RC-0244

Archaeological Inventory Survey of a Grant Increment Road Remnant Property
(TMK:3-7-6-08:005 por.)

Hōlualoa 1-2 Ahupua‘a
North Kona District
Island of Hawai‘i

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June 2004

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ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL STUDIES

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EXECUTIVE SUMMARY

With the permission of Pua‘anui Partnership and the *Nā Ala Hele* Program of the Department of Land and Natural Resources-Division of Wildlife and Forestry, Rechtman Consulting, LLC conducted an archaeological inventory survey of an approximately 800 meter long corridor within TMK:3-7-6-08:005, Hōlualoa 1-2 Ahupua‘a, North Kona District, Island of Hawai‘i. The survey resulted in the recordation of one Historic Period site: State Inventory of Historic Places Site (SIHP) 50-10-37-24211. This site is a rock wall-lined road that encompasses the entire project area. Background research indicates that the road was constructed in the late 1890s, presumably to provide grant recipients access to their parcels. SIHP Site 50-10-37-24211 is considered significant under Criterion D for information it has yielded relative to late nineteenth and early twentieth century land use. Specifically, this roadway identifies patterns of non-vehicular movement that late nineteenth and early twentieth century government grant recipients used during the course of their daily activities. The current study has fully documented this roadway and thus exhausted its research potential. No further work is recommended for this site.

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INTRODUCTION

At the request of Ramon Perez de Ayala of Pua‘anui Partnership (Partnership), Rechtman Consulting, LLC was contracted to address concerns the Partnership had with respect to a written Attorney General (AG) opinion (Appendix A) about the nature and disposition of a roadway that bisects a parcel (TMK:3-7-6-08:005) owned by the Partnership. In particular the Partnership was concerned with both ownership and historic preservation issues. The AG opinion indicates that the roadway may be a public right-of-way owned by the State of Hawai‘i under the jurisdiction of the Board of Land and Natural Resources. If the AG opinion were ultimately correct, then the roadway would be a discrete land unit separate from Parcel 005. While this study does not specifically address the ownership issue, it does contain an archaeologically derived description of the roadway property as a discrete land unit within TMK:3-7-6-08:005. As such this archaeological inventory survey provides a significance assessment for the site, and offers a treatment recommendation. Permission to undertake this study was given by both the Partnership and the *Nā Ala Hele* Program of the Department of Land and Natural Resources-Division of Wildlife and Forestry.

PROJECT AREA DESCRIPTION

The project area consisted of a narrow *mauka/makai* corridor running between Māmalahoa Highway (*mauka*) and Hualālai Road (*makai*) in Hōlualoa 1-2 Ahupua‘a (Figure 1). The surveyed corridor bisects TMK 3-7-6-08:005, measures approximately 800 meters long, and between 1.5 and 5 meters wide (Figure 2). Elevation ranges from 1000 to 1360 feet above sea level. Terrain in the corridor slopes in a *makai* direction at an approximately 6 to 20 percent. Surface topography was generally smooth with occasional very rocky and irregular areas. Sato et al. (1973) classify soils in the upperslope quarter of the project area as “Honuaulu extremely stony silty clay loam, 12 to 20 percent slopes (HVD)”. Soils in the Honuaulu Series consist of:

> …well drained silty clay loams that formed in volcanic ash. These are gently sloping to moderately steep soils on uplands. They are at an elevation ranging from 1,000 to 2,500 feet and receive from 60 to 80 inches of rainfall annually, mostly during the summer months. The mean annual soil temperature is between 65˚ and 68˚ F. The natural vegetation consists of Christmas berry, guava, hilograss, and molassesgrass. (Sato et al. 1973:19)

Soils of the Honuaulu Series are particularly suitable for coffee cultivation and pasture. Macadamia nuts, bananas, citrus fruits, avocado, and other vegetable crops are also grown to a lesser degree.

On the lower three quarters of the project area, soils are classified as “Punaluu extremely rocky peat, 6 to 20 percent slopes (rPYD)”. Punaluu Series soils are used mostly for pasture and consist of:

> …well-drained, thin organic soils over pahoehoe lava bedrock. These soils are gently sloping to moderately steep. They are on uplands at an elevation ranging from near sea level to 1,000 feet and receive from 60 to 90 inches of rainfall annually. The mean annual soil temperature is between 72˚ and 74˚ F. The natural vegetation consists of koa haole, Christmas berry, guineagrass, natal redtop, and sand bur. (Sato et al. 1973:48)

Current uses of the land surrounding the project area include coffee cultivation and pasturage on the upper slopes and abandoned pasture on the lower slopes. Much of the project area is overgrown. Grasses and shrubs dominate the upper half of the project area while young trees populate the lower half.

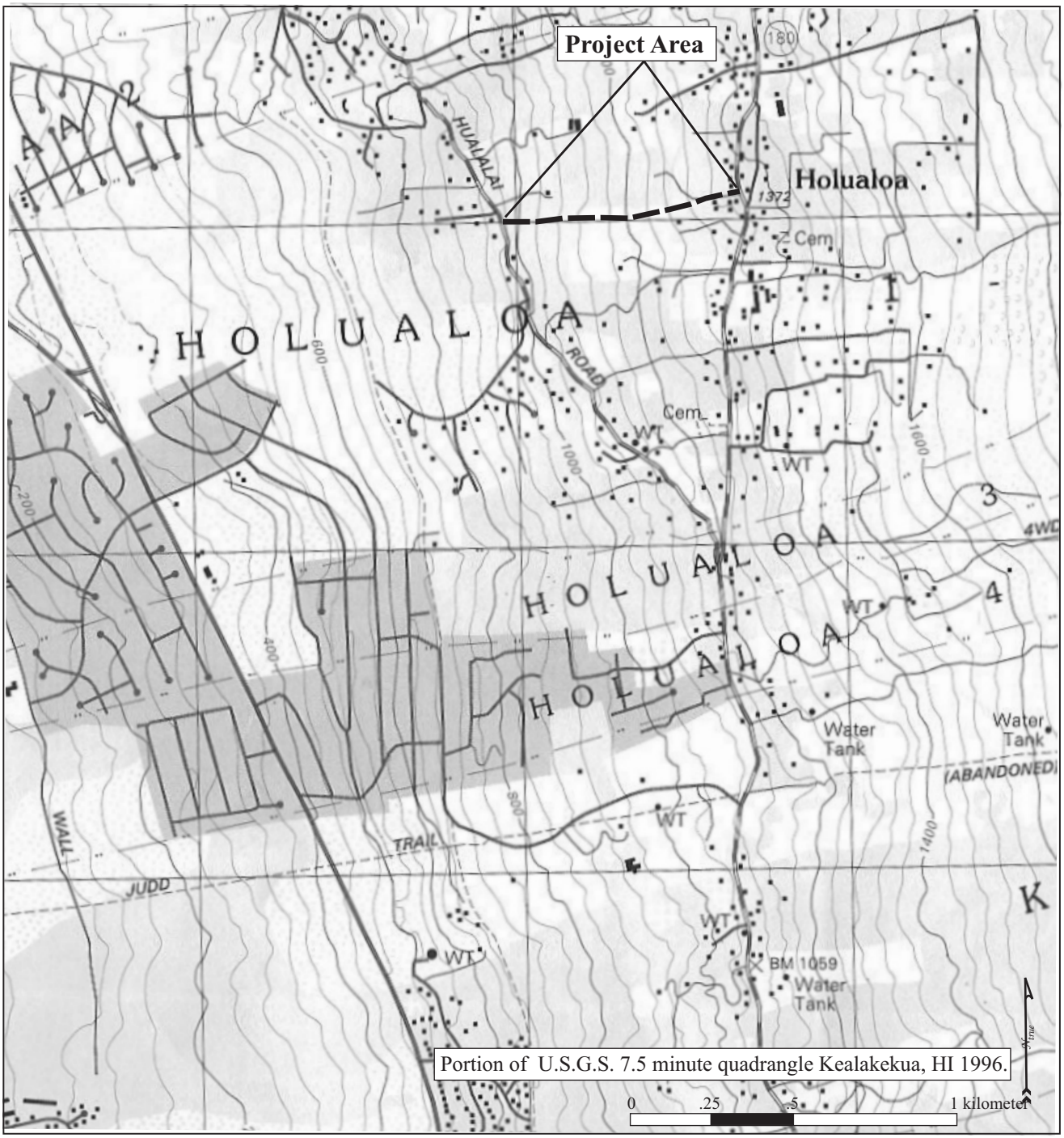

Figure 1. Project area location.

