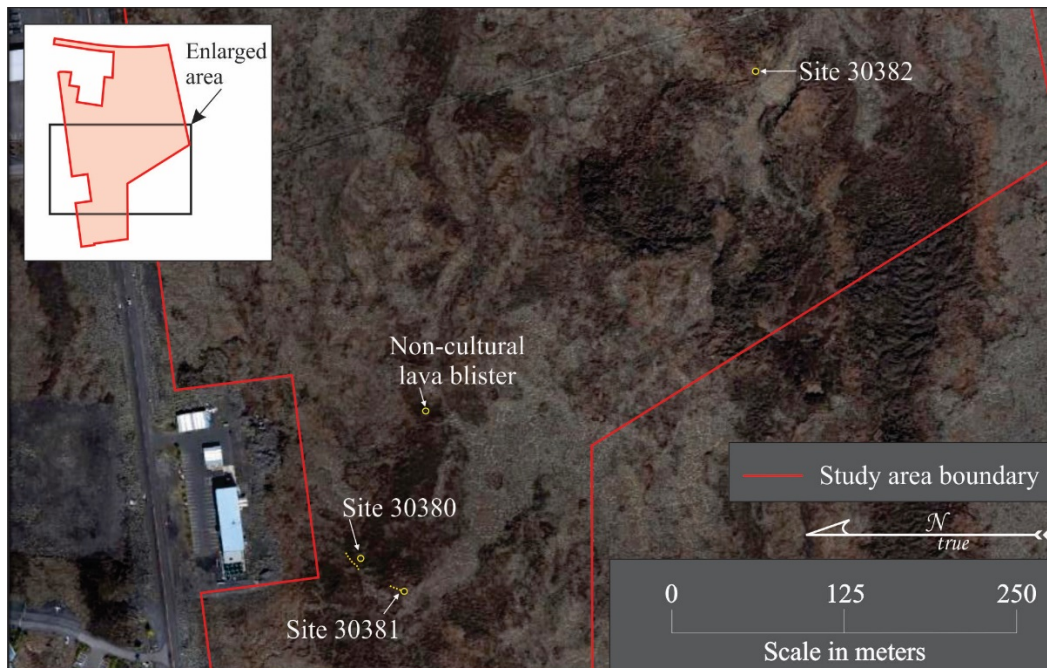


Figure 108. Satellite image of the central portion of the project area showing the lava blister locations.

For the Hawaiian population that once resided in Kekaha and the *ahupua'a* of 'O'oma, lava tubes and lava blisters were an important natural resources that were utilized extensively in a diverse number of ways. Hammatt and Folk, who documented several lava tubes *mauka* of the current study area, point out that:

. . . in the context of a hot dry bare lava landscape [of Kekaha], they [lava tubes] offered an oasis for the Hawaiians. Not only did they provide shelter from the wind, sun and rain, they provided one of the few perennial sources of fresh water in an otherwise waterless environment. Occupation caves were selected with these considerations in mind. The temperature in the shelter of a sink overhang or tube entrance is noticeably cooler than the outside. A gourd container placed under a drip can supply a constant and reliable supply of cool water. Sinks and caves are an important and neglected aspect of Hawaiian settlement. We know now that the Hawaiians pursued everyday domestic life within these places and running into them to hide is only one late aspect of their use. Even today in Kona there are Hawaiians alive whose parents and grandparents have a memory of domestic life in caves. (1980:100)

The resources provided by lava tubes and blisters (such as shelter and water) could not be diminished by time or use. As fixed locations on the landscape determined by the lava flows themselves, these features, once discovered, were visited again and again, or occupied more or less permanently, as the first settlers of an area sought out the diverse resources of their newly settled lands and expanded. As Cordy (1985) suggests, the presence of lava tube (or lava blister) shelters would have played a significant role in determining the routes that *mauka/makai* trails took from the coast to the uplands across the lower barren zone of 'O'oma and Kalaoa *ahupua'a*. Cordy goes on to elaborate about the relationship between lava tubes and trails in the upper barren zone of the *ahupua'a*:

At the inland end of the barren zone at 200-400 foot elevation, the density of sites in Kalaoa 5 and Ooma 1 increases. . . In these *ahupua'a* a large number of cave shelters were found located in lava tubes off lava sinks, and the floor of the sinks also had features. Deposits, other than in platforms, varied in depth from 5-30 cm, and many areas back in the tube shelters and on the sink floors had no surface deposits. These caves had extensive features reflecting recurrent, short-term usage – multiple hearths, many tiny platforms and enclosures (Hammatt and Folk 1980). Davis (1977) suggests that surface cairns in the vicinity might mark trails, and the Ching, Cluff & Riley [Ching et al. 1969] site location map shows trails heading inland toward this area. Thus these caves may well be shelters associated with the trails. (1985:32)

#### 4. Fieldwork

Although no continuous Precontact trail route was identified within the current study area, the two lava blisters located in the vicinity of the northern boundary, Sites 30380 and 30381, have pathways through the 'a 'ā that perhaps linked up to a main trail (not identified within the current study area) that extended along adjacent smooth *pāhoehoe*. The presence of the pathways possibly exemplifies the lava tube (or blister)/trail relationship discussed by Cordy (1985). All of the lava blisters identified within the study area occur on Parcel 089, and are situated within *pāhoehoe* lava substrates that are immediately adjacent to slabby *pāhoehoe* and 'a 'ā flows.

Two of the lava blisters (Sites 30380 and 30381) recorded within the current study area have relatively large subterranean areas, and contain Precontact Period artifacts and marine shell (food remains), and the third (Site 30382), which has very limited space, contains one single marine shell fragment. The cultural deposits at Sites 30380 and 30381 are indicative of intermittent use as temporary habitation, with architectural components limited to stacked or piled cobbles near the entrances. The lack of cultural deposits and the small covered area of Site 30382 is more indicative of a temporary shelter. A fourth blister that contained a foam sleeping pad, did not contain any archaeological remains (Figure 109). Modern rubbish found at or near the three Precontact Period lava blisters suggests they have recently been used as shelters.



Figure 109. Non-cultural lava blister in the central portion of the study area, view to the west.

#### Boundary Markers

There are two sites within the current project area that function as boundary markers (Sites 6432 and 10178). These sites delineate two separate sections of the boundary between 'O'oma 1<sup>st</sup> and 2<sup>nd</sup> *ahupua'a*, which extends east/west through the center of the study area in the east and central portion, and at the west end, represents the southern study area boundary (Figure 110). Both sites are visual markers of the boundary constructed during the Historic Period. Site 6432 is a core-filled wall constructed along the *ahupua'a* boundary in the eastern portion of the study area, and Site 10178 is a series of cairns and Historic period petroglyphs marking the boundary in the western/central portion of the study area. Site 6432 was likely constructed as a cattle containment sometime after 1899 when John Maguire, the founder of Hu'ehu'e Ranch, received General Lease No.'s 1001 and 590 for grazing purposes within this portion of the 'O'oma 2<sup>nd</sup> government lands. The wall, as shown on the 1924 U.S.G.S. Keāhole Point quadrangle, separates Maguire's grazing lands from the Kalaoa-'O'oma Homesteads, and marks the northern boundary of the lease area and a portion of the northern boundary of 'O'oma 2<sup>nd</sup> *Ahupua'a*. The earliest markers within Site 10178 likely date to 1902, when S. M. Kananui and his assistant George F. Wright surveyed for the Kalaoa-'O'oma Homesteads, the government lease lands acquired by Maguire, and laid out a realigned portion of the *makai* Government Road that was never built. Subsequent markers were added to the site during the latter Historic and Modern Periods.



Figure 110. Satellite image showing the 'O'oma 1<sup>st</sup> and 2<sup>nd</sup> boundary markers.

## Rock Rings/Alignments

Five rock rings and one rock alignment were identified within the current study area (Table 6 and Figure 111). Rock rings, and the rock alignment identified are minimally constructed circular, semi-circular, or linear arrangements of cobbles and slabs that occur exclusively on flat *pāhoehoe* bedrock surfaces. These features are typically single course, piled constructions. The height of the ring is generally determined by the height of the largest rock used in the construction (usually no more than 20 to 40 centimeters tall), and the rock material is always locally available *pāhoehoe* found in the immediate vicinity of the feature. No cultural debris was associated with any of the rock ring features. Two of the rock rings identified within the current study area (SIHP Site 10165 and SIHP Site 10173) were previously recorded by Barrera (1985a, 1989) and interpreted as C-shaped structures used for Precontact Period temporary habitation purposes (see Appendices A and B). The other three rock rings and one alignment were newly recorded during the current fieldwork.

