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F R O M: Tasha Kama, Chair
Affordable Housing Committee



SUBJECT: **TRANSMITTAL OF INFORMATIONAL DOCUMENTS RELATING
TO THE WAIKAPU DEVELOPMENT VENTURE WORKFORCE
HOUSING PROJECT** (AH-1(6))

The attached informational documents pertain to Item AH-1(6) on the Committee's agenda.

ah:ltr:001(6)afile01:ans

Attachments

Appendix C

Archaeological

Inventory Survey (AIS)

ASH

**FINAL ARCHAEOLOGICAL INVENTORY SURVEY
OF A 50-ACRE PARCEL OF LAND
WAIKAPU AND WAILUKU *AHUPUA*'A, WAILUKU DISTRICT MAUI ISLAND
TMK [2] 3-5-002:011 and 012 (formerly 3-5-002:001 pors.)**

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REVISED MAY 2016

July 2004

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ABSTRACT

Archaeological Services Hawaii, LLC, of Wailuku, conducted an archaeological inventory survey (AIS) within a 50-acre parcel of land in Wailuku and Waikapū *ahupua'a*, Wailuku District, Maui Island, TMK [2] 3-5-002:001 pors. The AIS field work was conducted from 4-7 May 2004 during due diligence procedures as the Emmanuel Lutheran Church (ELC) and the Valley Isle Fellowship (VIF) were in the process of purchasing the project area from Wailuku Agribusiness. Upon completion of the field work, a post-field summary letter was provided to ELC and VIF and the property was subsequently purchased. Due to the proposed plans to subdivide and develop the parcel, the AIS report was prepared and submitted to the State Historic Preservation Division (SHPD) in 2004. The parcels were subsequently subdivided into two approximate 25.0 acre parcels and assigned TMK's [2] 3-5-002:011 for the north and [2] 3-5-002:012 for the south. Approximately 12-years later, the development plans for the parcels were re-vitalized; however it was determined that the AIS report was never reviewed. Thus, in February 2016, another copy of the report was provided to the SHPD.

The proposed development consists of the construction of two churches, the Emmanuel Lutheran Church (ELC) and the Valley Isle Fellowship (VIF), as well as an affordable residential subdivision. The ELC and residential subdivision are planned for the northern section, Parcel 11, and the VIF will be constructed in the southern half, Parcel 12. The purpose of the investigation was to determine the presence/absence, nature, extent, and significance of cultural resources (if applicable) in the project area that could be adversely affected by proposed development.

The scope of work for the current investigation included a pedestrian survey with subsurface backhoe testing. Results of the pedestrian survey identified one historic property, a disturbed segment of State Site 50-50-04-5474, the Kama Ditch, situated within the southwestern portion of the project area. Also noted was a metal sluice gate, designated Feature 1 of Site 5474. The ditch, constructed around 1905 to 1907, provided water to the sugarcane and subsequent pineapple fields and was supposedly abandoned approximately 30 years ago. Site 5474 was assessed as significant under Criterion "a" because of its association with the plantation era and Criterion "d" for its information content under the Federal and State historic preservation guidelines.

A total of 25 backhoe trenches (TR1-25) were selectively placed in areas that contained no active farming. Trenches ranging in length from 5 to 7 meters were excavated until sterile subsoil was

reached. No significant cultural remains were encountered during trenching and representative stratigraphic profiles were recorded.

Based on the negative results of fieldwork, no further inventory level work is recommended prior to commencing construction activities. However, due to the presence of numerous archaeological sites and Native Hawaiian burials in neighboring parcels, archaeological monitoring during all ground-altering activities is recommended. Prior to the commencement of construction, Archaeological Monitoring Plans (AMP) will be prepared and submitted to SHPD for review and approval. An AMP for the proposed affordable residential subdivision in Parcel 11 was recently submitted to the SHPD; however review of the AMP is pending approval of this AIS report.

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INTRODUCTION

At the request of potential landowners, the Emmanuel Lutheran Church (ELC) of 520 One St. Kahului, Hi. 96732 and Valley Isle Fellowship (VIF) of 473 S. High St. of Wailuku, Hi. 96793, and through an agreement with current landowner, Wailuku Agribusiness; Archaeological Services Hawaii, LLC (ASH) conducted an archaeological inventory survey (AIS) according to the rules and regulations set for Hawaii Administrative Rules (HAR) §13-276. The AIS was performed of an approximate 50-acre parcel of land slated for subdivision and development in Wailuku, Waikapū and Wailuku *ahupua`a*, Wailuku District, Maui Island, TMK [2] 3-5-002:011 and 012 (formerly a portion of Parcel 1-TMK 3-5-002:001) (Figs. 1 and 2).

The purpose of this investigation was to determine the presence/absence, extent, and significance of cultural resources in the project area. The AIS was comprised of a pedestrian survey and mechanical trench excavations (n=25). The survey was conducted from May 4-7, 2004, by Mr. Paul Titchenal, (M.A.) and supervisor Ms. Diane Guerriero, (B.A.) and one historic property, Site 50-50-04-5474, a portion of Waihe`e Ditch, along with a metal sluice gate, Feature 1 of site 5474 was documented along the southwestern/western side of the parcels (see Figure 1).

PROJECT AREA

The project area is located along the northeastern alluvial slopes of the West Maui mountains in Waikapū and Wailuku *ahupua`a*. It is bounded by Honoapi`ilani Highway to the west, Waiale Road to the east, a cane haul road and retention basin to the north, and a recent residential housing project to the south, constructed after the AIS procedures (Fig. 2).

The project area consists of two adjoining 25-acre parcels within a portion of the former Wailuku Agribusiness landholdings (TMK [2] 3-5-002:001 pors.) and contains numerous individual farm plots with bananas, sweet potatoes, and fallow sugar cane and a sod farm. The northern 25.0 acre parcel is owned by Emmanuel Lutheran Church (ELC) and the southern acreage is the Valley Isle Fellowship (VIF) parcel.

The south-eastern and eastern portions of the project area have been impacted by previous sand-mining and agricultural activities, the western portion by agricultural activities and the central portions are actively under agricultural production. The Kama Ditch (State Site 50-50-04-5474)

bisects a portion of the southwestern section of the project area and is oriented roughly north-south (see Figures 2 and 3). The County of Maui sewer line easement bisects the central south section and a portion of the central, east section.

ENVIRONMENT

The project area is situated along the northwestern margin of the isthmus of Maui Island, located below Waikapū Valley on the southwest and Iao Valley on the northwest. The terrain of the project area, altered by commercial agricultural production and previous sand-mining activities, is relatively flat along the western and eastern peripheries with a slope to the east in the central portion. Elevation ranges from 300 feet above mean sea level (AMSL) along the eastern boundary to 400 feet above mean sea level along the western boundary. Rainfall averages between 20-30 inches a year, predominantly occurring during the winter months between November and February (Armstrong 1973).