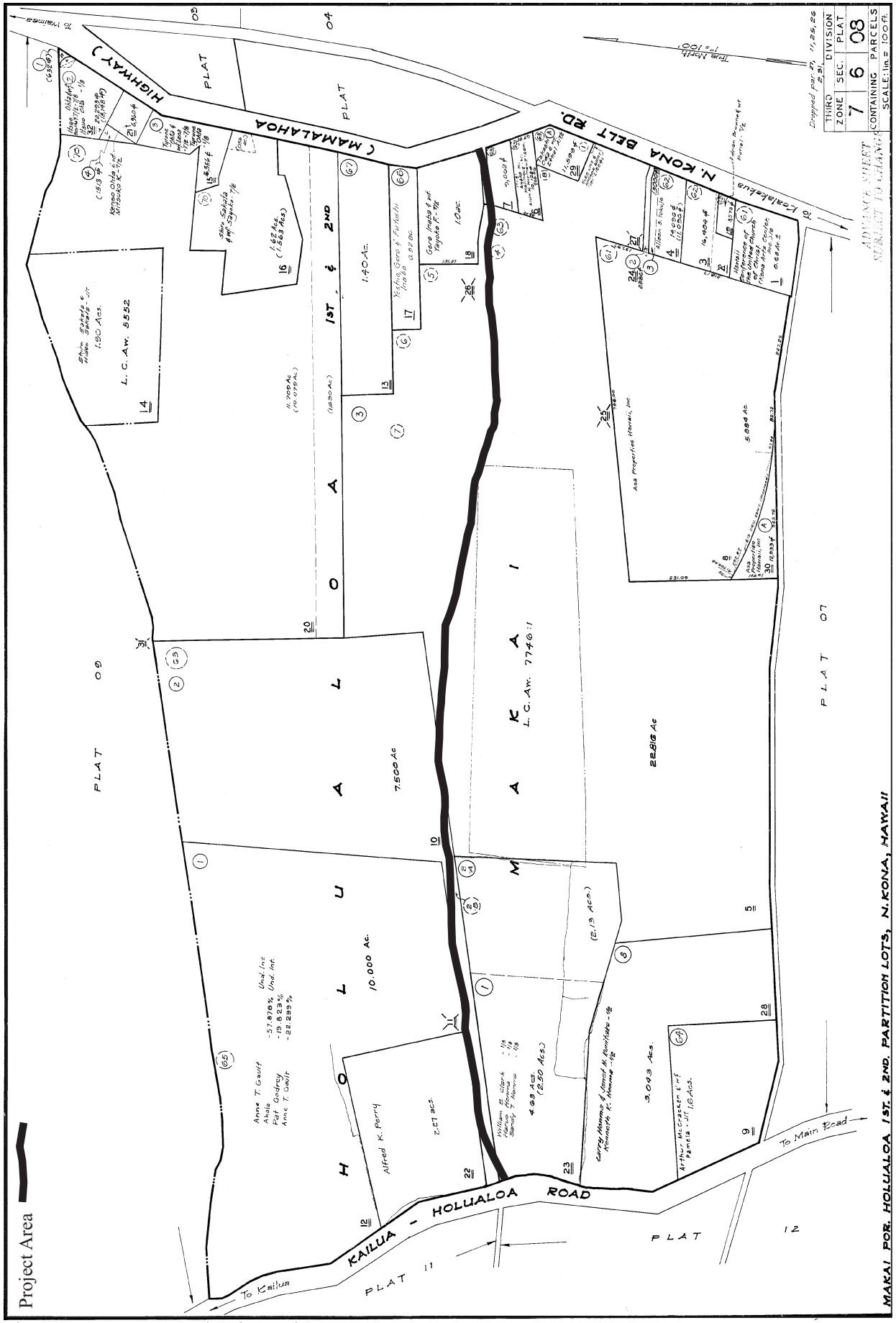

Figure 2. TMK 3-7-6-08 showing project area

BACKGROUND

This section presents background information relevant to the project area and its general vicinity. First, the project area is placed in a cultural-historical context relative to traditional Hawaiian and early historic subsistence and land-use. Following this, more specific information regarding Hōlualoa 1-2 Ahupua‘a is presented. Next, the results of archival research on *Māhele* records and historic maps are summarized. The fourth sub-section discusses previous archaeological research in Hōlualoa. Finally, the background material is summarized and discussed relative to the current project area.

Cultural Context

The project area lies within what has been termed the Kona Field System (Cordy 1995; Newman 1970; Schilt 1984). This area extends north at least to Kaū Ahupua‘a and south to Ho‘okena, west from the coastline and east to the forested slopes of Hualālai (Cordy 1995). A large portion of this area is designated in the Hawai‘i SIHP (State Inventory of Historic Places) as Site 50-10-37-6601 and has been determined eligible for inclusion in the National Register of Historic Places. The basic characteristics of this agricultural/residential system as presented in Newman (1970) have been confirmed and elaborated on by ethnohistorical investigations (Kelly 1983) and summarized by Cordy (1995). The construct is based on the Hawaiian terms for the major vegetation zones used to define and segregate space within the region’s *ahupua‘a* (Table 1). These terms were used by the native Hawaiian population to delineate land claim boundaries during the *Māhele*. These zones are bands, roughly parallel to the coast, marking changes in elevation and rainfall.

Table 1. Traditional Hawaiian vegetation zone classification (After Newman 1970 and Kelly 1983).

Zone	*Approx. Elevation Limits (ft)**	*Agricultural uses*
kula	Sea level – 500	Sweet potato, paper mulberry, gourds
kalu‘ulu	500-1000	Breadfruit, sweet potato, paper mulberry
‘āpa‘a	1000-2500	Taro, sweet potato, sugar cane, ti
‘ama‘u	2500-4000	Banana, plantain

*above sea level.

The current study parcel is located at an elevation which places it within what has been termed the *‘āpa‘a* zone. The *‘āpa‘a* zone is between 300-750 meters (980-2460 feet) above sea level, with an average annual rainfall of 140 to 200 cm. The dryland cultivation of taro, sweet potato, ti, and sugar cane dominated this zone. There are, although infrequently recorded, archaeological indications of permanent habitation in the *‘āpa‘a* (Burtchard 1995; Haun et al. 1998; Kaschko and Rosendahl 1987). The early chroniclers observed habitation at these elevations, but many of these may have been for temporary field houses. Archaeological expressions of burial and ceremonial areas are rare in the upper elevations (Kawachi 1989).

*Kuaiw*i are a prominent feature of the landscape within the *'āpa'a* (Cordy 1995; Newman 1970). These are low, broad, long piles of rocks that were multifunctional. These walls were a by-product of land clearing and rock removal from the planting area. *Kuaiwi* are oriented upslope-downslope with shorter, perpendicular connecting segments. Specific fields are thus marked by the rectangular pattern created by the *kuaiwi* and cross-walls. The cross-walls function as soil traps and retaining features, creating terrace-like areas to enhance planting. *Kuaiwi* can also function to move water downslope in a controlled manner, ensuring optimal distribution of the available runoff water (personal observation, Rechtman Consulting on going research in Kahalu‘u Ahupua‘a). The presence of *kuaiwi* is indicative of “formal walled fields,” as opposed to the scattered planting mounds and terraces, or “informal fields.” However, the distribution of soils suitable for agriculture determines, in part, the locations of the formal walled fields, and there is a direct relationship between suitable soils and older lava flows. Consequently, areas of young lava flow in the *‘āpa‘a* do not always have *kuaiwi* (Burtchard 1995; Hammatt et al. 1987; Haun et al. 1998).

The archaeological record contributes to an understanding of how the Kona Field System developed over time. Precisely how the record is interpreted is reflected in the various chronologies proposed for the system (Burtchard 1995; Cordy 1995; Haun et al. 1998; Hommon 1986; Kirch 1985; Schilt 1984). The chronology and terminology outlined by Haun et al. (1998) is used in the present discussion, and the chronological summary below is abstracted from Rechtman et al. (1999).

The Kona Field System was not brought to Kona as a fully developed system; but rather, it reflects a developmental adaptation to the area that was concomitant with the evolving sociopolitical structure and increasing population of the island. The first inhabitants of Hawai‘i Island probably arrived by at least A.D. 600, and focused habitation and subsistence activity on the windward side of the island (Burtchard 1995; Kirch 1985; Hommon 1986). To date, there is no archaeological evidence for occupation of the Kona region during this initial, or Colonization (A.D. 300 to 600) stage of island occupation.

There is also little indication that during the subsequent period, Early Expansion (A.D. 600 to 1100), much activity was taking place in Kona (Burtchard 1995). Through the first half of the Early Expansion Period, permanent habitation was still concentrated on the windward side. It is likely that windward residents traveled to the leeward Kona coast for resource extraction purposes (Cordy 1995). By the latter half of the Early Expansion Period, permanent habitation was beginning in Kona (Cordy 1981; 1995; Schilt 1984). Habitation was concentrated along the shoreline and lowland slopes, and informal fields were probably situated in areas with higher rainfall.

Agricultural fields and habitation areas expanded across the slopes and coastal area of Hualālai during the Late Expansion Period (A.D. 1100 to 1400) (Burtchard 1995; Cordy 1995). The earliest fields may have been located in the southern portion of the system (Schilt 1984), with new fields expanding northward over time (Haun et al. 1998).

