APPENDIX B

CULTURAL IMPACT ASSESSMENT

RC-0487

Cultural Assessment Study Associated with the Development of the County of Hawai‘i Kapulena Well

(TMKs: 3-4-5-02:029, 035 and 3-4-7-08:019)

Hauko‘i Ahupua‘a
Hāmākua District
Island of Hawai‘i

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August 2009

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ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL STUDIES

RC-0487

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INTRODUCTION

At the request of Planning Solutions, Inc., on behalf of their client the County of Hawai‘i Department of Water Supply, Rechtman Consulting, LLC has prepared this cultural assessment study to accompany an Environmental Assessment associated with the development of a well (referred to as the Kapulena Well), a 0.3 million gallon (MG) water tank, and an associated 20-foot wide access/utility corridor within TMKs: 3-4-7-02:29, 35, and 3-4-7-08:19 in Hauko‘i Ahupua‘a, Hāmākua District, Island of Hawai‘i (Figures 1, 2, and 3). TMK: 3-4-7-08:19 is a 7,726 square foot utility easement and 30-foot road reserve that provides access to several parcels *mauka* of Highway 240 (the Honoka‘a-Waipi‘o Government Road; Figure 4). TMK: 3-4-7-02:29 is 0.104 acre parcel owned by County of Hawai‘i that is the location of an existing 50,000 gallon water tank (Figure 5). TMK: 3-4-7-02:35 is a privately-owned, 41.303 acre parcel that has a 15-foot wide road and pipeline easement running across it between the two other parcels. A dirt road that follows the easement across Parcel 35 provides access to the existing water tank from Highway 240 (Figure 6). The Kapulena Well development plans call for the preparation of a 250 x 200 foot area for the proposed well pad and tank location (on Parcel 35), the use of a roughly 100 x 50 foot area for the storage of construction materials (on Parcel 35), and the realignment and improvement of the existing access road (on Parcels 19 and 35). The water tank on Parcel 29 will be updated and tied into the new infrastructure, but no additional land disturbance will occur on that parcel. The County of Hawai‘i has an agreement in place for the fee-simple purchase of the proposed development areas on Parcel 35.

The study area has been previously grubbed and graded. In addition to the existing road and water infrastructure described above, the privately-owned Parcel 35 contains a macadamia nut orchard (Figure 7) and a single family residence. Terrain within the proposed development area slopes consistently to the north. Elevations range from approximately 900 feet above sea level at Highway 240 to 1,060 feet above sea level at the proposed location of the well pad. The soil within the project area is classified as Kukaiau silty clay loam on 12 to 20 percent slopes (KuD). This soil is dissected by many, deep, narrow gulches. The surface layer consists of very dark grayish-brown silty clay loam about 10 inches thick, and the subsoil is dark-brown silty clay loam about 40 inches thick. It is underlain by basalt. The surface layer is extremely acidic, and the subsoil is medium to slightly acidic. This soil dehydrates irreversibly into aggregates the size of fine sand (USDA-NRCS web site). The underlying lava flow originated from Mauna Kea more than 10,000 years ago (Wolfe and Morris 1996).

CULTURE-HISTORICAL BACKGROUND

Archaeologists and historians describe the inhabiting of Hawai‘i 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).

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). Over a period of several centuries, areas with the richest natural resources became populated and perhaps crowded, and by about A.D. 900 to 1100, the population began expanding to the *kona* (leeward side) and more remote regions of the island (Cordy 2000:130).

Figure 1. Project area location.