**Table 6. Rock ring features identified within the current study area.**

<i>Site #*/Feat. #</i>	<i>Shape</i>	<i>Dimensions (m)**</i>	<i>Type</i>	<i>Opens to</i>
10165	Semi-circular	1.4 x 1.2 x 0.15	Open	South
10173	Semi-circular	1.8 x 1.8 x 0.22	Open	Northeast
30384	Circular	1.8 x 1.8 x 0.2	Closed	-
30385	Circular	1.8 x 1.8 x 0.4	Closed	-
30386	Semi-circular	1.6 x 1.25 x 0.21	Open	Northeast
30383	Alignment	3.5 x 0.75 x 0.3	Linear	-

\*SIHP Site numbers are preceded by the State, Island, and USGS quad prefix 50-10-27-.

\*\*Length x width x height.

While Barrera (1985a, 1989) previously interpreted the two rock ring features he recorded within the current study area as C-shaped structures used for Precontact Period temporary habitation purposes, the identification of three additional features of this type within the current study area and thirty-five such features within the 210-acre area north of Makako Bay Drive, and further inspection of all of the rock rings identified, suggests that they are actually a unique feature type, distinct from the ubiquitous C-shaped structures widely described elsewhere in Hawaiian archaeological literature (c.f. Kirch 1985). Although the specific function and age of the rock ring features is not known, it seems unlikely (although not impossible), given their small size, low walls, and various shapes, that they were utilized for temporary habitation purposes. The attributes, distribution, and possible associations of the rock ring features contained within the study area are summarized below, and a number of possible alternative functional interpretations for these features are discussed.

The rock ring features recorded within the current study area are all small, low constructions, ranging from 1.3 to 1.8 meters in diameter and standing 0.15 and 0.4 meters tall. The rock rings take two primary forms, circular and semi-circular (see Table 6). The circular rock rings (n=2; 40%) entirely surround an interior space with no opening; the semi-circular rock rings (n=3; 60%) partially surround an interior space that is open on the opposite side. The semi-circular rock rings are similar in appearance to C-shaped structures, but typically C-shapes located in a given geographic context (ones that were utilized for Precontact temporary habitation purposes) are all oriented in a like manner, usually determined by the direction of the nighttime breezes (C-shapes in this part of North Kona often open to the west to block the prevailing off-shore breezes that blow down from the mountains at night). The semi-circular rock rings within the current study area open in two directions, to the northeast (66%), and to the south (33%).

The five rock rings, and the rock alignment, are widely dispersed across the current study area with no grouping in any particular area. Site 30384 is located 45 meters west of the alignment SIHP Site 30383, which is the closest distance between any of these features, however the two features do not appear to be interrelated. Although the rock rings and the alignment are isolated from other archaeological features, each is within close proximity to recent *pāhoehoe* excavations and associated stacks of slabs, which is not to indicate that they are associated with the modern disturbance (thirty-five such features were identified to the north of Makako Bay Drive within areas where widespread rock removal during modern times had not occurred), but could suggest that additional similar features were removed by the recent collection of rock material.

Given the formal attributes, distribution, and associations of the rock ring features recorded within the study area the following potential functional interpretations are offered: (1) that the rock rings are in fact C-shaped structures used for Precontact temporary habitation purposes, and that they may have been located along trail routes that are (for the most part) not evident and not marked across the *pāhoehoe* bedrock surfaces; (2) that they are associated with the collection or processing of a specific, but unknown, resource of the lower barren zone of the study *ahupua'a*; or (3)



that they are associated with the 1902 survey of the Kalaoa-‘O‘oma Homesteads. As discussed above, given the lack of associated cultural debris and the various orientations and formal attributes of the rock rings, the Precontact use of these features for temporary habitation purposes seems unlikely.



Figure 111. Rock ring and rock alignment site distribution.