The development of the extensive formal walled fields sometime during the initial stages of the Intensification Period (A.D. 1400 to 1600) marks the initiation of the Kona Field System (Schilt 1984). The development of the fields may in part be a by-product of the need to extract more subsistence resources from an increasingly limited agricultural base. Radiocarbon data indicates that the population in Kona increased dramatically during this period (Burtchard 1995; Haun et al. 1998; Schilt 1984).

By the time of the Competition Period (A.D. 1600 to 1800), the environment may have reached its maximum carrying capacity, resulting in social stress between neighboring groups. The resulting hostility is reflected archaeologically with the frequent occurrence of refuge caves dating to this period (Schilt 1984). This volatile period was probably accompanied by internal rebellion and territorial annexation (Hommon 1986; Kirch 1985).

During the first historic period (Haun et al. 1998), Last of the Ruling Chiefs (A.D. 1778-1819), Kalani‘opu‘u was chief of the Island of Hawai‘i and often resided in the Kona District. This period covers Kamehameha‘s consolidation of control over the island to his death at Kailua in 1819. The period ends with the overthrow of the old religion, which took place when Liholiho, Kamehameha’s heir, broke the traditional *kapu* laws and won a battle against the supporters of the old religion at Kuamo‘o, along the southern coastline of Keauhou. Early historical accounts emphasize that modern day Kailua Town during this period was a significant political seat and population center. The Kona Field settlement and subsistence system continued to operate in the area through the first few decades of the historic era (Handy and Handy 1972).

The second quarter of the 19th century, the Merchants and Missionaries Period (A.D. 1820-1847), was a time of profound social change in Hawai'i. Kamehameha I died in mid-1819, and a council of chiefs supported Kamehameha’s son Liholiho as successor (Kelly 1983). Liholiho gained the council’s support in exchange for the distribution of the profits from the sandalwood trade and the bounty of the land that moved up the hierarchy from the various *ahupua‘a* under his control; privileges previously retained solely for the ruler. Within six months after Kamehameha's death, Liholiho, Ka‘ahumanu, and the Queen mother Keopuolani broke the *kapu* prohibiting men and women eating together. This act of "free eating" symbolized the end of the entire traditional *kapu* system. The changes in the social and economic patterns began to affect the lives of the common people. Liholiho moved his court to O‘ahu, so the burden of resource procurement for the chiefly class lessened considerably. However, some of the work of the commoners shifted from subsistence agriculture to the production of foods and goods for trade to the early Western visitors. Introduced crops, such as yams, coffee, melons, Irish potatoes, Indian corn, beans, figs, oranges, guavas, and grapes (Wilkes 1845) were grown specifically for trade with Westerners. Other commodities, especially sandalwood, were collected to purchase Western goods, often to the detriment of agricultural pursuits. The arrival of the missionaries to Hawai‘i in the 1820s brought further changes to the social and religious systems of the islands.

The socioeconomic and demographic changes that took place in the period between 1790 and the 1840s promoted the establishment of a Euro-American style of land ownership, and the Great *Māhele* was the vehicle for determining ownership of the native land. During this Legacy of the Great *Māhele* Period (1848-1899), the *Māhele* defined the land interests of the King (Kamehameha III), the high-ranking chiefs, and the low-ranking chiefs, the *konohiki*. The chiefs and *konohiki* were required to present their claims to the Land Commission to receive awards

for lands provided to them by Kamehameha III. They were also required to provide commutations to the government in order to receive royal patents on their awards. The lands were identified by name only, with the understanding that the ancient boundaries would prevail until the land could be surveyed. This process expedited the work of the Land Commission and speeded the transfers (Chinen 1961:13). During this process all lands were placed in one of three categories: Crown Lands (for the occupant of the throne), Government Lands, and *Konohiki* Lands. All three types of land were subject to the rights of the native tenants. In 1862, the Commission of Boundaries (Boundary Commission) was established in the Kingdom of Hawai‘i to legally set the boundaries of all the *ahupua‘a* that had been awarded as a part of the *Māhele*. Subsequently, in 1874, the Commissioner of Boundaries was authorized to certify the boundaries for lands brought before them. The primary informants for the boundary descriptions were old native residents of the lands, many of which had also been claimants for *kuleana* during the *Māhele*. The information was collected primarily between A.D. 1873 and 1885. The testimonies were generally given in Hawaiian and transcribed in English as they occurred.

Hōlualoa 1-2 Ahupua‘a

The small amount of traditional Hawaiian history available on the several *ahupua‘a* of Hōlualoa is provided by Kamakau (1961) and I‘i (1959). It is clear from these references that, like much of the Kona coast, Hōlualoa was the haunt of chiefs. Hōlualoa Bay, in particular, was noted for its fine surfing. Several months after Captain Cook’s demise, Kalani‘opu‘u is said to have surfed there (Kamakau 1961:105). Kamehameha also surfed at Hōlualoa. According to I‘i, it was there that he, “learned to surf and to glide with a canoe over the waves” (I‘i 1959:6). Furthermore, “These lands were occupied by the chiefs because the surfing there was good, and the food abundant in ancient times.”(I‘i 1959:6). In a more general sense, I‘i also claims that, “It was in the Holualoa lands of Kona that the chiefs dwelt in olden times, from the time of Kamehameha, the great chiefess [Keākealaniwahine] of Hawai‘i, and earlier.”(1959:6). Although it is difficult to verify the antiquity of chiefly presence at Hōlualoa, its shoreline was clearly an attractive draw in the period immediately preceding contact and thereafter.

The particulars of life for the *maka‘āinana* are not recorded for Hōlualoa specifically. It can be surmised, however, that local inhabitants utilized the coastal area for its marine resources. In fact, Hōlualoa Bay was known historically as a habitation place for fishermen and their families (Handy and Handy 1972:287). Occupation was probably relatively dense in the resource-rich coastal area. Ellis (1963) records the bay as the location of the village Kaluaokalani.

As described in the previous section, the inland and upland areas of the *ahupua‘a* were part of the Kona Field System. It is therefore appropriate to use the major vegetation zones outlined in Table 1 to estimate settlement densities and land-use in this area. Hōlualoa 1-2 was probably very similar to the many other surrounding *ahupua‘a* of the Kona Field System. Population was likely concentrated in the lower part of the *kula* zone where one would expect to find agricultural plots, permanent habitations, chiefly residences, and ceremonial centers. Stokes reports no less than nine *heiau* in the land of Hōlualoa 1-4 (Stokes and Dye 1991:55-63). Most of these are built on or near the coast and fall well within the *kula* zone. Two *heiau* are in the coastal portion of Hōlualoa 1-2 and a third is at approximately 600 ft elevation. One other *heiau* within Hōlualoa 1-2 has no provenance information.

As one moves away from the coast, permanent habitation becomes less frequent and temporary field shelters more common. Agriculture, bird hunting, and plant gathering were practiced at the middle and upper elevations. This pattern of land-use persisted into the early Historic Period, but with the introduction of new crops and rapid population loss in the early 1800s, major changes were well underway. Cattle ranching was introduced in the mid-1800s and persisted well into the twentieth century in much of the Kona District. Coffee was also introduced in the early to mid-1800s and was soon cultivated commercially on small plots. Cattle ranching continued into recent times in Hōlualoa (Soehren 1980a; Fager and Graves 1993) and coffee is known to have been grown extensively in the 1990s at elevations similar to that of the subject parcel (Collins and Hammatt 1993).

Historic Maps and *Māhele* Records

In an effort to understand historic transportation infrastructure within the project area, an archival search for historic maps and *Māhele* records was conducted.

Thanks to the efforts of an abstractor working on behalf of the DLNR-Division of Forestry and Wildlife, we have a good general outline of land conveyance for the project area (see Appendix A). Land in the project area was originally awarded to Victoria Kamamalu in 1845. By 1887, the parcel was owned in common by a *hui* of 75 grantees. In 1897 a partition action was filed and the parcel containing the project area was conveyed to Elizabeth Pilipo. In 1914 the allotments, including Elizabeth Pilipo’s, were surveyed. This 1914 survey included, by court

order, the widths of all roads, trails, and rights-of-way. Among the roads surveyed was one that coincides with the current project area. This road is depicted as a 12-foot wide corridor running *mauka-makai* between the former upper Government Road (now Māmalahoa Highway) to a point *makai* of Kailua Road (now Hualālai Road). This road was probably constructed sometime in the late 1890s to provide the *hui* grantees access to their land.

Several other early maps of the project area were also located. The earliest is a 1928 Hawai‘i Territory Map. This map does not show any roads in the immediate vicinity of the project area (Figure 3). However, a set of maps ("Strip Maps") made in prelude to the preparation of Tax Maps and also dating from 1928, does show a network of roads in the Hōlualoa area. Specifically, the roadway in question is depicted as a dashed line beginning at Māmalahoa Highway and extending several hundred feet below what is now Hualālai Road. Below Hualālai Road, it turns 90 degrees to the south and connects to a roadway that runs from above the Hōlualoa School Lot to the coast (Figure 4).