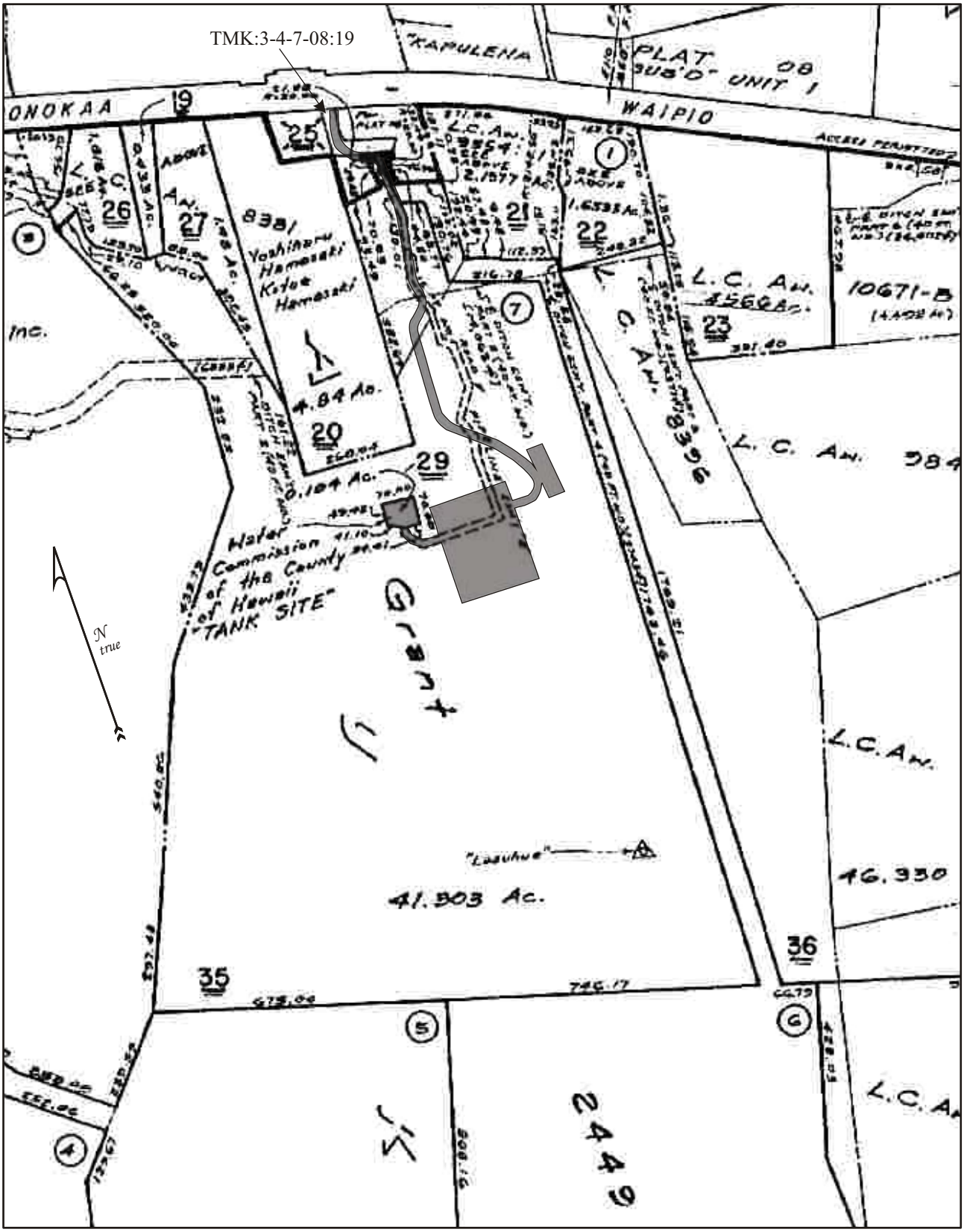

Figure 2. Portion of Tax Map Key (TMK): 3-4-7-02 showing the proposed development area (shaded).