That these features were somehow related to the collection or processing of local resources such as plants (e.g. the collecting or drying of *pili* grass or medicinal herbs during the Precontact Period), animals (e.g. creating nesting habitat or trapping birds during the Precontact Period, or trapping goats during the Historic Period), or *pāhoehoe* (e.g. the stock piling rock materials for building purposes during any of the relative time periods), seems plausible, but it is difficult to explain how these rock rings would have been used in any of the ventures. The stock piling of rock material for construction purposes during the Historic Period seems the most likely of any of these scenarios, as the rocks could have been piled in a particular location and then picked up by cart and hauled across the *pāhoehoe* to the *makai* Government Road where they then could have been transported anywhere, or used to build the road itself; the rock rings could represent the base stones of piles that were left when the cart was full.

Within the Phase I project area north of Makako Bay Drive, there was found to be a temporal relationship between several rock rings and the Historic survey markers recorded within that study area. It seemed quite possible that the rock ring features were associated with the 1902 survey of the Kalaoa-‘O‘oma Homesteads. The rings could represent stones used to hold the base of the transit tripod in place at various locations on the *pāhoehoe* surfaces while the surveyors were taking measurements during the months of May and April of that year (Wall 1902), or they could mark triangulation points used in the geodetic survey, or they could represent the bases of cairns that were built and later dismantled, or perhaps been used as temporary shelter locations. Again, however, the lack of associated cultural debris at any of the rock rings is troubling. If these features were indeed created during the Historic Period, one would expect to find at least some Historic debris, such as bottle glass or metal, in their vicinity. Unless found in ethnographic-historical resources through direct ethnographic analogy, or through direct informant testimony, it is unlikely that the specific function of these rock ring features will ever be known.

#### **Cairns and *Pāhoehoe* Excavations**

Barrera (1985a) documented only one *pāhoehoe* excavation (SIHP Site 10164) and two cairns (SIHP Sites 10152 and 10153) within the current study area during the previous archaeological survey. While conducting the current inventory survey, however, it quickly became evident that the study area lands have been extensively mined during recent years for *pāhoehoe* slabs and cobbles, and that nearly all of the *pāhoehoe* surfaces within the study area have been excavated, and that countless cairns and rock stacks have been erected adjacent to the excavations and the 4WD roadways used to access them and collect the materials (see Figure 51). This modern excavation is much more widespread than was observed within the Phase I study area north of Makako Bay Drive, where 69 cairns and 255 *pāhoehoe* excavations were identified as features of the archaeological sites recorded within that 210-acre portion of the NELHA HOST Park (Clark et al. in prep.).

None of this modern excavation was noted by Barrera (1985a, 1989). It is possible that the modern disturbances were present during those studies, but that Barrera simply didn't mention them because they were modern in age. It is equally possible that the project area was not subject to such disturbances until after Barrera's studies. The majority of debris associated with the excavations appears to date from the late 1970s to the 1990s, suggesting that either or both scenarios could be correct. Whatever the case, the modern collection of material by rock wall builders within the current study area has certainly had a detrimental effect on the earlier archaeological resources, the magnitude of this effect is difficult to gauge however. North of Makako Bay Drive, where Barrera (1985a) incidentally noted similarly few of these feature types, the 255 *pāhoehoe* excavations and 69 cairns were concentrated along the route of the 1847 Government Road (SIHP Site 2), and along the two *mauka/makai* trail routes (SIHP Sites 29272 and 30315). The *pāhoehoe* excavations were interpreted as having been created by quarrying and resource assaying activities, and the cairns were interpreted as unspecified markers, survey markers, and trail markers; the *pāhoehoe* excavations and cairns were assigned to all three of the relative time periods (Precontact, Historic, and Modern) based on their archaeological associations.

Within the current 110-acre study area, while it is likely that cairns and *pāhoehoe* excavations from the Precontact and Historic Periods were once present, recent quarrying has made differentiation between the relative time periods at these features impossible, and effectively rendered all *pāhoehoe* excavations and cairns, because of the disturbances, Modern creations. The only exceptions are the three sites previously documented by Barrera (1985a) and the cairns associated with the Site 10178 boundary markers. One of the cairns previously recorded by Barrera has been destroyed (SIHP Site 10152) by modern bulldozing activities along Makako Bay Drive. The other (SIHP Site 10153) is a non-descript rock stack interpreted as an unspecified marker. The lone *pāhoehoe* excavation (SIHP Site 10164) recorded by Barrera (1985a) has an associated water-worn bashing stone, suggesting that it was created during the Precontact Period for unknown purposes likely related to resource assaying or quarrying activities.