In the mid-1900s, a series of plan maps were prepared by surveyor John D. Weeks. These show lot subdivisions and the study roadway as they appeared in 1955 and 1957. The 1955 map shows the lower portion of the study area (Figure 5); and the 1957 map shows the upper portion (Figure 6). These maps seem to exhibit an attention to detail in the mapping of rock walls, and reveal both intact and missing sections of the walls that border the roadway.

These early maps do not resolve the question of the antiquity of the road within the project area. For this, early TMK maps are more useful. According to these, there were three *kuleana* awarded during the *Māhele* that were located adjacent to the project area (LCAw. 7746:1 within TMK 3-7-6-08:005 and LCAw. 6107:1 and 10770 *mauka* of Māmalahoa Highway). Research was conducted on the original testimony and register documents for these awards to see if a trail was mentioned. Usually if a *kuleana* is adjacent to a trail, the trail is mentioned in the boundary description. No such mentions were made for any of the three awards. This suggests that there was no trail at the time of the *Māhele* (1850s) and supports the idea that the current roadway was established when the grant increment was created (in the 1890s). Such roadways were commonly established in Kona for grantees to gain access to their parcels. In fact, in the grant increment just *mauka* of the project area there are no less than ten such short roads shown on the 1928 Strip Map (see Figure 4).

Previous Archaeological Studies

Numerous archaeological studies have been completed within Hōlualoa 1-2 *ahupua‘a* (Table 2). Many of these were small scale survey projects conducted near the coastline at very low elevations (Rosendahl 1978; Sinoto 1979; Soehren 1979a, 1979b). This work produced positive findings including historic era ranch walls, enclosures, terraces, platforms, and mounds. A 1979 Rosendahl survey of a small half acre parcel near the coast was particularly productive and identified a number of features associated with the Hōlualoa Complex (SIHP 2038). Features included a modified outcrop, a pit, an alignment, two platforms, and two artifact scatters (Rosendahl 1979). Moving slightly *mauka*, a number of surveys were performed along the proposed Ali‘i Highway corridor, which runs through the lands of Hōlualoa 1-4 (Ching et al. 1973; Dunn and Rosendahl 1991, 1992; Haun et al. 1998; Hommon and Rosendahl 1983). This corridor parallels the coast at an elevation range of 30 to 80 feet above sea level. Haun et al.'s survey, the most complete undertaken, identified 72 permanent habitation features, 33 agricultural features, six burial features, seven temporary habitation features, one possible heiau, and 10 ranch walls.

Hammatt's nearby 23 acre survey south of the Kuakini Wall also produced a broad range of traditional Hawaiian features associated with habitation, agriculture, and burial (Hammatt 1979a). These findings agree with the settlement pattern outlined in the previous section. The near coastal region (lower *kula*) was clearly an important region for habitation and subsistence activities well into the historic era.

Moving *mauka* into the upper *kula* zone, numerous surveys were conducted between the Kuakini Wall and Māmalahoa Highway (Connolly and Gunness 1979a, 1979b; Hammatt 1979b; Schilt 1984). Much of this work was for the Komohana Kai subdivision (Connolly and Gunness 1979a, 1979b; Dye 1978; Hammatt 1979c). Connolly and Gunness provide the most comprehensive survey data. They identified 136 sites and site complexes representing a broad range of traditional Hawaiian and historic era site types (Table 2). The sites and features are functionally associated with agriculture, temporary and permanent habitation, burial, religious practice (e.g. shrine and *heiau*), and ranching. To the north, Hammatt also reports features associated with habitation, agriculture, and possibly burial and religious practice (Hammatt 1979b). Schilt's findings along the section of the Kuakini Highway Realignment Corridor falling within Hōlualoa 1-2 suggest a similar pattern of surface remains (Schilt 1984). Agricultural features were prominent in the area and included modified outcrops, 12 garden plots, and garden plot complexes. Three sites (a midden scatter, two platforms, and a cave) were interpreted to be habitation related. All were tested with only the cave producing datable material and artifacts. Schilt concludes that the area was subject to short term, sporadic occupation between 1500 and 1600, with seasonal or increased frequency of use thereafter. It is significant that simple agricultural features such as modified outcrops dominate the area to such an extent that 75% of the survey area could not be systematically recorded.

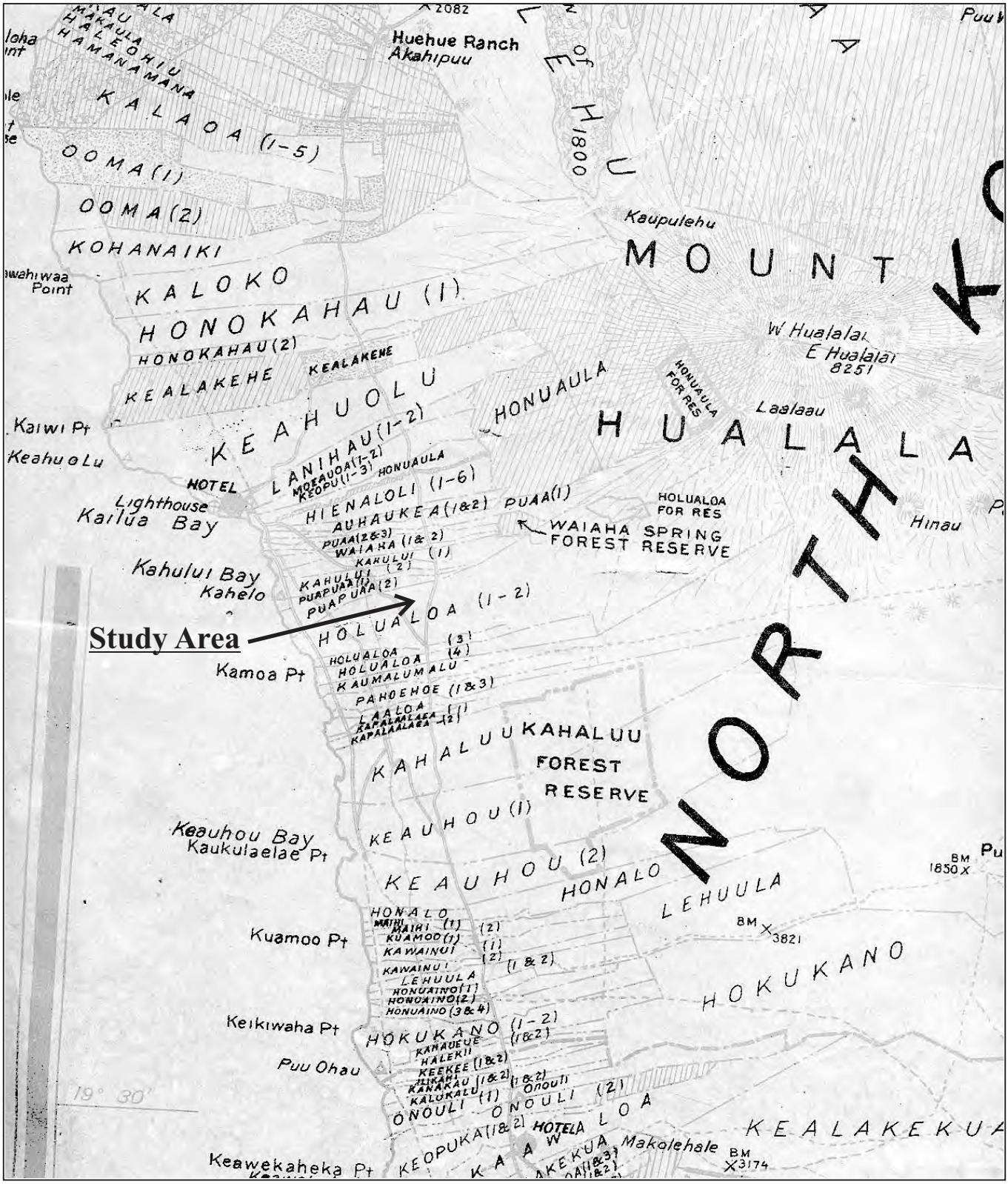

Figure 3. Detail of 1928 Hawai‘i Territory Map.

Figure 4. Portion of 1928 "strip map" showing general study area and existing roadways.