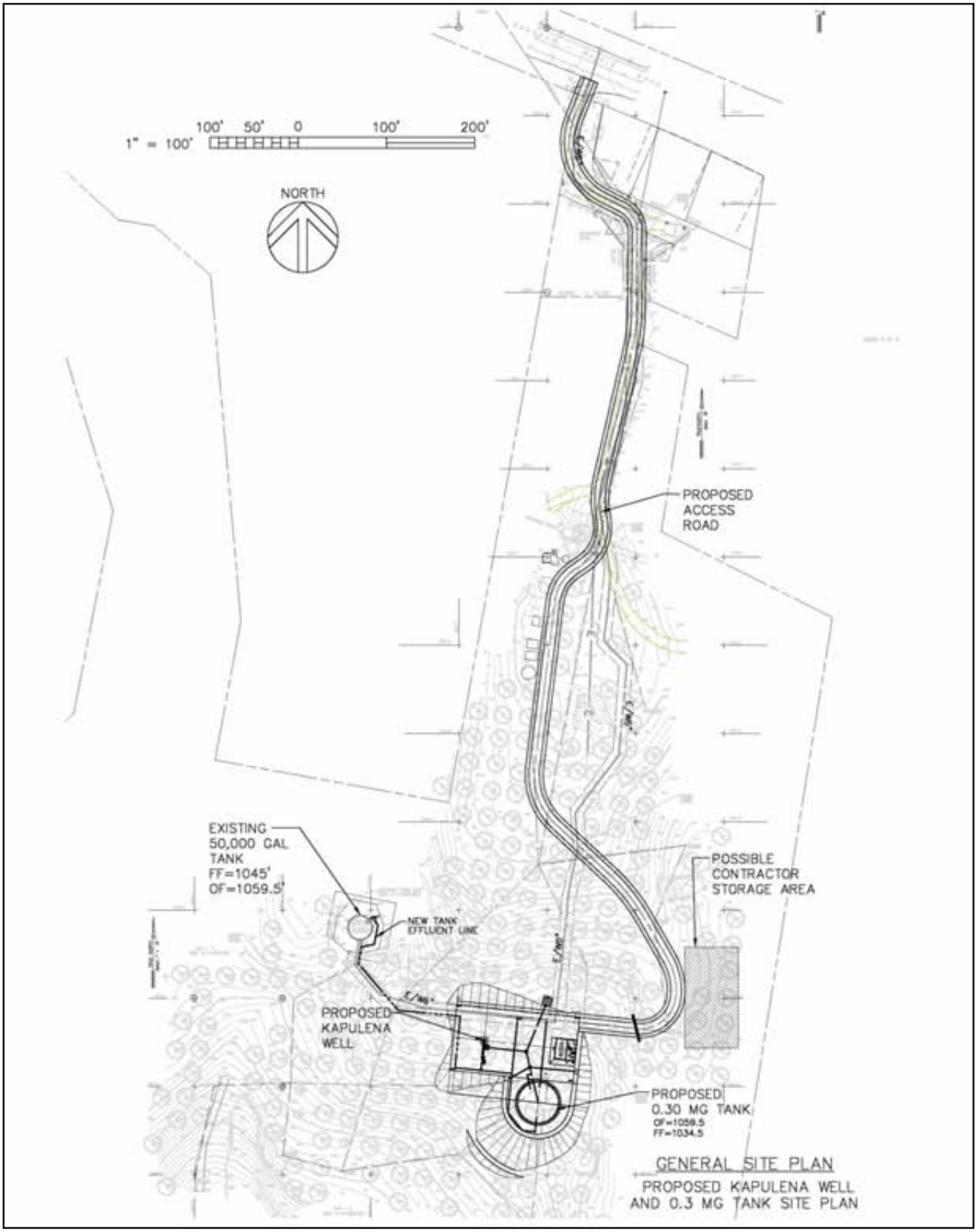

Figure 3. General site plan of the proposed development area.

Figure 4. View to northwest of the existing access road on TMK: 3-4-7-08:019.

Figure 5. View to north of the existing 50,000 gallon water tank on TMK: 3-4-7-02:029.

Figure 6. View to south of the existing access road on TMK: 3-4-7-02:035.

Figure 7. View to east of the macadamia nut orchard at the proposed well pad location.