Vegetation in the project area is dominated by non-native plant species, these include: *koa haole* (*Leucaena glauca*), *kiawe* (*Prosopis pallida*), *wilelāiki* or Christmasberry (*Schinus terebinthifolius*), cane grass (*Setaria sp.*) growing in areas formerly cultivated with sugarcane, fallow pineapple (*Ananas sp.*), active and fallow sweet-potato (*Ipomoea sp.*), banana (*Musa sp.*), papaya (*Carica sp.*), various vegetables and non-native grasses and weeds. Native plant species observed include *ʻilima* (*Sida fallax*), *ʻuhaloa* (*Waltheria americana*), and *popolo* (*Solanum nelsonii*).

Soils in the project area include Iao clay (Icb), 3-7% slopes, and Pu'one sand (PZUE) 7-30% slopes. The Iao clay, occur on slopes between 3-7degrees, on smooth alluvial fans and valley fill. Permeability is moderately slow, runoff is medium, and erosion hazard is slight to moderate. This soil is used for sugarcane and home sites. The Pu'one sands, occur on slopes between 7-30 degrees, on mid coastal plains near the ocean, and developed in material derived from marine coral and shells. This type of sand is transported and deposited by both alluvial and aeolian forces. Permeability is rapid above the cemented layer, runoff is slow, and erosion hazard is moderate to severe. This soil is used for pasture and home sites (Foote et al. 1972).