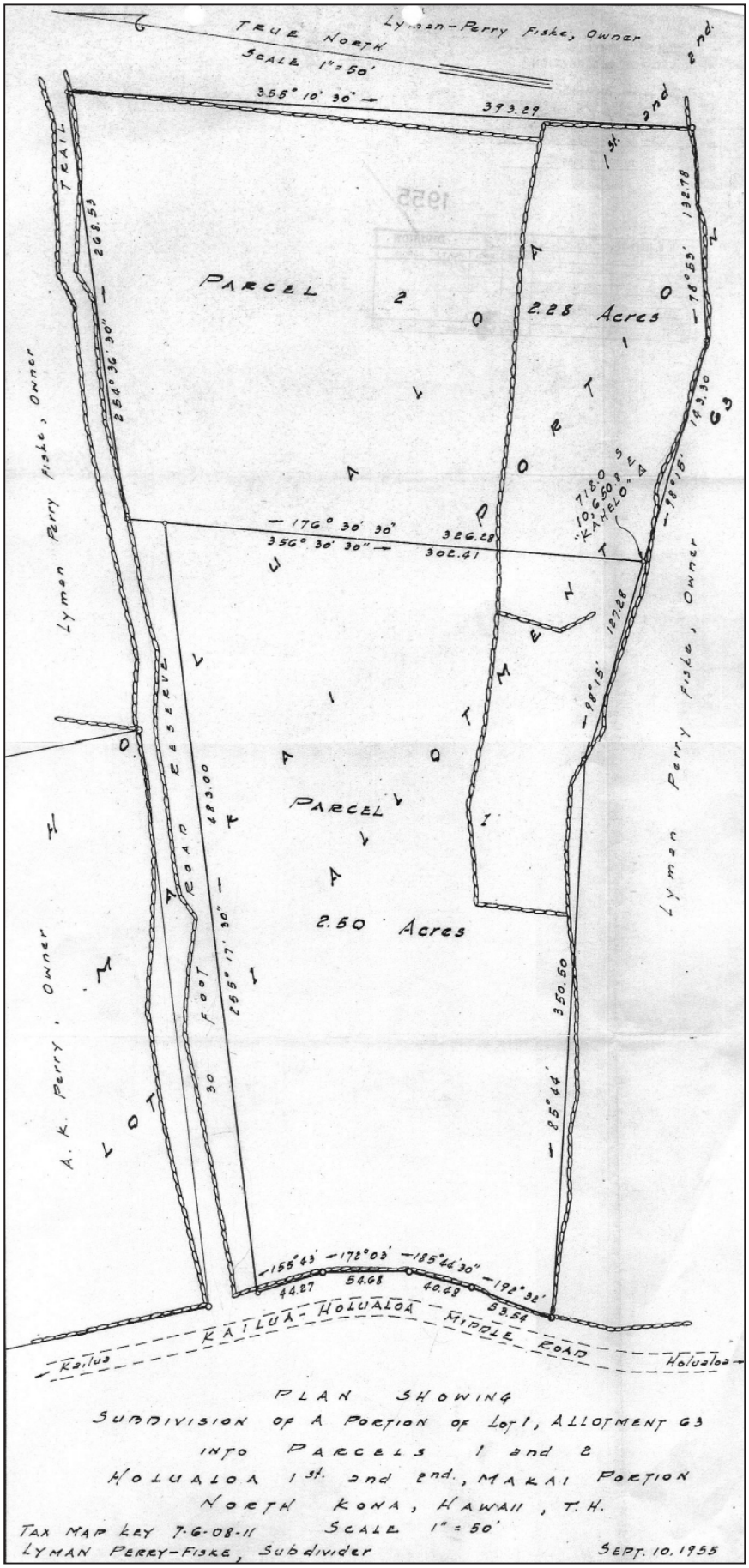

Figure 5. 1955 plan of the lower portion of the study area.

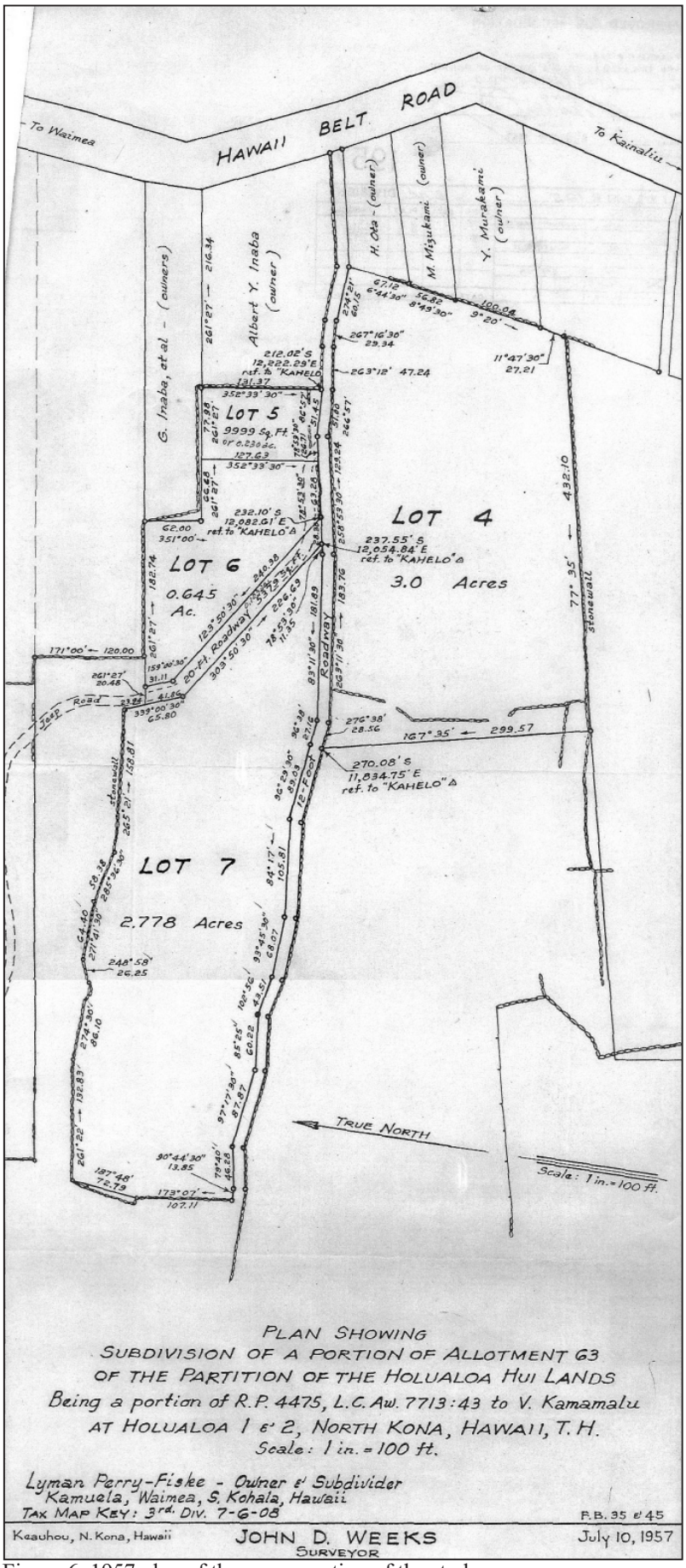

Figure 6. 1957 plan of the upper portion of the study area.

The above studies provide much useful information on the low elevation *kula* zone of Hōlualoa 1-2 *Ahupua‘a*. Following the trend of development, archaeological investigation has been quite intensive below 500 feet elevation. The preceding information, however, is probably of limited utility in developing archaeological expectations for the present study area. For this, one must move farther up the slopes of Hūalalai into the *kalu‘ulu* and *‘āpa‘a* zones. Hammatt et al., for example, conducted a survey and testing project on 174 acres that extends from the upper *kula* well into the mid-*kalu‘ulu* zone (Hammatt et al. 1992). This area is reported as being heavily disturbed by historic era ranching and coffee cultivation. Despite this, a total of 71 sites were recorded including 12 agricultural features, three burials, three permanent habitation sites, and 39 temporary habitation features. Historic era sites were also plentiful and all seem to relate to commercial endeavors such as ranching or coffee cultivation (Table 2).

Yet higher on the slope, in Hōlualoa 4 to the south, Collins and Hammatt surveyed 4.3 acres at an elevation comparable to that of the present study (Collins and Hammatt 1993). Their findings include a total of 68 features within six site areas. Ninety percent of these features were interpreted as components of the Kona Field System. The features included depressions, enclosures, mounds, *kuaiwi*, retaining walls, terraces, and others. Twenty-two fields were identified. Other sites identified on the parcel include a historic cart road, a wall complex, an agricultural enclosure and terrace, and a hearth. A radiocarbon sample from the hearth returned a date range of 1653 to 1955.

Another relevant study is Allen’s 600 acre survey of a parcel extending from Puapua‘a 1-2 to Hōlualoa 1-2 *Ahupua‘a* (Allen 1984). Part of the parcel is located immediately east and *mauka* of the present study area and is entirely within the *‘āpa‘a* zone. As such, Allen’s results are particularly useful for developing a set of archaeological expectations for the present project. Unfortunately, most of the area had been previously disturbed in an effort to improve the land for use as pasture. Despite this, 19 sites were recorded including historic era habitations, boundary walls, and agricultural complexes. One system of rectangular walled fields and an *‘auwai* were identified as being part of the Kona Field System. This site was in the western (*makai*) portion of their project area.