## 5. SIGNIFICANCE EVALUATION AND TREATMENT RECOMMENDATIONS

The above-described archaeological sites are assessed for their significance based on criteria established and promoted by the DLNR-SHPD and contained in the Hawai‘i Administrative Rules 13§13-275-6. These significance evaluations should be considered as preliminary until DLNR-SHPD provides concurrence. For a resource to be considered significant it must possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of the following criteria:

- a Be associated with events that have made an important contribution to the broad patterns of our history;
- b Be associated with the lives of persons important in our past;
- c Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;
- d Have yielded, or is likely to yield, information important for research on prehistory or history;
- e Have an important traditional cultural value to the native Hawaiian people or to another ethnic group of the state due to associations with traditional cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group’s history and cultural identity.

The significance and recommended treatment for all seventy-three sites documented sites is presented in Table 7 and discussed below.

**Table 7. Site significance and treatment recommendations.**

<i>SIHP Site #*</i>	<i>Site Type</i>	<i>Temporal Affiliation</i>	<i>Significance</i>	<i>Recommended Treatment</i>
2	Māmalahoa trail	Historic	a, c, d, e**	Preservation
6432	Wall	Historic	d, e**	Limited preservation
10153	Cairn	Unknown	d	No further work
10164	<i>Pāhoehoe</i> excavation	Unknown	d	No further work
10165	Rock ring	Unknown	d	No further work
10173	Rock ring	Unknown	d	No further work
10178	Survey markers	Historic	d	No further work
30380	Lava blister	Precontact	d	Data recovery
30381	Lava blister	Precontact	d	Data recovery
30382	Lava blister	Precontact	d	No further work
30384	Rock ring	Unknown	d	No further work
30383	Rock alignment	Unknown	d	No further work
30385	Rock ring	Unknown	d	No further work
30386	Rock ring	Unknown	d	No further work

\*SIHP Site numbers are preceded by the State, Island, and USGS quad prefix 50-10-27-.

Table 13 continued on next page.

\*\*previously determined by DLNR-SHPD

The significance of Sites 2 and 6432 has already been evaluated, and DLNR-SHPD has approved those evaluations. Site 2 (the Māmalahoa Trail; 1847 Government Road) was previously determined significant under Criterion a, c, d, and e (Wolforth 1999), and recommended for preservation. The portions of Site 2 that traverse the NELHA property have been previously addressed in a preservation plan prepared by Rechtman and Clark (2004), and the site currently extends across the NELHA HOST Park within an established preservation easement.

Site 6432 was previously determined significant under Criterion d and e, and has been approved for limited preservation treatment (Monahan et al. 2012; Rechtman and Clark 2012). The position of DLNR-SHPD regarding Site 6432 is that they would like to see, where possible, portions of this wall preserved. To that end, NELHA has already agreed (Rechtman and Clark 2012) to make an effort to preserve sections of this wall where it does not interfere with the road development activities or with the future use of tenant leased parcels. A preservation plan addressing Site 6432 should be prepared in accordance with HAR §13-277 and submitted to DLNR-SHPD for review and approval.

## 5. Significance Evaluation and Treatment Recommendations

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The twelve other sites identified within the study area are assessed as significant solely under Criterion d for information they have provided relative to the history and prehistory of the current study area. Two of the lava blister sites (SIHP Site 30380 and 30381) fall within the right-of-way of a future proposed roadway across the NELHA lands. It is recommended that these two sites undergo archaeological data recovery prior to the occurrence of any ground disturbing activities in their vicinity. A data recovery plan addressing Sites 30380 and 30381 should be prepared in accordance with HAR §13-278 and submitted to DLNR-SHPD for review and approval. The remaining ten sites (SIHP Sites 10153, 10164, 10165, 10173, 10178, and 30382 to 30386), which have been fully documented as a result of this study and possess only extremely limited potential for further data collection, are recommended for “No further work”.

It is the final recommendation of this study that a qualified archaeological monitor be present during any ground-disturbing activities associated with development within the current study area, and that an archaeological monitoring plan compliant with HAR §13-279 be prepared prior to the commencement of such activities.