Populations continued to expand in the wetter windward portions of the island and over the generations, the ancient Hawaiians developed a sophisticated system of land and resources management. By the time ʻUmi-a-Līloa rose to rule the island of Hawaiʻi in ca. 1525, the island (*moku-puni*) was divided into six districts or *moku-o-loko* (cf. Fornander 1973–Vol. II:100-102). On Hawaiʻi, the district of Hāmākua is one of the six major *moku-o-loko*. The district of Hāmākua extends for roughly 30 miles along the shore between Hilo District to the east and Kohala District to south and west. Hāmākua extends inland across Mauna Kea to the summit of Mauna Loa, bordering both the Kona and Kaʻū Districts. Cordy (1994) presented a regional synthesis of Hāmākua in which he identifies and distinguishes west and east Hāmākua: the former consisting of the northern slopes of Kohala Mountain with its large valleys (Waipiʻo, Waimanu, etc.); and the latter consisting of three subregions, the lower windward slopes of Mauna Kea, the upper slopes of Mauna Kea, and the interior plateau of Pōhakuloa and the slope of Mauna Loa. The current study area (within Haukoʻi Ahupuaʻa) falls with East Hāmākua on the lower windward slopes of Mauna Kea (Figure 8).

In his regional synthesis, Cordy (1994) summarized the general land use patterns for the subregion of East Hāmākua based on a detailed examination of archival historical information. Cordy (1994) defines four general envirionmental zones within the subregion: (1) the Sea-shore, (2) The Seaward Upland Slopes, (3) the ʻŌhiʻa-Koa Forest Zone, and (4) The Gulches. The current project area falls within The Seaward Upland Slopes, which was the farming and housing zone of East Hāmākua. House sites in this zone were common between the sea cliffs and the cross-island trail (present day Māmalahoa Highway). Garden plots (*mala*, *kihapai*, and *kula*), which were generally non-irrigated, tended to be located in proximity to the houselots, with some scattered fields in the *mauka* regions. Dryland taro was the dominant crop, but sweet potatoes and bananas were also commonly grown in this zone.

Hāmākua, like other large districts on Hawaiʻi, was subdivided into *ʻokana* or *kalana* (regions of land smaller than the *moku-o-loko*, yet comprising a number of smaller units of land). The *moku-o-loko* and *ʻokana* or *kalana* were further divided into manageable units of land, and were tended to by the *makaʻāinana* (people of the land) (cf. Malo 1951:63-67). Of all the land divisions, perhaps the most significant management unit was the *ahupuaʻa*. *Ahupuaʻa* are subdivisions of land that were usually marked by an altar with an image or representation of a pig placed upon it (thus the name *ahu-puaʻa* or pig altar). In their configuration, the *ahupuaʻa* may be compared to wedge-shaped pieces of land that radiate out from the center of the island, extending to the ocean fisheries fronting the land unit. Their boundaries are generally defined by topography and geological features such as *puʻu* (hills), ridges, gullies, valleys, craters, or areas of a particular vegetation growth.

The *ahupuaʻa* were also divided into smaller individual parcels of land (such as the *ʻili*, *kōʻele*, *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 *ahupuaʻa* 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 *aliʻi* (see Kamakau 1961:372-377 and Malo 1951:63-67).

Entire *ahupuaʻa*, or portions of the land were generally under the jurisdiction of appointed *konohiki* or lesser chief-landlords, who answered to an *aliʻi-ʻai-ahupuaʻa* (chief who controlled the *ahupuaʻa* resources). The *aliʻi-ʻai-ahupuaʻa* in turn answered to an *aliʻi ʻai moku* (chief who claimed the abundance of the entire district). Thus, *ahupuaʻa* resources supported not only the *makaʻāinana* and *ʻohana* 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 (like Waipiʻo), 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 the general cultural setting outlined above that we find Haukoʻi Ahupuaʻa at the time of European contact.