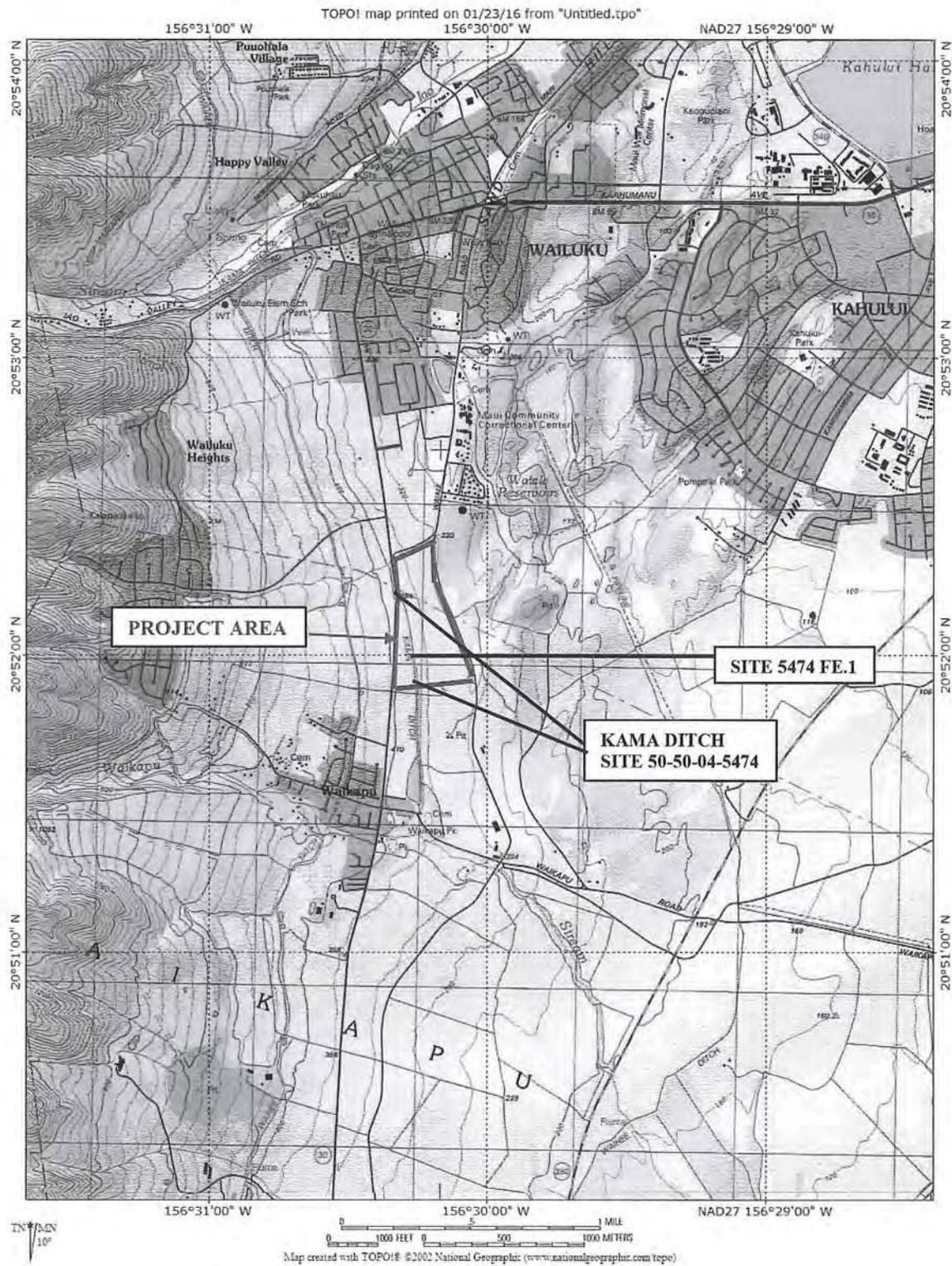


Figure 1. Location of Project Area on U.S.G.S. Quadrangle

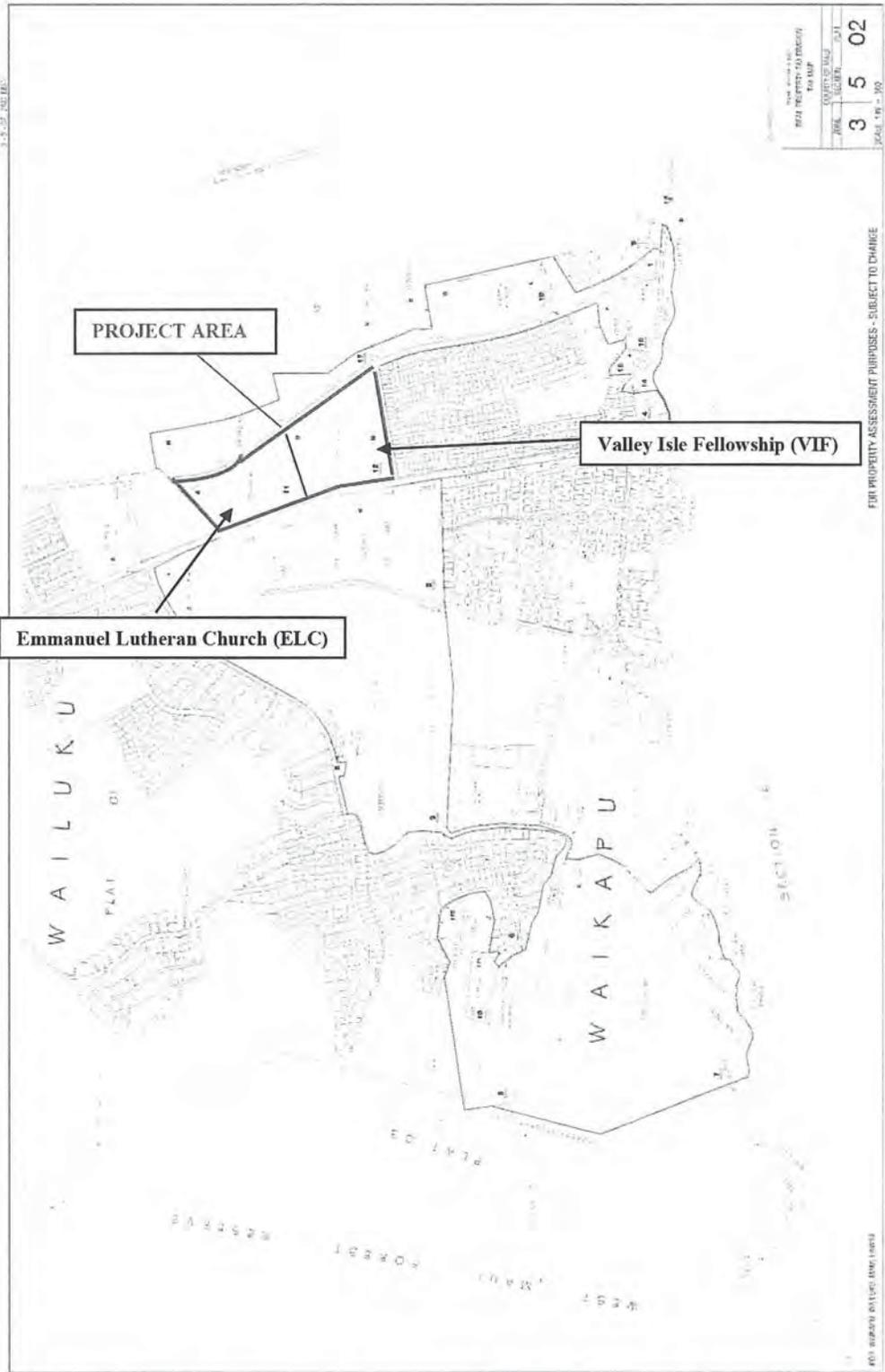


Figure 2. Tax Map Key 3-5-002 Showing Project Area and Locations for Proposed ELC and VIF



Figure 3. Overview of Project Area (top) View to East-Northeast; (bottom) View to Northwest

HISTORICAL SUMMARY

Traditionally, the division of Maui's lands into districts or *moku* and subdistricts were said to have been "performed by a *kahuna* named Kalaiha'ohia, during the time of the *ali'i* Kaka'alaneo (Beckwith 1970:383). Further land divisions within the *moku* were *ahupua`a*, which ideally incorporated all the natural resources necessary for traditional subsistence strategies.

Ahupua`a boundaries were said to have been established about 500 years ago and remain largely unchanged (Sterling 1998:3); thus, it is expected that the current boundaries of Waikapū approximate its prehistoric ones.

The district of Wailuku contains the other *ahupua`a* of Waichu, Waihe'e, and Kahakuloa to the north, and Waikapū and Pulehunui to the south.

The Wailuku District is considered one of Hawai'i's *wahi pana*, legendary places. Specific to Waikapū are many important legendary and traditional accounts.

The island of Maui was named for the demigod Maui (Pukui et al. 1974), a trickster hero known throughout Polynesia. The Hawaiian creation chant Kumulopo described Maui an ancestor of the Hawaiian people and descendant of Wakea, the mythical ancestor of all Hawaiians (Beckwith 1970:227, Pukui and Elbert 1986:381). Kamakau (1991:129) says that the island was originally called *ʻIhi-kapalau-maewa*, and that it was called Maui only after Maui became famous for his exploits.

Historical research of Waikapū *ahupua`a* was summarized in Smith (in Brisbin et al. 1991), and Titchenal (1996). Creed (1993) has written extensively on the settle pattern and traditional background of the Waikapū *ahupua`a*. The reader is referred to these studies for detailed information. A brief summary of the history and land use of the subject area is included here.

The current project area is located in Waikapū *ahupua`a*, in an area which is referred to as Waikapū Commons, in the district of Wailuku. The literal meaning of Waikapū is "water of the conch" (Pukui et al. 1974:223). Legends and oral traditions of Waikapū *ahupua`a* include the story describing the origin and meaning of Waikapū. During ancient times a great conch shell (*pu*) was hidden in a cave on the south side of the stream, about a mile inland. Hence the name *Wai-ka-pu*, "water-of-the-conch" (Handy and Handy 1972:497-498). Another account places the

cave in the valley, a mile or more above the village. The conch was heard in the valley frequently, but never witnessed by the people. A dog, named Puapualenalena, coveted the conch and finally succeeded in stealing it after which its sound was not heard again.

Another interpretation comes from Stoddard (1894, in Wong-Smith, 1992), who says the name comes from a *kapu* Kamehameha I put on the stream during the battle of 'Iao Valley in 1790 (Fredericksen 2004:5).

“ It was at Kalepolepo that Kamehameha the Conqueror beached his canoes. If the oldest inhabitant of Ma'alaea claims this distinction for his port, believe him not. I have the facts, from an eye-witness. The sea was dark with victorious canoes; Kamehameha landed at Kalepolepo, and a kapu was put upon the nearest stream. It became sacred to royalty, as was the custom and is known as Waikapū to this hour – that is forbidden water.”

A number of battles took place in the Waikapū region, including Fornander's (1969:153) account of the battle of the Waikapū Commons or the *Ahulau ka pi 'ipi 'Ii Kakanihūa*. The following account describes the battle on the sand hills southeast of Wailuku:

...The detachment or regiment known as the Alapa, mustering 800 men, was selected for this hazardous expedition, and with high courage they started across the isthmus of Kamaomao, now known as the Waikapū common, as the legend says, “to drink the waters of Wailuku that day. “...Little did this gallant troop apprehend the terrible fate that awaited them...Kahekili distributed his forces in various directions on the Wailuku side of the common, and fell upon the Hawaii corps d'armee as it was entering among the sandhills southeast of Kalua, near Wailuku. After one of the most sanguinary battles recorded in Hawaiian legends,...the gallant and devoted alapa was literally annihilated; only two out of the 800 escaped alive to tell Kalaniopuu of this Hawaiian Balaclava (Fornander 1969:153).

Early Historical Accounts

Since Hawaiians had no formal written language, early historical accounts of Hawaii were recorded by early Hawaiian historians and foreigners to the islands. These descriptions are invaluable as they provide vivid representations of the area and its use.

This area, called *Na Wai 'Eha*, fed by the four streams of Waikapū, Waihe'e, Waiehu, and Wailuku, prospered with the abundance of water. This valuable resource contributed to the population concentration of Wailuku and its surrounding area, which evolved into a substantial

Hawaiian settlement and central place of religious and political power on Maui during the pre-contact period and post contact period.

Foreigners visiting Maui in the early 1800's provided several descriptions of the region of Waikapū. The reader is referred to Wong-Smith (1991: Appendix A, in Brisbin et al. 1991) noteworthy summary of historic references to Waikapū for a more complete treatment of the subject.

Early historical references to Waikapū indicated that the valleys of Waikapū and Wailuku supported substantial populations in the 17th century:

The first village of any note on the way to Wai-lu-ku is Wai-ka-pu. It contains a population of about 500. Here the forces of Kamehameha the Great once assembled for battle at the sounding of the conch shell. Hence the name, Wai-ka-pu (water of the conch or trumpet) (Bates 1854:309).