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## APPENDIX A – Barrera (1985a) Site Descriptions

### Site 2 [Mamalanoa Trail]

This is a Nineteenth Century kerb-stone lined footpath approximately 1.5 meters in width that runs through the project area [Figure 49].

### SITE 10,151

This is a midden scatter consisting of one shell of a limpet [Cellana sp.], one snell of a cowrie [Cypraea sp.], and one snell of a Drupa ricina, covering an area of about 1 by 5 meters.



Figure 8. Site 10,151, looking north.

SITE 10,152

This is a stone mound measuring about 1 by 1 meter and standing to a height of about 90 centimeters.



Figure 9. Site 10,152, looking west.

SITE 10,153

This is a stone mound measuring about 1.2 by 1.2 meters and standing to a height of about 90 centimeters.



Figure 10. Site 10,153, looking northeast.

SITE 10,154

This is a habitation structure measuring approximately 13 meters in length and 3 meters in width, and standing to a height of about 1 meter.

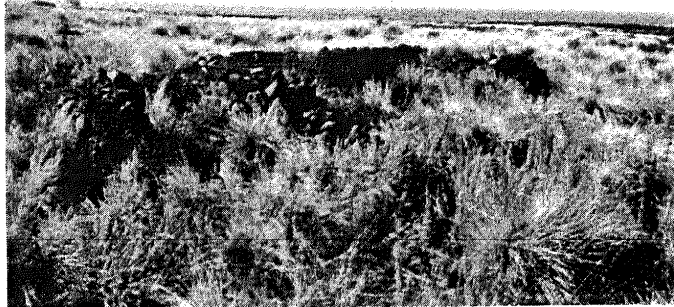


Figure 11. Site 10,154, looking southwest.

SITE 10,164

Blocks of lava have been removed from the natural pahoehoe bedrock to form this feature, which is a cavity in the lava measuring about 1.5 by 1 meter, and about 60 centimeters deep. Its function is unknown.



Figure 22. Site 10,164, looking east.

SITE 10,165

This is a crude C-shaped habitation shelter measuring about 1.3 meters in length, with a wall measuring approximately 50 centimeters in width and standing to a height of about 25 centimeters.



Figure 23. Site 10,165, looking west.

SITE 10,172

This is a C-shaped habitation structure measuring approximately 2 meters in length with a wall approximately 40 centimeters wide and standing to a height of about 30 centimeters.



Figure 30. Site 10,172, looking west.

SITE 10,173

This is a C-shaped habitation structure measuring approximately 2 meters in length with a wall approximately 60 centimeters wide and standing to a height of about 40 centimeters.



Figure 31. Site 10,173, looking west.

SITE 10,178

This site consists of two petroglyphs. One is a crude oval, the other consists of the letters "CN." Their close proximity to a boundary corner suggests that they may be early surveyor's marks.



Figure 39. Site 10,178, looking northeast.



## APPENDIX B – Barrera (1989) Site Descriptions

### SITE 10154

This is a well-constructed shelter built against a bedrock ledge plus an adjacent short wall section, covering an area of 3 by 10.3 meters. The shelter measures 7.8 meters in length and 3 meters in width, and stands to a height of 1.2 meters. Its wall, which measures between 0.65 and 0.95 meter in width, encloses an area of 14.4 square meters and covers an area of 8 square meters. The short wall section measures 0.8 by 1.7 meters and stands to a height of one meter. Although no midden or artifacts were found at the site, its proximity and similarity in construction to the adjacent historic period boundary wall suggests that it is of the same age, but its function remains unknown.