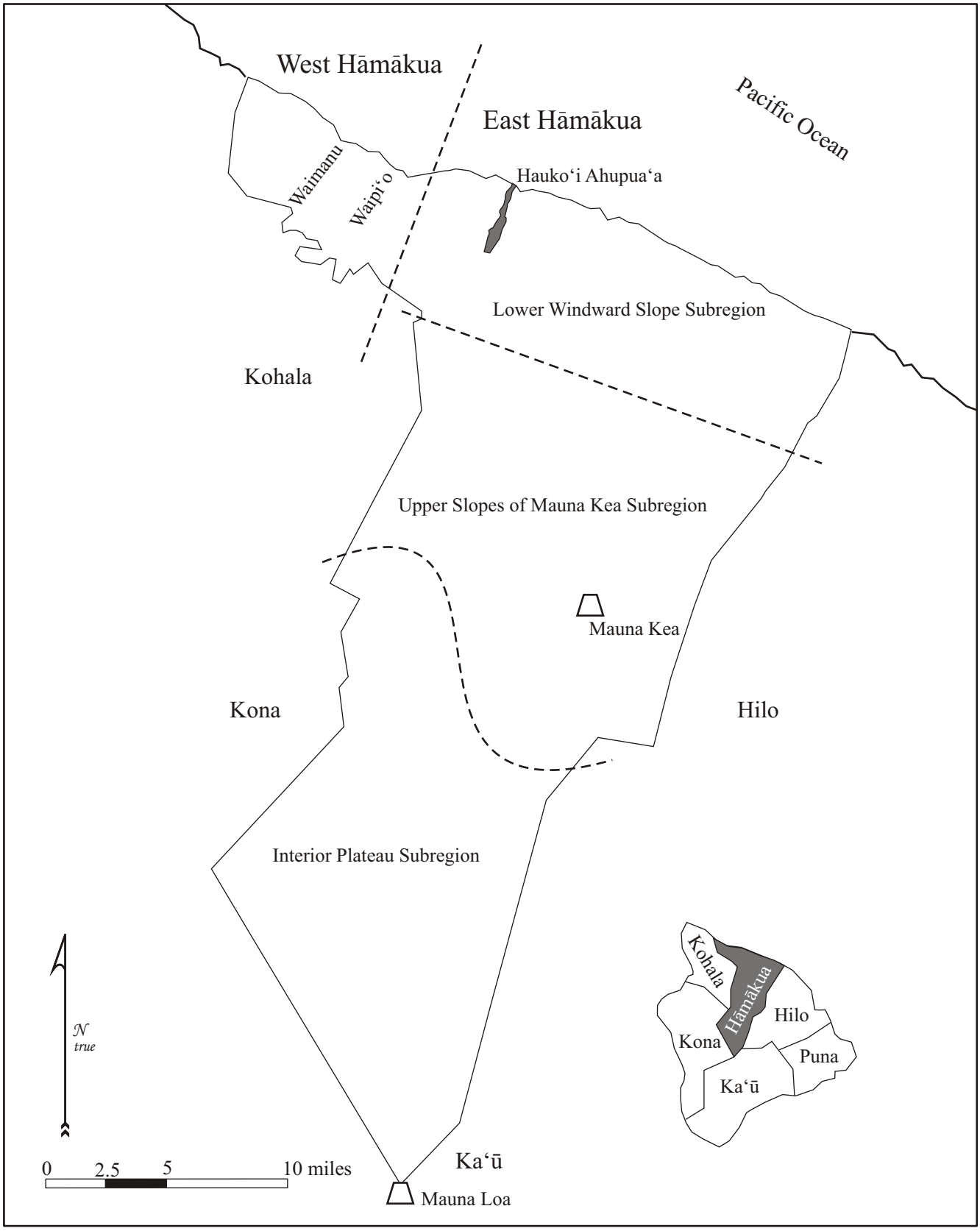

Figure 8. The regions of Hāmākua (after Cordy 1994:3).

The best source of documentation pertaining to native Hawaiian residency and land use practices—identifying specific residents, types of land use, crops cultivated, and features on the landscape—is found in the records of the *Māhele ʻĀina* (Land Division) which the King entered into with the chiefs and people in 1848. The "Land Division" gave native tenants an opportunity to acquire land (in fee-simple) that they lived on and actively cultivated.