The most recent work near the present project area was performed by Rechtman Consulting, LLC (Desilets et al. 2004) on an 11.7 acre parcel to the north (TMK 3-7-6-08:020). Systematic archaeological survey identified one large site complex encompassing the entire study parcel. The site is designated SIHP Site 24166 and consists of an assortment of residential/agricultural tenant homesteads, dedicated agricultural plots, pasture, and a residential/commercial structure with outbuildings. A total of 26 features were recorded in eight walled survey areas. The features are predominantly early to mid twentieth century residential structures and outbuildings. Terracing is present across much of the parcel and is clearly associated with small-scale coffee cultivation. A network of access roads also runs through the property. These roads, typically lined with stone walls, allowed tenants access to their homes and gardens. One possible traditional Hawaiian feature, a *kuaiwi*, was recorded. To the north of this feature, a 1 x 1 meter test unit was excavated in a small double enclosure. No cultural remains or subsurface features were found.

Table 2. Findings from selected archaeological studies in Hōlualoa 1-2 *ahupua‘a*.

Study	*Type of Project*	*Acreage*	*Zone*	*Feature types*
Stokes 1919	Survey	-	*kula*	Four *heiau*.
Rosendahl 1978	Survey	1	*kula*	Recent enclosure and wall.
Soehren 1979a	Survey	.5	*kula*	Historic terrace and platform.
Soehren 1979b	Survey	.03	*kula*	Enclosure wall.
Sinoto 1979	Survey	6	*kula*	Historic ranch walls and mounds.
Rosendahl 1979	Survey	.5	*kula*	Platforms, alignment, pit, modified outcrop, artifact scatters, ranch walls
Hammatt 1979a	Survey	23	*kula*	Habitation platforms, lava tube, paved depression, U-shaped enclosure, possible platform burials and mounds, historic cemetery, agricultural terraces, retaining walls, and agricultural mounds, possible shrine.
Hammatt 1979b	Survey	22	*kula*	Habitation platform and cave, ranch wall, agricultural mounds.
Connolly and Gunness 1979a, 1979b	Survey	103	*kula*	Modified outcrops, agricultural terraces, depressions, and mounds, platforms, midden deposits, possible burials, shrine, possible small and large *heiau*, habitation caves, other habitation features, ranching features.
Soehren 1980b	Survey	16	*kula*	Enclosure wall.

continued on next page

Table 2. Continued.

Study	*Type of Project*	*Acreage*	*Zone*	*Feature types*
Schilt 1984	Survey, testing	17	*kula*	Cave, enclosure, midden, stone pile, platforms, walls, modified outcrops, garden plots/complexes, historic road and walls.
Allen 1984	Survey	600	*ʻāpaʻa*	*ʻauwai*, walled fields, historic boundary walls, agricultural complexes, habitations.
Rosendahl 1989	Field inspection	6	*kula*	Modified outcrops,
Hammatt et al. 1992	Survey, testing	174	*kaluʻulu*	Terraces, mounds, permanent and temporary habitations, burials, historic railroad bed, ranch walls/ pens/runs, coffee terracing, historic habitation
Haun et al. 1998	Survey	15	*kula*	Terraces, walls, enclosures, modified outcrops, mounds, burial features, possible *heiau*, ranch walls
Desilets et al. 2004	Survey, testing	11.7	*ʻāpaʻa*	Terraces, walls, historic structures, possible *kuaiwi*

Discussion

Overall, the results of previous archaeological study in Hōlualoa 1-2 *ahupuaʻa* demonstrate two important features of Contact Period Hawaiian settlement and subsequent historic evolution. First, the studies show that the Kona Field System land-use model derived from ethnohistoric and historic accounts is born out archaeologically for Hōlualoa 1-2. Permanent settlement appears to be concentrated in the *kula* zone and, to a lesser degree, the *kaluʻulu* zone. As one moves upslope, temporary habitations become the dominant residential feature (Hammatt et al. 1992). By the time one reaches the *ʻāpaʻa* zone, no habitations are reported. Agriculture is present in all zones but becomes almost the exclusive traditional Hawaiian feature at the higher elevations. Indeed, the functional diversity of traditional Hawaiian features seems to decline with elevation.

The second point illuminated by the archaeological data is the process of historic landscape modification. With the coming of cattle ranching and commercial coffee production, large portions of the Kona Field System were converted to other uses. At lower elevations, walls were needed to keep cattle from homes and gardens. Agriculture continues with the introduction of new crops. In the upper elevations, particularly the *ʻāpaʻa* zone, two complimentary phenomenon affect land-use: First, the local population is devastated by the introduction of new diseases in the early 1800s. Soon thereafter, new commercial enterprises such as coffee cultivation and ranching move into the now under-utilized, but relatively lush uplands. The relationship between reduced population and abandonment of much of the Kona Field System bears further investigation, but the archaeological data seem to suggest that the lower elevations continued to be exploited for small-scale homesteading (hence extensive wall systems) while the upland areas shifted to commercial enterprises such as ranching and small-scale coffee cultivation. By the late 1800s, ownership of even the upland areas had been subdivided and a system of access roads constructed for the use of new landowners.

With respect to the project area, archival data provides additional resolution. Between 1887 and 1914, a series of roads were constructed to provide grantees access to their lands. A historic road, coterminous with the current study area, appears on the first surveyed map of the Hōlualoa grant allotments. This road is also present on maps later drafted in 1928, 1955, and 1957. The 1950s maps, in particular, show stone walls on either side of the road for most of its length. Finally, it is significant to note that Land Commission Award testimony and register documents for adjacent and nearby *kuleana* lots do not reference any traditional trails. This suggests that the present road does not overlie a traditional Hawaiian trail.

PROJECT EXPECTATIONS

Based on the background information summarized above, a set of archaeological expectations for the project area can be formulated. Historical data indicate that the project area consists entirely of a historic road. It is expected that evidence of this road will be present in terms of rock walls bordering the alignment. The land use history indicates that twentieth century farming and ranching activities may have impacted portions of the roadway by the removal of sections of the bordering walls and by breaching the roadway alignment with more recent ranch roads and cattle walls.

FIELDWORK RESULTS

Site recording in the project area was performed on June 3 and 4, 2004 by Amy Kasberg, B.A., Michael Desilets, M.A., and Robert Rechtman, Ph.D. One stone-lined historic road was fully mapped and photographed. This road encompassed the entire project area and was designated State Inventory of Historic Places (SIHP) Site 50-10-37-24211 (see Figure 2).

SIHP Site 24211

Site 24211 is a historic road that was probably constructed sometime in the late 1890s (see Background Section of this report). The road is bounded on both sides by dry-laid stone walls (Figure 7). The walls are constructed of *pāhoehoe* cobbles with core-filled interior. Core-fill was not present in all places along the wall, however. Cross-sections observed in collapsed areas showed that simple stacking of similar sized cobbles was also common.

The walls are typically 80 centimeters thick and range from 30 to 150 centimeters in height. Average height was about 100 centimeters. Significant variation in wall height was introduced by the surrounding topography. Interior and exterior wall heights were therefore often quite different at any given point. The width of the road between the walls also varied. At its broadest point near Hualālai Road, the subject road measured 5 meters wide. At its narrowest, the road measured 1.5 meters. Overall, however, the road maintained a fairly consistent width of about 3.5 meters.

Although the present recording effort did not include any areas outside the road or its bounding walls, it was clear that a larger system of walls and ranch roads was present to the north and south. An interconnected system of more recent walls, pastures, and roads probably extends a great distance over the adjacent lands.

Figure 7. Detail of northern side of SIHP 24211 stone wall.

Narrative Description

The following narrative describes the historic road from its *mauka* juncture with Māmalahoa Highway to its *makai* intersection with Hualālai Road. Refer to Figure 8 below for a visual representation of the road, its walls, and other recorded features.