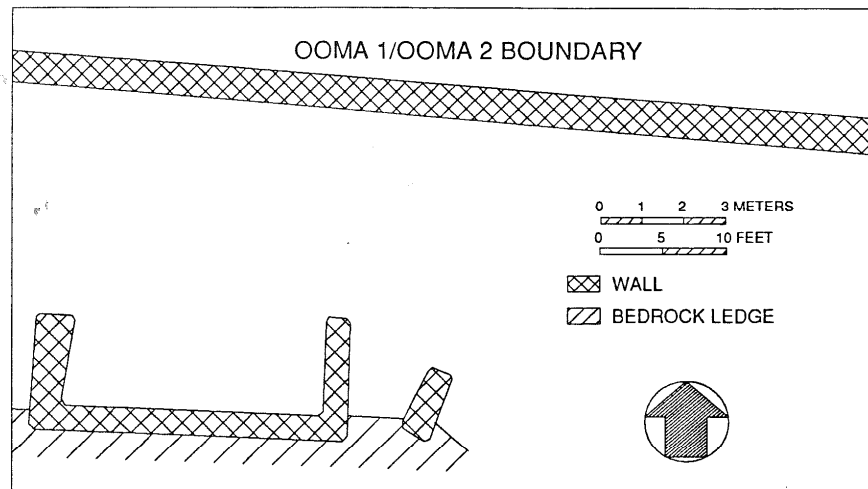


Figure 23. Plan of SITE 10154.



Figure 24. SITE 10154, Looking Southwest.

SITE 10165

This is a crude C-shaped habitation shelter measuring 1.2 by 1.6 meters and standing to a height of 0.2 meter. The 0.5 meter wide wall covers an area of 0.7 square meter and encloses an area of 0.6 square meter. The entire feature covers an area of 1.4 square meters. The site was probably a temporary shelter used during the prehistoric period, but the lack of dateable remains prevents a firmer age determination.

SITE 10172

This is a C-shaped structure measuring 1.6 by 1.8 meters and standing to a height of 0.3 meter. The wall is 0.4 meter wide, covers an area of 1.4 square meters and encloses an area of 0.9 square meters. The entire feature covers an area of 2.3 square meters. It was probably a temporary habitation during the prehistoric period.

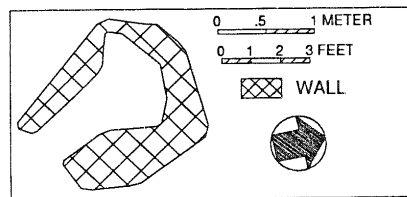


Figure 48. Plan of SITE 10172.

SITE 10173

This is a C-shaped structure measuring 1.6 by two meters and standing to a height of 0.3 meter. The wall is 0.6 meter wide, covers an area of 1.2 square meters and encloses an area of 0.9 square meter. The entire feature covers an area of 2.2 square meters. It was probably a temporary habitation shelter during the prehistoric period.

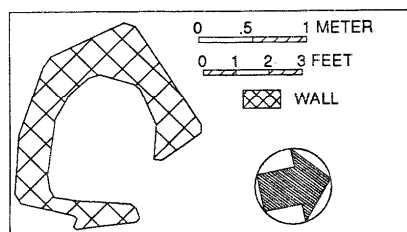


Figure 49. Plan of SITE 10173.

## APPENDIX C – Monahan et al. (2012) Site Descriptions

### 5.2.65 SIHP # 50-10-27-06432

**Temp. Site No.:** n.a. (Davis 1977)

**Site Type:** Core-filled Stone Wall

**No. of Features:** 1

**Functional Interpretation:** *Ahupua'a* Boundary

**Probable Age:** Historic

**Overall Dimensions:** See Description Below

**Topography:** Wall Crosses Varied Terrain

**Elevation:** 50-420 ft (15-128 m) AMSL

**Description:**

**SIHP # 50-10-27-06432** was first formally described by Davis (1977) (see Figure 24). The site was revisited during the current archaeological inventory survey and found to be in the same physical condition as described by Davis (Figure 178). The site was described by Davis (1977) as follows:

Site 6432 . . . Is the stone boundary wall between Ka-laoa-O'oma and Ka-laoa *ahupua'a*. Given the fact that this wall is nearly transit-like straight and is constructed of core-filled masonry, it is likely a historic feature. No further work is recommended.

Davis (1977) also provides quantitative data on the dimensions of SIHP # 06432: 1,920.24 m in overall length, 1.52-1.83 m (width range) and 1.00-1.20 m (height range), and describes it further as,

Very large and very straight wall of core-filled construction indicating it is most probably a historic wall; location on boundary of Kalaoa-O'oma and O'oma 2 *ahupua'a* suggests boundary wall built since the *Mahele* of 1848.

Walsh and Hammatt (1995:37) described the site as follows:

Site 6432 is a free-standing stone wall that forms the boundary between Kalaoa-O'oma and O'oma 2 . . . The wall has been breached in the construction of the present highway, but continues both *mauka* and *makai* for more than several hundred feet . . .