In Precontact Hawaiʻi, all land and natural resources were held in trust by the high chiefs (*aliʻi ʻai ahupuaʻa* or *aliʻi ʻai moku*). The use of lands and resources were given to the *hoaʻāina* (native tenants), at the prerogative of the *aliʻi* and their representatives or land agents (*konohiki*), who were generally lesser chiefs as well. In 1848, the Hawaiian system of land tenure was radically altered by the *Māhele ʻĀina*. This change in land tenure was promoted by the missionaries and the growing Western population and business interests in the island kingdom. Generally these individuals were hesitant to enter business deals on leasehold land.

The *Māhele* (division) defined the land interests of Kamehameha III (the King), the high-ranking chiefs, and the *konohiki*. As a result of the *Māhele*, all land in the Kingdom of Hawaiʻi 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 (Chinen 1958:vii, Chinen 1961:13).

The "Enabling" or "*Kuleana* Act" (December 21,1849) laid out the frame work by which native tenants could apply for, and be granted fee-simple interest in "*kuleana*" lands, and their rights to access and collection of resources necessary to their life upon the land in their given *ahupuaʻa*. The lands awarded to the *hoaʻāina* (native tenants) became known as "*Kuleana* Lands." All of the claims and awards (the Land Commission Awards or LCA) were numbered, and the LCA numbers remain in use today to identify the original owners of lands in Hawaiʻi. Haukoʻi Ahupuaʻa was retained as government land as a result of the *Māhele*, and became a part of the post-*Māhele* land granting program that the Kingdom established to help provide *hoaʻāina* further opportunity to obtain fee-simple land of which they may not have been a recipient of during the earlier division.

Cordy (1994) followed his discussion of general land use patterns in East Hāmākua with a review of *Māhele* documents from ten specific *ahupuaʻa*, including Haukoʻi Ahupuaʻa. Haukoʻi is a narrow *ahupuaʻa* that extends only 2.5 miles inland from the shore. Four *kuleana* Land Commision Awards (LCAw.) were issued in Haukoʻi, all of which were for houselots and farm plots located within 1.25 miles of the sea. The names of three *'ili* are mentioned in the testimony for these awards; Haleolono, Kaumakani, and Papuaa. *Kalo*, bananas, breadruit, coffee, *ʻawa*, and *wauke* were named as crops that were grown, and a pig sty is also mentioned. Cordy relates that, "Puhalahua was the konohiki of Haukoʻi, and his *luna* seems to have cared for his land, "hog sty", and his houselot" (1994:70).

TMK: 3-4-7-08:019 of the current study area is a portion of LCAw. 8381 to Kaaeae. Kaaeae's claim was for two houses and six agricultural sections. The claim mentions fifteen *mala* or *kihapai*, fourteen of which were planted in unspecified food crops, and one of which was planted inʻ*awa*. TMKs: 3-4-7-02:29 and 35 are portions of Grant No. 2449, which was purchased by Pili et al. in 1857. The grant parcel is located along the *mauka* edge of the *kuleana* parcel. No land use information was obtained relative to this grant parcel.

In 1878 the first sugar mill was established in the Hāmākua District. Due to it's rich soil and plentiful water supply the district soon became the premiere location for growing sugar on the Island of Hawaiʻi (Hazlett et al. 2007). In 1909 the Hawaiian Irrigation Company began work on the Lower Hāmākua Ditch. The ditch carried water twenty-four miles from the Waipio Stream to Paahau Plantation, irrigating the fields of the Kukuihaele and Honokaa Plantations along the way. By 1979, these plantations had merged with others in the area to create the Hamakua Sugar Company, a plantation that stretched along the Hāmākua coast for thirty-five miles and inland to a distance of four miles. The sugar company initially prospered, but then went bankrupt, and closed its doors in 1993 (Hazlett et al. 2007).

The current project area was a part of the Hamakua Sugar Plantation. The Lower Hāmākua Ditch crosses through a tunnel beneath the existing road easement on TMK: 3-4-7-02:035. According to the land owner, Parcel 35 was never planted in sugarcane because the ground was too rocky, but it was used as an experimental plot for growing macadamia nuts. As a result of this experiment, several different varieties of macadamia nut trees are still present on the parcel.