Historic Land Use

With the arrival of the missionaries in Hawaii in 1820 every aspect of Hawaiian society was influenced. A Western-style government began to take form. In 1839, Kamehameha III (Kauikeaouli) promulgated a declaration of rights known as Hawaii's Magna Carta and, just a year later, Hawaii's first constitution was written.

The Wailuku District was utilized in historic times for many ventures. These included fishing, cultivation of taro, sweet potatoes, sugar cane, and cattle ranching.

According to Kame'eleihiwa (1992) by the mid-1800s, foreign demand for land was so great and the political power of chiefs so weak that the government privatized land ownership, first by distributing large tracts of lands to chiefs through a process called the Mahele and smaller parcels to *maka'ainana* as Land Commission Awards, and later by sale of mostly small parcels as Royal Patent Grants. Privatization opened the door to the transfer of Hawaiian lands to foreigners.

During the Mahele in 1848, Hawai'i was divided into thirds and distributed in three categories. Under the conditions of the Mahele together with the Kuleana Act of 1850: 24% of lands (1 million acres) went to King Kamehameha III; 39% (1.6 million acres) was divided between 251

chiefs; and 36% (1.9 million acres) was identified as government lands (Farber 1997:21). The amount of lands offered to *ali`i* were determined through genealogical rank.

Under the Land Commission Guidelines, for *Maka`ainana* to claim land, the claimant must have lived on the land before 1839 and could only claim it under cultivation and/or house lot. "At the time, the term *Maka`ainana* included foreigners who had sworn an oath of allegiance to the *Mo`i*" (Kame`eleihiwa 1992:295). According to Pickett, the process was as follows: *Maka`ainana* were required to give statements themselves, as well as submit evidence from witnesses defined as Native and Foreign testimonies. Lands were to be surveyed that were only accomplished by 'qualified' non-native surveyors. *Kanaka Maoli* (full blooded Hawaiians) were expected to pay for their individual surveys. Each claim was issued a Land Commission Award (L.C.A.) number, commutation fees were required, and another number called a Royal Patent (R.P.) was also issued (Pickett 2003).

"In 1848, there were approximately 88,000 Hawaiians, but only 14,195 applications were made...of the 14,195 *kuleana* claims, only 8,421 were actually awarded" (Kame`eleihiwa 1992:295). The *Maka`ainana* received less than 1% of the land.

Within a short time, large tracts of land were turned over to commercial agriculture, primarily sugarcane cultivation.

Countless Native Hawaiians lost their land use rights as a result of the Great Mahele of 1848, with the establishment of a system of private land ownership. Many landless Native Hawaiians signed on as laborers in the emerging sugar industry, which began on Maui in the 1820s.

According to Creed (1993, Vol. I, 1993, p.vii) the Mahele became a significant period because it was the first extensive written record on how land was being, and had been used. And accordingly the majority of LCAs in Waikapū were awarded to Hawaiians.

There are many indications in the LCAs that Waikapū was well on its path into "foreign" ways, nevertheless indications are still rife that that it is still a thriving traditional community as well. People are still growing hala, raising *wauke* for clothing of tapa (*kapa*), and have small fish ponds, but the most telling traditional feature of the landscape is its taro (Ibid., p.47).

Creed also suggests the possible and the documented site types of Waikapū *ahupua`a*. Creed extracted the previous land use information from the Mabele records. These are: traditional agricultural sites, habitation sites, burials, boundary walls and markers, canoe landings at Ma`alaea, caves, springs and waterways, traditional activity areas, roads, trails, religious structures and areas (Ibid., p.19-21).

Handy and Handy (1972:497) provided descriptions of native Hawaiian planting techniques in Waikapū during the 1930s:

...Spreading north and south from the base of Waikapū to a considerable distance below the valley are the vestiges of extensive wet-taro plantings, now almost obliterated by sugar-cane cultivation; a few here and there are preserved in plantation camps and under house and garden sites along the roads. Among these gardens there were in 1934, a few patches of dry Japanese taro. Far on the north, just above the main road and at least half a mile below the entrance to the main canyon, an extensive truck garden on old terrace ground showed the large area and the distance below and away from the valley that was anciently developed in terraced taro culture. (Handy and Handy, 1972:497)

The traditional waterway of the Kama Ditch, also referred to as *Kamaauwai* ditch or *Kama`auwai* became an issue of great controversy of water rights (Sterling 1998:86). Two ancient *`auwai*, *Kamaauwai* and *Kalaniauwai* and the Wailuku mill water courses were all mentioned by Chief Justice Allen during the water court case in 1967 (Ibid).

The 1867 landmark court case, Peck vs. Bailey, set the precedent for ownership of water rights. Peck (Wailuku Sugar) argued that their water rights were paramount over the rights of Bailey's heirs. The judge ruled, "Each owner held the right to the water used on their portion of land". This decision greatly impacted traditional Hawaiian customs by breaking the traditional connection between the shared use of water and growing taro. Under customary Hawaiian law, the chiefs controlled and parceled out the use of water. Water was one of the most important aspects of traditional law, as Hawaii's staple crop, taro, depended on the stable delivery of water.

By the nineteenth century, however, sugar replaced taro as Hawai'i's dominant crop. This decision made possible the rapid expansion of the sugar industry and the subsequent growth of population in central Maui.

Sugarcane cultivation was introduced to the region in the early historic period by a Spaniard named Antone Catalina, who manufactured cane syrup at Waikapū in 1828, thus establishing the

beginning of the commercial sugar industry in the Wailuku District. Antone Catalina was granted LCA 205, a 13.61 acre parcel in the *ili* of Halepalahalaha in 1846 by Hoapili-Wahine (Maui's Governing Chiefess). Catalina along with James Louzada were partners in the Waikapū sugar industry.

James Louzada from Waimea, Hawaii established the Waikapū Sugar Plantation in 1863 and introduced cattle production to the Waikapū area. "Mahele records state that Louzada was allowed to take over *konohiki* land that had not been worked for some time, and turned the taro patches and house in productive and livable condition. For this hard work, the 26 acres of land (LCA 225) were granted to him and his Hawaiian heirs by Puupahoehoe" (Creed, Vol. II, 1993, p.6 in Fredericksen, 2004).

During the Mahele of 1848-1851, the Wailuku District was declared Crown Lands and numerous Land Commission Awards and Grants were awarded in Waikapū *ahupua`a* (Table 2.)(Fig. 6). According to Wai'hona data base a total of 104 out of 132 claims were awarded in Waikapū.

After the Mahele, government land in Waikapū was put under the Ministry of Instruction. "On November 15, 1875, the secretary of the Board of Education informed the Minister of Public Instruction that he was directing that a royal patent be made (Grant 3152) to Henry Cornwell (Kapu Louzada, the sister of James Louzada married Henry Cornwell), for the remainder of property belonging to the Board of Education, which had been sold to him at auction for \$15,050. (Creed, Vol. I, p.68).

In 1889, ½ interest in Waikapū sugar lands was bought by Claus Spreckles. The remaining acres continued to be held by G.W. Macfarlane & Co., the previous partner of Louzada and Catalina in Waikapū Sugar Mill (Fredericksen, 2004:13).