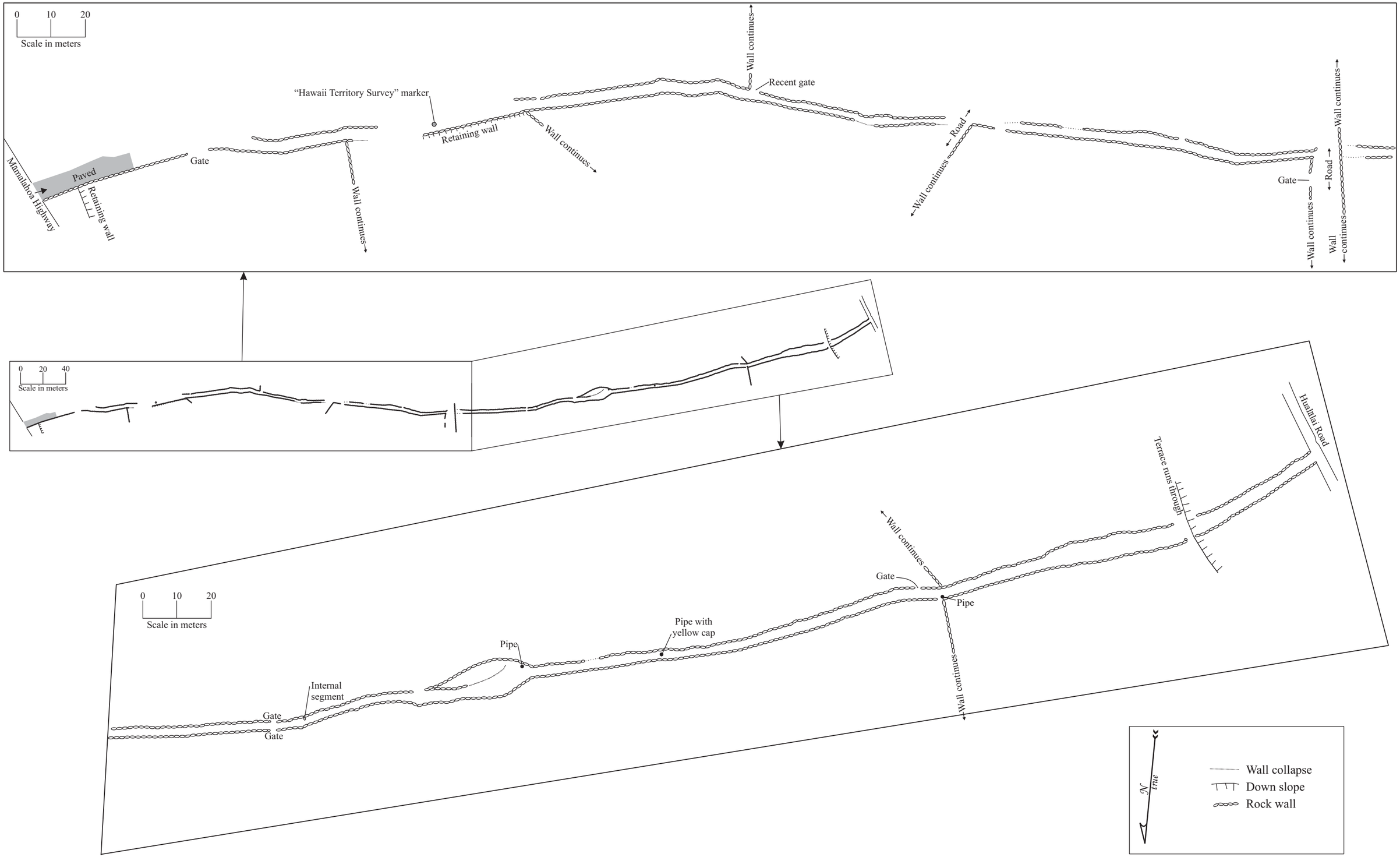

Figure 8. Plan view of SIHP Site 24211.

From Māmalahoa Highway, the subject road heads due west and provides paved access to several houses on its south side. No wall is present on the south side, but on the north side the road is bounded by a retaining wall for a raised, terraced parking area (Figure 9). West of the terrace is a walled vacant lot or pasture.

Figure 9. Eastern terminus of Site 24211. Note the paved surface and structures to left and the terraced parking area to right, view to northwest.

Asphalt paving extends from Māmalahoa Highway for a distance about 25 meters, at which point the roadway surface is rocky basalt gravel, soil, and tall grass (Figure 10). At 45 meters below Māmalahoa Highway, a gate is present in the wall that borders the north side of the roadway. Starting at about 100 meters from the highway, there is a 12 meter gap in the north border wall. The next thirty meters of the road appears to have been entirely covered over. What was probably once the southern wall along the roadway now serves as a retaining wall for a broad terrace that stands up to 100 centimeters tall. At the eastern end of this terrace, near the retaining wall, is a brass survey marker that reads “Hawaii Territory Survey”.

Figure 10. Section of Site 24211 about 35 meters *makai* of Māmalahoa Highway, view to west.

Downslope from the terrace, the roadway along with its bordering walls resumes and run through an area presently planted with coffee. Coffee plants dominate for some 65 meters along a section that is particularly well preserved. From this point to about 200 meters below Māmalahoa Highway, the road and walls run downslope to with only occasional breaks and gaps (Figure 11).

Figure 11. Section of Site 24211 approximately 210 meters *makai* of Māmalahoa Highway, view to west.

At about 220 meters below Māmalahoa Highway the vegetation changes to overgrown grass, vines, and shrubs, and the surrounding landscape becomes predominantly overgrown pasture. The course of the roadway at this point is a relatively steep grade. Forty-five meters into the pasture lands, a more recent ranch road cuts across the study roadway. The ranch road truncates the historic roadway walls. The wall along the north side of the roadway begins again 5 meters downslope. On the south side of the roadway, the wall is collapsed or non-existent for a distance of 20 meters. The roadway and walls run another 100 meters with only small collapsed portions present on the south side. One hundred meters below the ranch road, another ranch road breaches the subject roadway. This lateral road lies at about the mid-point between Māmalahoa Highway and Hualālai Road and is the most prominent of all the breaks. As a result of this second ranch road the study roadway has been obliterated for a distance 15 meters. A dry-stacked rock wall was constructed on the *makai* side of the more recent ranch road. The historic roadway and bordering walls are visible again on the *makai* side of the lateral wall, and are in good condition for the next 105 meters (Figure 12) with only one break for a pasture gate in the southern border wall.

At about 270 meters *mauka* of Hualālai Road, the historic roadway widens considerably to about 11 meters before contracting again to its standard width. An internal wall section is present within the widened area, but its function could not be determined. A pipe was also recorded at the eastern end of the wide section and is likely a property boundary marker. Another such pipe, this one with a yellow plastic cap, is located 40 meters to the west in the center of the road.

At about 120 meters *mauka* of Hualālai Road, a cluster of features is present. These include a cattle gate, lateral walls extending off from both the north and south sides of the roadway, and another survey pipe. The roadway and walls run another 30 meters to the west before widening to a 5 meters. The roadway continues at this width for about 40 meters. The section of roadway is vegetated with coffee. At 40 meters *mauka* of Hualālai Road, a terrace has been constructed across the subject roadway and its walls have been obliterated for 5 meters on the south side and 3 meters on the north. The walls resume thereafter and run unbroken to Hualālai Road, at which point they make opposite right-angle turns and run parallel to Hualālai Road.

Figure 12. Site 24211 *makai* of more recent lateral wall descending toward Hualālai Road, view to west.

CONCLUSIONS AND DISCUSSION

Archaeological survey of a narrow *mauka/makai* corridor running between Māmalahoa Highway (*mauka*) and Hualālai Road (*makai*) produced one historic site: SIHP Site 24211. This site is a historic, rock wall-lined road that encompasses the entire project area. Background research indicates that the road was constructed in the late 1890s, presumably to provide grant recipients access to their parcels. Coincident with the current study area, the road extends for over 800 meters and averages 3.5 meters in width. Rugged topography along much of the road, as well as the presence of very narrow section, suggest that it was not used for vehicular traffic. More likely, the road was for pedestrian and horseback (perhaps horse-drawn cart) travel.

The road has clearly been modified since its construction. Breaks are present where newer roads provide access to pasture lands, and some additional gates have been created. The road is presently overgrown with vegetation along much of its length. Except for its extreme *mauka* portion where it is asphalt paved, the road does not appear to have been used for decades.

SIGNIFICANCE EVALUATION AND TREATMENT RECOMMENDATIONS

The above-described archaeological site is assessed for its significance based on criteria established and promoted by DLNR-SHPD and contained in the Hawai‘i Administrative Rules 13§13-284-6. This significance evaluation 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.

SIHP Site 50-10-37-24211 is considered significant under Criterion D for information it has yielded relative to late nineteenth and early twentieth century land use. Specifically, this roadway identifies patterns of non-vehicular movement that late nineteenth and early twentieth century government grant recipients used during the course of their daily activities. The current study has fully documented this roadway and thus exhausted its research potential. In a meeting with Curt Cottrell, *Nā Ala Hele* Program Manager, he indicated that, if our information was accurate, this historic roadway would not possess the characteristics that would give it a high resource value; and that, subject to approval by their Hawai‘i Island Advisory Council, *Nā Ala Hele* would likely not pursue any public access issues. Therefore, no further work is the recommended treatment for this site.

APPENDIX A

LINDA LINGLE
GOVERNOR

MARK J. BENNETT
ATTORNEY GENERAL

RICHARD T. BISSEN, JR.
FIRST DEPUTY ATTORNEY GENERAL

STATE OF HAWAI'I
DEPARTMENT OF THE ATTORNEY GENERAL
LAND/TRANSPORTATION DIVISION
ROOM 300, KEKUANAO'A BUILDING
465 SOUTH KING STREET
HONOLULU, HAWAII 96813

January 20, 2004

The Honorable Peter T. Young
Chairperson of the Board of Land and
Natural Resources
State of Hawai'i
Kalanimoku Building, Room 130
1151 Punchbowl Street
Honolulu, Hawaii 96813

Attn: Michael Buck

Re: Ownership of 12-Foot Wide Holualoa Trail

Dear Chairperson Young:

A memorandum dated November 24, 2003, from Michael Buck, administrator of the Division of Forestry and Wildlife, sought legal advice as to the ownership of a 12-foot wide trail in Holualoa, North Kona, Hawaii. We believe that the trail is a public trail under the jurisdiction of the Board of Land and Natural Resources.