CONSULTATION

The bulk of the undeveloped portions of the project area, have already been altered through at least 80 years of intensive agricultural activity. This, coupled with the fact that the study area has been privately-owned land for at least that same amount of time, results in limited potential for traditional cultural use. Adding to this the lack of identified resources of a traditional cultural nature, consultation for this project involved a discussion with the current landowner of TMK: 3-4-7-02-35. Alan Suzuki has owned this property for 10 years and explained that aside from his agricultural pursuits, pig hunting is the only activity that occurs (albeit infrequently) on the property. With prior consent, he allows a few local hunters to access the macadamia orchard. He has never observed or seen evidence of any traditional cultural activity on his property, nor has anyone ever sought his permission to conduct such activities on the property.

POTENTIAL CULTURAL IMPACTS

The Office of Environmental Quality Control (OEQC) guidelines identify several possible types of cultural practices and beliefs that are subject to assessment. These include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs. The guidelines also identify the types of potential cultural resources, associated with cultural practices and beliefs that are subject to assessment. Essentially these are natural features of the landscape and historic sites, including traditional cultural properties. A working definition of traditional cultural property is:

> "Traditional cultural property" means any historic property associated with the traditional practices and beliefs of an ethnic community or members of that community for more than fifty years. These traditions shall be founded in an ethnic community's history and contribute to maintaining the ethnic community's cultural identity. Traditional associations are those demonstrating a continuity of practice or belief until present or those documented in historical source materials, or both.

The origin of the concept of traditional cultural property is found in National Register Bulletin 38 published by the U.S. Department of Interior-National Park Service. "Traditional" as it is used, implies a time depth of at least 50 years, and a generalized mode of transmission of information from one generation to the next, either orally or by act. "Cultural" refers to the beliefs, practices, lifeways, and social institutions of a given community. The use of the term "Property" defines this category of resource as an identifiable place. Traditional cultural properties are not intangible, they must have some kind of boundary; and are subject to the same kind of evaluation as any other historic resource, with one very important exception. By definition, the significance of traditional cultural properties should be determined by the community that values them.

It is however with the definition of "Property" wherein there lies an inherent contradiction, and corresponding difficulty in the process of identification and evaluation of potential Hawaiian traditional cultural properties, because it is precisely the concept of boundaries that runs counter to the traditional Hawaiian belief system. The sacredness of a particular landscape feature is often times cosmologically tied to the rest of the landscape as well as to other features on it. To limit a property to a specifically defined area may actually partition it from what makes it significant in the first place. A further analytical framework for addressing the preservation and protection of customary and traditional native practices specific to Hawaiian communities resulted from the *Ka Paʻakai O Kaʻāina* v Land Use Commission court case. The court decision established a three-part process relative to evaluating such potential impacts: first, to identify whether any valued cultural, historical, or natural resources are present; and identify the extent to which any traditional and customary native Hawaiian rights are exercised; second, to identify the extent to which those resources and rights will be affected or impaired; and third, specify any mitigation actions to be taken to reasonably protect native Hawaiian rights if they are found to exist.

As a result of the archaeological study (Rechtman 2009) conducted for this project there were no archaeological resources identified within the project area and it was concluded that no historic properties would be affected by the development of the Kapulena Well; DLNR-SHPD concurred with that conclusion. Likewise, there were no traditionally valued botanical, natural, or cultural resources identified during field studies or during consultation with the landowner. Consultation did reveal that a few community members have the landowner's permission to access the macadamia orchards on TMK: 3-4-7-02:035 for pig hunting activities. As Burrows et al. (2007) point out, the modern (Asiatic) pig is not a direct descendant of the Polynesian *pua'a*; and while *pua'a* were an important economic resource and cultural symbol in Hawaiian history, they were not traditionally hunted. However, as a result of their more recent role in recreational and subsistence hunting, pigs have become a part of local contemporary culture. The proposed development of the Kapulena Well will not effect the prior arrangements that the landowner has with the few community members that have been granted permission to hunt pigs on the privately-owned TMK: 3-4-7-02:035. Given all of the above, it is concluded that the proposed project will not adversely affect any valued natural or cultural resources or any traditional and customary practices.

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