It was at this time that the Spreckels Ditch also referred to as the "Waihee Ditch" was built across the Waikapū *ahupua`a* in order to provide needed water for sugar production (Creed, v. I, p. 68, in Fredericksen, 2004:13).

In 1882, Princess Ruth sold one-half of the Crown Lands of Hawai'i to Claus Spreckels in order to settle her debts with him. Spreckels already held a lease (purchased from Henry Cornwell) for 16,000 acres of Wailuku *ahupua`a* (Waikapū Commons), dating from 1878 (R.P. 3152). Worried

about what Spreckels might do with half of the Crown Lands, King Kalakaua gave him (Grant 3343) in 1882, a 24,000 acre portion of the southeastern section of Wailuku *ahupua`a*, in return for the surrender of his claim. Claus Spreckels established the Hawaiian Commercial and Sugar Company 1882. In 1898, control of HC&S passed from Claus Spreckels to that of S.T. Alexander and H.P. Baldwin.

After several changes in ownership the Waikapū Sugar Plantation passed into the control of Wailuku Sugar Company in 1894 (Maui News, February 3, 1926). The present project area was held by the Waikapū Sugar Company, (Grant 3152), that was awarded to H. Cromwell. These lands eventually passed into control of Wailuku Sugar Company.

Another water system utilized in the sugar production is the Kama Ditch system. This system crosses the present project area in the western portion. According to Fredericksen (2004), “this system was probably rebuilt by the Wailuku Sugar Company following their takeover of Waikapū Sugar Company in 1894, and followed an ancient route called *Kamaauawai*.”

Originally, the *Kamaauawai* or Kama Ditch system served mostly *kuleana* lands (Wilcox, 1996, p.125 in Fredericksen, 2004:13). The source of this water system originates in Iao Valley, which lies northwest of the present project area, and travels southeast towards Waikapū Stream. This system became a controversial issue of water rights in the 1867 Peck vs. Bailey case as previously mentioned.

Table I. lists the awarded Land Grant (3152) where the present project area is located and selected LCA claims that are located in close proximity to the present project area.

Table I. LIST OF LCAs AND GRANTS IN WAIKAPŪ (Source: Waihona `Aina Corp. 2004)

NAME	L.C.A.	R.P.	GRANT	COMMENTS	ACREAGE
H. Cornwell			3152	Present project area within awarded land	256.113
Wm. McLane	3201			Land given in 1822 by Puupahoehoe	3.85
Keliolelo	3525			Taro land and houselot	1.77
Wm. Crowningburg	433			Houselot; 14 patches (son-in-law of <i>konoiki</i> Puupahoehoe)	5.93
C. Louzada / H. Cornwell			2951	No land use indicated	17
Spreckles		3152		Waikapū Commons	16,000

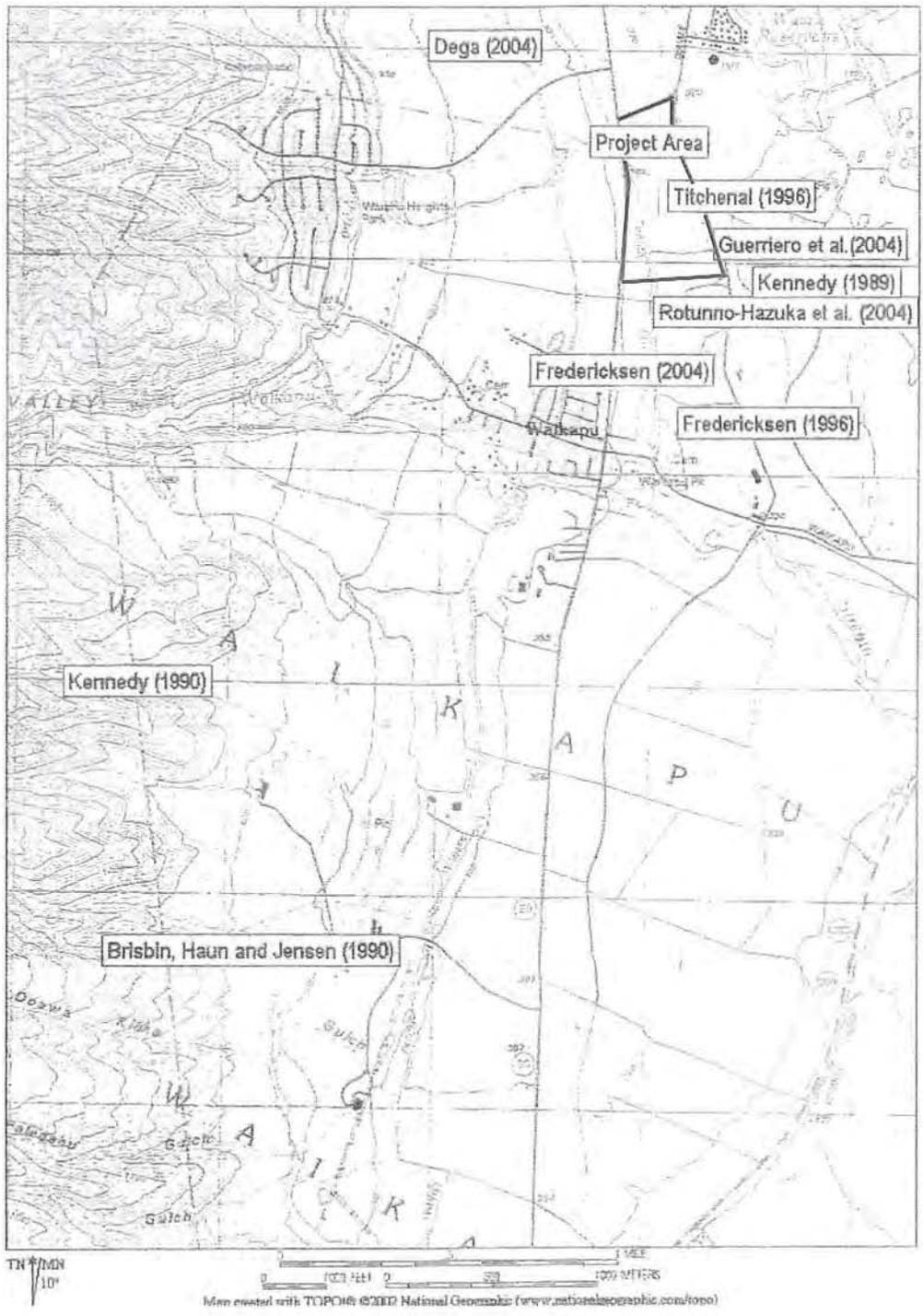


Figure 4. USGS Map Showing Project Area (Red) and Previous Archaeological Studies in Close Proximity to Subject Parcel

PREVIOUS ARCHAEOLOGY

Thomas Thrum and John Stokes explored ancient sacred sites on Maui during the early 1900's. Later, Winslow Walker compiled their information to conduct the earliest island wide archaeological survey where sites were re-visited and documented in a rough draft manual (1931). Thrum's study indicated that there were four *heiau* in the *ahupua`a* of Waikapū. Two *heiau* were reported to be in Waikapū village, located below the road "abreast of T. Everett's", and one below the Catholic Church, which had been both destroyed, and the names forgotten (Thrum, 1909-1918:59, in Creed, vol.I:22). Many ancient sites have been destroyed with the introduction of sugarcane and pineapple cultivation and as well as modern development.