Brief Statement of Facts

The trail in question ("Holualoa Trail") runs through land originally awarded to Victoria Kamamalu in 1845. By 1887, through mesne conveyances, the land was owned by 75 grantees ("Hui"), as tenants in common, though owning unequal shares. In 1897, a partition action was filed, and commissioners were appointed to oversee the partition. It was not until 1914 that the lands were surveyed and laid out on maps showing each Hui member's allotment(s) and relative shares. The map also showed, pursuant to court order, the widths of all roads, trails, and

rights-of-way. After the map was filed with the court, the commissioners executed deeds to the individual Hui members for each of their lots described by metes and bounds survey.

The Holualoa Trail ran through Lot #1, which, under the partition, was conveyed to Elizabeth Pilipo. The deed to Lot #1, however, clearly excluded the Holualoa Trail, reciting:

> Reserving and exception LCA 7746:1 and the trail from upper Government Road to the Kailua Road, which runs through Lot #1, (Coffee Land) for 55 shares in allotment #63.

There is no indication in the deed to whom the Holualoa Trail is reserved. Nor has Na Ala Hele been able to discover any information regarding disposition or ownership of the trail.

No maps of the area predate the 1914 map. On the 1914 map, the Holualoa Trail is clearly depicted as a 12-foot wide trail. The trail is also depicted on 1950 and 1960 tax maps. However, a 1994 subdivision map fails to delineate the Holualoa Trail alignment.

According to Na Ala Hele staff, the trail is clearly discernable on the ground for about 1.5 miles. It varies in width from four to ten feet with 3-foot high rock walls on either side. Some sections of the rock walls have been knocked down.

Twigg-Smith, the current owner of the property through which the Holualoa Trail runs, is the proprietor of a bed and breakfast establishment on the property. He is seeking County of Hawaii approval for the construction of a restaurant and additional rooms for his bed and breakfast. A sale of the property is also being considered. The proposed sale appears to include the Holualoa Trail.

Analysis

A. Ownership by Twigg-Smith

As an initial matter, regardless of whether the Holualoa Trail is a public trail or not, it is not owned by Twigg-Smith, unless Twigg-Smith has claim to the trail other than through the chain linking his ownership to Elizabeth Pilipo. The deed to

Elizabeth Pilipo explicitly excluded the Holualoa Trail. Therefore, Twigg-Smith could not have acquired ownership of the trail through that chain of title.

B. Public Trail

Whether the Holualoa Trail is a public trail owned by the government requires an analysis under Hawaii Revised Statutes (HRS) §264-1, which, in pertinent part, provides:

> (b) All trails, and other nonvehicular rights-of-way in the State declared to be public rights-of-ways by the highways act of 1892, or opened, laid out, or built by the government or otherwise created or vested as nonvehicular public rights-of-way at any time thereafter, or in the future, are declared to be public trails. A public trail is under the jurisdiction of the state board of land and natural resources unless it was created by or dedicated to a particular county, in which case it shall be under the jurisdiction of that county.
>
> (c) All . . . trails . . . in the State, opened, laid out, or built by private parties and dedicated or surrendered to the public use, are declared to be public highways or public trails as follows:
>
> (1) Dedication of public highways or trails shall be by deed of conveyance naming the State as grantee in the case of a state highway or trail and naming the county as grantee in the case of a county highway or trail. The deed of conveyance shall be delivered to and accepted by the director of transportation in the case of a state highway or the board of land and natural resources in the case of a state trail. In the case of a county highway or county trail, the deed shall be delivered to and

> accepted by the legislative body of a county.
>
> (2) Surrender of public highways or trails shall be deemed to have taken place if no act of ownership by the owner of the . . . trail . . . has been exercised for five years and when, in the case of a county highway, in addition thereto, the legislative body of the county has, thereafter, by a resolution, adopted the same as a county highway or trail.
>
> * * *
>
> (d) All county public highways and trails once established shall continue until vacated, closed, abandoned, or discontinued by a resolution of the legislative body of the county wherein the county highway or trail lies. All state trails once established shall continue until lawfully disposed of pursuant to the requirements of chapter 171.

Thus, the Koloaloa Trail is a public trail if either (1) it was declared to be a public right of way under the Highways Act of 1892; (2) it was opened, laid out, or built by the government; (3) it was built by private parties and dedicated by deed to the county or the State as grantee; or (4) it was built by private parties and surrendered to public use.

Based on information provided by Na Ala Hele, there is no direct evidence to indicate that the Koloaloa Trail meets any of the above four criteria. However, neither is there evidence that the trail is privately owned. Circumstantial evidence gives us reason to surmise that it was a public trail in 1914. As there is no evidence that this trail was subsequently disposed of by the government, fee simple ownership remains with the State today.

By excepting and reserving the trail in the in the deed to Elizabeth Pilipo, the commissioners "call[ed] the attention of the grantee to an already outstanding right owned by a third party in the land being conveyed." *In re Application of Kelly*, 50 Haw. 567, 573, 445 P.2d. 538, 542 (1968). The fact that the commissioners in the partition action did not award the Holualoa Trail to any of the Hui members, combined with the lack of evidence of any other disposition of the Holualoa Trail, strongly suggests that the Holualoa Trail was owned by the government at the time of the partition action. Indeed, we are unable to conjecture a more reasonable explanation for the lack of any disposition of the Holualoa Trail.

The evidence available is certainly far from conclusive of government ownership of the Holualoa Trail. However, given the lack of any contrary evidence to support a claim of private ownership, we believe that the case for government ownership is very plausible.

C. County vs. BLNR Jurisdiction

Whether the Holualoa Trail is under the jurisdiction of the County of Hawaii or the Board of Land and Natural Resources (Board) turns on whether the trail currently is vehicular or non-vehicular.[1] Judging from its description (four to ten feet wide, bounded by rock walls), it appears to be a non-vehicular trail, and, consequently, would be under the jurisdiction of the Board.

Originally, under the Highways Act of 1892, all public highways were owned by the Hawaiian Government in fee simple. As a result, even properties acquired by the counties for highway purposes, whether by eminent domain, purchase, dedication, or surrender were acquired in the name of the Territory and, subsequently, in the name of the State. Recognizing the unfairness of such a law, in 1963, the legislature amended the statute such that ownership of highways that had been acquired by a county were vested in the county. Act 190, Session Laws of Hawaii 1963. House Stand. Comm. Rep. No. 864, reprinted in 1963 House Journal at 849-850, stated that the purpose of the act was to allow the counties to use or dispose of any abandoned public road and to retain the proceeds

[1] A non-vehicular trail may fall under county jurisdiction if the trail was created by, or dedicated to a particular county. No such facts are evident in this case.

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therefrom, inasmuch as the counties were required to maintain such public highways and to use their own funds in the purchase of these highways.

Two years later, the legislature went even further by transferring to the counties ownership of all highways maintained by the counties, no matter how the highways were obtained. Act 221, Session Laws of Hawaii 1965. Again, the rationale was that it was inequitable for the State to retain ownership when the county was responsible for maintenance. House Stand. Comm. Rep. No. 84, reprinted in 1965 House Journal at 941-942.

Provisions regarding the jurisdiction of the Board were added in 1988, Act 150, Session Laws of Hawaii 1988. The stated purpose for the amendment was to clear up a misunderstanding expressed by the Hawaii Intermediate Court of Appeals (ICA) in Santos v. Perreira, 2 Haw. App. 387, 633 P.2d 1116 (1981), that all public highways that were not designated for inclusion in the State Highway System under HRS §264-41 were county highways. The ICA's interpretation would have put all public trails under the jurisdiction of the counties. Thus, the legislature deemed it necessary to clarify that the State owned some public highways that were not included in the State Highway System; that these public highways, being nonvehicular, were hereafter to be deemed public trails and under the jurisdiction of the Board. Senate Stand. Com Rep. No. 2045, reprinted in 1988 Senate Journal at 886.

There appears to be no evidence that the Holualoa Trail over was a vehicular right-of-way maintained by the county. Ownership and jurisdiction, therefore, would not have passed to the county pursuant to the 1963 and 1965 legislative enactments. Neither is there any evidence that the trail was created by, or dedicated to, the county. We conclude, therefore, that the Holualoa Trail is under the jurisdiction of the Board.

Summary

there evidence that the trail was created by, or dedicated to, the county. We conclude that the Holualoa Trail is under the jurisdiction of the Board of Land and Natural Resources.

Very truly yours,

Yvonne Y. Izu
Deputy Attorney General

Approved:

Mark J. Bennett
Attorney General

cc: Na Ala Hele

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