Walsh and Hammatt (1995) recommended SIHP # 06432 eligible for the National and State Registers of Historic Places under criterion D for its information relevant to prehistory and history. The site was recommended for “no further work” by Walsh and Hammatt (1995). The Final Archaeological Treatment Plan (1999) did not include this site, and, thus, concurred with CSH's 1995 recommendation.



Figure 178. SIHP # 06432; view to west

**5.2.64 SIHP # 50-10-27-10154****Temp. Site No.:** T-4 (Barrera 1985)**Site Type:** Walled Enclosure**No. of Features:** 1**Functional Interpretation:** Indeterminate-Possible Habitation**Probable Age:** Historic**Overall Dimensions:** 3.0 m N/S by 10.3 m E/W**Topography:** Level *pāhoehoe* flow**Elevation:** 105 ft (32 m) AMSL**Description:**

SIHP # 50-10-27-10154 was first formally described by Barrera (1985) (see Figure 24). For unknown reasons, Walsh and Hammatt (1995) do not mention or include SIHP # 10154 in their study, although it was clearly within the limits of their project area. The site was revisited during the current archaeological inventory survey and found to be in the same physical condition as described by Barrera (Figure 177). The site was described by Barrera (1985:11) as follows:

This is a habitation structure measuring approximately 13 meters in length and 3 meters in width, and standing to a height of about 1 meter.

Barrera (1989) provided additional detail in a data recovery effort that included SIHP # 10154:

This is a well-constructed shelter built against a bedrock ledge plus an adjacent short wall section, covering an area of 3 by 10.3 meters. The shelter measures 7.8 meters in length and 3 meters in width, and stands to a height of 1.2 meters. Its wall, which measures between 0.65 and 0.95 meters in width, encloses an area of 14.4 square meters and cover an area of 8 square meters. The short wall section measures 0.8 by 1.7 meters and stands to a height of one meter. Although no midden or artifacts were found at the site, its proximity and similarity in construction to the adjacent historic period boundary [SIHP # 06432] wall suggests that it is of the same age, but its function remains unknown.

Barrera's (1989) study was based on a data recovery plan developed by the Historic Sites Section of the Hawai'i Department of Land and Natural Resources (precursor to the SHPD). Based on the completion of the data recovery work, historic preservation work at SIHP # 10154 was considered complete at the time of Barrera's (1989) report. SIHP # 10154 was not included in the Final Archaeological Treatment Plan (1999), indicating concurrence with the treatment ("no further work") for this site.



Figure 177. SIHP # 10154 overall; view to southwest

**5.2.66 SIHP # 50-10-27-29347**

**Temp. Site Designation:** Mound 1 (Harp 2011)

**Site Type:** Mound

**No. of Features:** 1

**Functional Interpretation:** Possible Marker or Quarrying

**Probable Age:** Indeterminate

**Overall Dimensions:** Less than 1.0 m square (see description below)

**Topography:** Gently sloping *pāhoehoe* flow

**Elevation:** 109 ft (33 m) AMSL

**Description:**

**SIHP # 50-10-27-29347** is a small rock mound on *pāhoehoe*, bordered by *'a'ā* to the south. Vegetation includes fountain grass and *maiapilo* (*C. sandwichiana*). The site location is depicted in Figure 24. This site was pointed out to CSH by Isaac Harp, and was inspected and assessed as part of the supplemental survey of the north segment of the current project area (Monahan and Wilkinson 2012).

The mound measures approximately 50 cm N/S by 40 cm E/W and 25 cm high (Figure 179). The constituent rocks, which include a small boulder and cobbles, are loosely piled. A natural depression / sink containing nothing is just to the south. The immediate surrounding area lacks signs of impact or disturbance. There is no soil-sedimentary deposit at this site.

This site was interpreted by CSH archaeologists as either “likely modern,” given its extremely informal construction style, and possibly functioning as a quarrying feature; or, alternatively, as indeterminate in age, possibly at least 50 years old or greater, and perhaps representing a marker of some kind. It is unlikely, however, that any additional investigation of this site could resolve this uncertainty.



Figure 179. SIHP # 29347; view to west