Winslow M. Walker who recorded prominent sites in 1931 for the Bishop Museum, is considered to be another pioneer of early archaeology. Walker reported an unnamed *heiau* and c. 60 petroglyphs on 11 boulders, located 0.25 miles from the village of Maalaea at the base of the foothills of the West Mountains. He also notes an ancient village, with house and shelter sites. During the State wide inventory of historic sites, these were numbered Site 1441 (McGregor Point C-shapes) and Site 1287 (Maalaea Complex). He wrote that along the coast between Ma'alaea and McGregor Point (above the Highway):

...at least 45 (shelters) were noted. The shelters are low walled semi-circular or oval enclosures built against some large rock or group of rocks. Shells and pebbles are found around these sites (Walker unpublished)

Also during the State wide inventory near Ma'alaea Bay, in front of what is currently known as "Buzz's Wharf restaurant", Site 1440, a *piko* stone and Site 1286, and a grindstone were recorded.

In 1994, Archaeological Consultants of the Pacific conducted an archaeological inventory survey for the proposed Maui Ocean Center (TMK 3-6-01:1 & 19) at Ma'alaea Harbor (Kennedy 1994). Initially, a surface survey was performed in 1986 and noted one historic property (State Site 50-50-09-1604) the "Ebisu Jinja" fishing shrine. During the subsequent subsurface testing, human burials were identified and designated Sites 50-50-04-3553 and 3554 (Kennedy 1994).

No previous archaeological investigations have been conducted within the subject project area; however, several studies have been conducted in the vicinity (Dega 2004, Donham 1991, 1995; Fredericksen 2004, Kennedy 1988, 1989; Pantaleo 2003, Titchenal 1996).

In 1988, Archaeological Consultants of Hawaii conducted a preliminary archaeological survey of Phase Ia of the Waikapū Master Plan (TMK 3-4-04:25 por.). No surface cultural remains were identified. The entire parcel was previously disturbed by pineapple cultivation. Due to the presence of numerous L.C.A.'s within the project area, subsurface testing was recommended near the eastern boundary of L.C.A. 5280 to determine presence/absence of subsurface cultural remains associated with house clusters that were once located in this area. These house sites may have been associated with high ranking individuals and taro cultivation.

Archaeological subsurface testing was subsequently undertaken at Phase Ia of the Waikapū Master Plan (Kennedy 1989). A total of six backhoe trenches were excavated in the vicinity of the eastern boundary of L.C.A. 5280 (TMK 3-5-02: por.1). No subsurface cultural remains were encountered in all of the trenches. Kennedy (1989:4) concluded that sugarcane and other recent activities destroyed any subsurface deposits that may have once existed.

Aki Sinoto Consulting (Titchenal 1996) conducted an archaeological inventory survey of the proposed retention basin and adjoining lands in Waikapū and Wailuku *ahupua'a*, Wailuku District, Maui Island (TMK 3-5-01:17, por.: 3-5-02:1, por.), located east of the current project area. No surface cultural remains were located during the surface survey, and no subsurface cultural remains or deposits were identified in the thirteen backhoe trenches excavated in selected localities throughout the project area.

Xamanek Researches (Fredericksen 2004) recently conducted an archaeological inventory survey for the Waikapū affordable housing subdivision (TMK 3-5-02: por. 01 and 3-8-07:101), located adjacent to; south of the present project area. One previously identified historic property was noted during the inventory survey. State Site 50-50-04-5474 consists of a approximate 2000- foot portion of the Kama Ditch and a substantial reservoir (Reservoir No. 6). No other cultural remains were identified during the survey, it was estimated that approximately 40% of the project area was previously impacted by sand mining activities in the last 20 or so years and that much of the remainder of the 100-acre study area was most recently planted in pineapple. Determination by the SHPD architecture branch that sufficient information was collected at Site 5474 Kama

Ditch to document the site and that the proposed demolition of the bulk of Site 5474 for proposed development was approved.

Scientific Consultants (Dega 2004) conducted an archaeological inventory on 348.613-acre parcel in Wailuku near Waikapū, Wailuku *Ahupua`a*, Wailuku District, Maui Island (TMK 3-5-001: por. of 001). Eight historic sites were documented during the survey, two of which were recorded during a previous project. State Site 50-50-04-5473 represents Hopoi Reservoir, this reservoir predates Hopoi Camp and was present at least by 1922. Hopoi camp was not identified during the survey. State Site 50-50-04-5474, the Kama Ditch, was identified east of the Hopoi reservoir running in a north-south direction to Waikapū. State Site 50-50-04-5493 was designated for another unnamed ditch running in a north-south direction occurring along the western flank of the parcel. State Site 50-50-04-5197 represents the Waihe`e Ditch, constructed between 1905 and 1907. The four other sites consist of a combination of historic-modern roadways (Site 5489), a system of smaller historic ditches (Site 5490), a historic artifact scatter on the surface (Site 5491), and several clearing mounds likely created during the plantation era (Site 5492). Twenty-seven subsurface testing trenches revealed homogenous soil matrices across the project area.

SHPD (Donham 1991) conducted a field inspection of the water pipeline easement across Waikapū stream, Waikapū, Maui Island (TMK 3-5-4:14; 3-6-4:2). No surface structural remains were identified in the easement corridor; however, terraces were noted west of the easement and cattle pens and probable former terraces were noted east of the easement. Donham stated that extensive earthmoving activities that previously occurred within the pipeline easement on both sides of the stream destroyed any agricultural features.

SHPD (Donham 1995) conducted a field inspection of the Richardson family in Kukuialamaka, Waikapū, Wailuku District, Maui Island (TMK 3-5-4:22). State site number 50-50-04-4001 was assigned to the cemetery.

The Waikapū sand mining project by Wailuku Agribusiness, Ltd. has also been undergoing archaeological monitoring by Archaeological Services Hawaii, LLC, and Aki Sinoto Consulting since 1999. The project area is located along Waiale Road to the south of the present project area. Scattered human remains were recently found in a previous deposited spoil pile (Rotunno-Hazuka et al., in prep.).

The Ameron sand mining operations located within the Maui Lanī acreage (3-6-07: 130 pors), located east of the present project area in the adjoining Wailuku *ahupua`a* has been ongoing since 1990. The Bishop Museum conducted archaeological monitoring from 1990-1992. In 1992, monitoring procedures were undertaken by Aki Sinoto Consulting and Archaeological Services Hawaii, LLC. To date, four area with human remains have been identified. The remains, designated SIHP 50-50-04-5556-Features 1-4, were disturbed prior to sand mining activities (Guerriero 2004).

The Hawaiian Cement sand borrow site, (TMK 3-9-07: 101) located in Wailuku and Waikapū *ahupua`a*, adjoining the Ameron borrow site to the south and southeast, have also been monitored by Archaeological Services Hawaii, LLC, since 1999. To date, remains representing fifty pre-Contact native Hawaiian burials, have been encountered (SIHP 50-50-04-4200, 4201, and 4202). No other cultural remains have been discovered (Rotunno-Hazuka and Pantaleo 2004).

In 1998, Archaeological Consultants of the Pacific, Inc., performed inventory procedures at the above referenced project area. During these procedures, three historic properties were identified which consisted of Native Hawaiian burials (SIHP 4200, 4201) and a three-tier rock terrace (4202). All historic properties were identified in Phase A and consisted of SIHP 4200 (4 individual burial features), and 4201 (solitary individual burial feature) adjacent to Site 4202 (the tiered terrace). Due to these findings, archaeological monitoring was recommended “during initial grubbing and grading as well as the beginning stages of mining (Kennedy and Moore 1999: 39).

Another series of burials was encountered at a sand mining operation located south of the Hawaiian Cement sand burrow site and southeast of the present project area, at the Maui Scrap Metal Company in Waikapū (Fredericksen 1996). Sand from the site transported to Lahaina for use at the Sewer Plant was found to contain human remains. From November 1994 to March of 1995, a mechanical sifter was used to screen the sand and recover the human remains. A minimum of 22 individuals was disturbed during sand mining activities. The origin of the burial site was established and designated (Site 3525).

An archaeological inventory survey was conducted by Aki Sinoto Consulting, in association with Archaeological Services Hawaii for the proposed Village Mixed Use (VMX) Industrial Park, located east and northeast of the project area at TMK 3-8-07:89 and 102 pors. (Sinoto et. al. 2000). No surface cultural materials were identified during the pedestrian survey, and no buried

cultural remains or deposits were recovered in the eight backhoe trenches. The survey also noted that roughly 75% of the surface area had been previously disturbed through vegetation clearing, and mass grading.

SETTLEMENT PATTERN

Early prehistoric settlement in Waikapū *ahupua'a* was situated along the coastal areas where the majority of known *heiau* were situated. Settlements probably concentrated around these religious structures overlooking fishponds, sheltered bays, and other coastal areas rich in marine resources. During the late prehistoric period, populations expanded into the upland valleys of West Maui, including Waikapū and Iao Valley, where irrigated pond fields existed. These upland settlements were characterized as “extensive terrace and pond field agricultural systems with dispersed, rather than centralized, residential structures throughout and on the margins of these agricultural complexes (Titchenal 1996:11).

Archaeological studies and oral traditions suggest that the intermediate areas, such as the Wailuku sand dunes and the open *kula* lands between the Waikapū Stream and Iao Stream Valley, were less desirable areas for traditional habitation. However, recent results of archaeological studies suggest that other activities such as human interment took place in the dune areas. The open *kula* lands although historical impacted from over a hundred year use in sugar cane cultivation may have supported large agricultural dryland taro fields with associated habitation settlements utilizing the traditional watercourse from the *Kamaauwai* (Kama Ditch).

SITE EXPECTABILITY

Due to extensive previous disturbances from sand-mining activities, from sugarcane and pineapple cultivation, and with current active agriculture production, the probability of encountering cultural remains through inventory level testing is low. Based on the results of previous archaeological investigations in the vicinity, and the presence of LCA's in the area, isolated artifacts associated with pre-Contact occupation and buried architecture or cultural layers associated with historic plantation activities and habitation may be present in the project area.

Based on the results of previous and recent archaeological investigations in the vicinity of the Wailuku sand dune areas and the Wailale / Lower Main corridor, the potential for human burials

is present, however the degree of surface alteration in the subject area may minimize the potential for intact remains in primary context.

METHODS

Archaeological and historical background researches were undertaken to determine the nature and extent of potential cultural resources in the project area. A review of previous archaeological investigations in the vicinity was conducted at the State Historic Preservation Division (SHPD) libraries of the Department of Land and Natural Resources (DLNR) at both the Maui and O'ahu offices. Additional references were researched at the Hamilton Library and the Hawaii State Library. Historic land tenure records were researched at the Bureau of Conveyances and Land Management Branch of DLNR, and at the Survey Division of the State Department of Accounting and General Services.

The fieldwork for the current survey was conducted from 5-7, May 2004 by Mr. Paul Titchenal (M.A.), under the supervision of Ms. Diane Guerriero (B.A.), and under the overall direction of Ms. Lisa Rotunno-Hazuka (B.A.) and Principal Investigator, Mr. Jeffrey Pantaleo (M.A.).

The survey entailed initially conducting a pedestrian surface survey of the entire parcel. Since portions of the parcel had been previously disturbed, subsurface testing through backhoe trenching was deemed appropriate. Excavations were conducted by Goodfellow Brothers Inc., utilizing a backhoe with a 2.5 feet wide bucket. The trenches were selectively located to permit a representative sampling of the subject area. A total of twenty-five backhoe trenches were selectively placed in areas that contained no active farming. Trenches ranging in length from 5 to 7 meters. The backhoe excavation was undertaken with the supervision of the archaeologist and terminated when sterile subsoil or bedrock was reached. Representative profiles were recorded and soils were described. Locations of trenches were plotted on a base map provided by the client. Color photographs on 35mm format were taken of project area and trench overviews. During the course of this project, all accepted standard archaeological procedures and practices were followed. Field notes, maps, and photographs, are being curated by Archaeological Services Hawaii, LLC, in Wailuku.

SCOPE OF WORK

Based on DLNR-SHPD rules for inventory survey, the following specific tasks were determined to constitute an appropriate scope of work for the project:

1. Conduct background review and research of existing archaeological and historical documentary literature relating to the project area and its immediate vicinity—including examination of Land Commission Awards, ahupua'a records, historic maps, archival materials, archaeological reports, and other historical sources;
2. Undertake thorough surface examination of the project area to locate all extant surface features;
3. Conduct detailed recording of all potentially significant sites including scaled plan drawings, written descriptions, and photographs, as appropriate; and clear vegetation where needed for adequate visibility;
4. Complete a location map of the project area showing identified surface features;
5. Conduct limited subsurface testing at selected features to determine the presence or absence of potentially significant buried cultural deposits or features, and to obtain suitable samples for radiocarbon age determinations;
6. Conduct processing and analysis of recovered materials, as warranted; and
7. Synthesize data, prepare, and submit a draft report to SHPD for review, and revise and submit final report.

RESULTS OF FIELDWORK

A total of 25 backhoe test trenches were executed at selected localities for subsurface sampling within the two parcels in areas that would not disrupt active farming. Table II presents descriptive summaries of TR1-25. Trenches 1-6, 15, 16, and 23-25 were excavated within the northern parcel, and trenches 7-14 and, 17-22 were excavated in the southern parcel. Test trenching was not conducted within the extreme central portion of the project area, due to dense active farming (Fig. 5). Representative stratigraphic profiles and photographs for TR1-25 are depicted on Figures 7-20. Descriptive summaries for Trenches 1-25 are presented below.

Test trenches were orientated either north-south or east-west and averaged 6.0 meters in length by 2.0 meters in depth, and were placed approximately 100 meters apart. A three layer stratigraphic sequence was identified within the trenches, where Layer I was usually disturbed at least 50 centimeters below surface. Within the south central portion, remnant sand dune matrices were identified along the 350 to 400 foot elevation contour within TR's 10, 17-23 (see Fig. 5). Also noted was the segment of the Kama Ditch, Site 5474 situated within the southwestern portion of the project area and is further discussed at the end of the trench descriptions

Table II. Backhoe Trench Stratigraphic Summary Table TR's 1-10

TRENCH (TR)	LOCATION	ORIENT.	DIMENSION	STRATIGRAPHY	COMMENTS
1	Located in the extreme north west portion of project area. East of Honoapiilani Highway.	80 / 260 Az.	6.6 m (L) x .80 cm (W) x 1.5 m (H)	Layer I - Fine, Silt; Dark Brown, (10YR3/3); agricultural layer. Layer II - Very Fine, Silt; Dark Grayish Brown (10YR 3/2); Layer III - Fine, Silt; Dark Grayish Brown (10YR 3/2), colluvial deposited with water affected pebbles, cobbles and small boulders.	Previous surface disturbance with past and present agriculture farming. Level surface area. North Profile. No cultural remains identified.
2	South of TR 1. East of Honoapiilani Highway.	90 / 270 Az.	7 m (L) x .80 m (W) x 1.5 m (H)	Layer I - Fine, Silt; Dark Brown, (10YR3/3); agricultural layer. Layer II - Very Fine, Silt; Dark Grayish Brown (10YR 3/2) with gravel inclusions; Layer III - Fine, Silt; Dark Grayish Brown (10YR 3/2), colluvial deposit with water affected pebbles and cobbles.	Previous surface disturbance with past and present agriculture farming. On level surface area. East Profile. No cultural remains identified.
3	Southeast of TR 2 and TR 1. East of Honoapiilani Highway.	70 / 250 Az.	5 m (L) x .80m (W) x 1.4 m (H)	Layer I - Fine, Silt; Dark Brown, (10YR3/3); agricultural layer. Layer II - Very Fine, Silt; Dark Grayish Brown (10YR 3/2); Layer III - Fine, Silt; Dark Grayish Brown (10YR 3/2); gravelly.	Previous surface disturbance with past and present agriculture farming. On slight slope towards east. North Profile. No cultural remains identified.
4	East of TR 3. East of Honoapiilani Highway and west of existing sugar cane hauling road.	80 / 260 Az.	6.2 m (L) x .80 m (W) x 1.3 - 1.6 m (H)	Layer I - Fine, Silt; with sand inclusions, Dark Brown to Dark Yellowish Brown (10YR 3/3-3/4); agricultural layer. Layer II - Fine, Silt; Dark Brown (10YR 3/3).	Previous surface disturbance with past and present agriculture farming. On level surface area. South Profile. No cultural remains identified.
5	Located in the extreme northeast portion of the project area. North of TR 4 and east of TR-6.	70 / 250 Az.	6 m (L) x .80 m (W) x 1.5 m (H)	Same as TR-4 without sand inclusions identified in TR-4 Layer I	Previous surface disturbance with past and present agriculture farming. On level surface area. North Profile. No cultural remains identified.
6	Located along the northern project area boundary, west of TR-5 and east of TR-1.	90 / 270 Az.	4.8 m (L) x .80 cm (W) x 1.6 (H)	Same as TR-3	Previous surface disturbance with past and present agriculture farming. On slight slope towards east. South Profile. No cultural remains identified. No cultural remains identified.
7	Located in the extreme southern portion of project area. East of Honoapiilani Highway and adjacent to; east of the existing sewerline easement.	100 / 280 Az.	5.5 m (L) x .80 cm (W) x 1.4 (H)	Layer I - Fine, Silt; with sand inclusions, Dark Brown to Dark Yellowish Brown (10YR 3/3-3/4); agricultural layer. Layer II - Fine, Silt; with sand and gravel inclusion, river bed inclusions noted in North and South Profiles, Dark Brown (10YR 3/3). Layer III - Fine, Silt; Dark Brown to Dark Yellowish Brown (10YR 3/3 - 3/4).	Previous surface disturbance with past sand mining activities and agriculture farming. Historic debris noted within area. Level surface area. South Profile. No cultural remains identified.
8	Located in the extreme southeastern portion of project area. East of Honoapiilani Highway and TR-7	60 / 240 Az.	5.5 m (L) x .80 cm (W) x 1.5 m (H)	Layer I - Fine, Silt; with sand inclusions, Dark Brown to Dark Yellowish Brown (10YR 3/3-3/4); agricultural layer. Layer II - Fine, Silt; Dark Brown (10YR 3/3). Layer II same as Layer II with many water affected and sub-angular cobbles and pebbles.	Level ground surface. North Profile. No cultural remains identified.
9	North of TR 8 and west of sugar cane hauling road.	90 / 270 Az.	6 m (L) x .80 cm (W) x 1.5 m (H)	Layer I - mottled Silt; with sand inclusions, Brown (7.5 3/2); agricultural layer. Layer II - remnant Aeolian Sand; (10YR 5/4); Yellowish Brown, Layer II / III - Transitional Layer, Sandy Silt; Brown (10YR 5/3), Layer III - Silt; Dark Brown (10YR 3/3).	Level ground surface in open fallow field of sweet potatoes. South Profile. No cultural remains identified.
10	West of TR 9. Adjacent to; east of the existing sewerline easement.	180 / 360 Az.	6 m (L) x .80cm (W) x 1.5 m (H)	Layer I - Mottled Silty Sand, Very Dark Grayish Brown; (10YR 3/2) with charcoal flecks. Layer II - Sand Silt. Brown to Dark Brown (10YR 5/3-4/3); Layer III - Aeolian Sand/Silt. Vry Drk Graysh Brwn (10YR 3/2); Layer IV - Very Fine Grain Sand Pale Brwn (10YR 6/3); Layer V - BOE- Coarse Sand Light Brwn Gray(10YR 6/2).	Previous surface disturbance with past and present agriculture farming. West Profile. No cultural remains identified.
11	East of TR 10. Adjacent to; east of the existing sewerline easement.	180 / 360 Az.	6 m (L) x .80cm (W) x 1.5 (H)	Layer I - Silty Loam; Very Dark Grayish Brown (10YR 3/2); Layer II - Silt; Dark Brown, (10YR 3/3); Layer III - Silt; Dark Brown (10YR 3/3).	Previous surface disturbance with past and present agriculture farming. Level ground surface area. South Profile. No cultural remains identified.

Table III. (cont) Backhoe Trench Stratigraphic Summary Table TR's 12-25

TRENCH (TR)	LOCATION	ORIENT.	DIMENSION	STRATIGRAPHY	COMMENTS
12	Located in the extreme southeast portion of project area. Adjacent to east of, Honoapiilani Highway.	110 / 280 Az.	6 m (L) x .80cm (W) x 1.8 (H)	Layer I - Silty Loam, Very Dark Grayish Brown (10YR 3/2); Layer II - Silt; Dark Brown, (10YR 3/3); Layer III - Silt; Dark Brown (10YR 3/3), with many water affected basalt cobbles and pebbles.	Level ground surface area on upper slope. North Previous surface disturbance with past agricultural farming. North Profile. No cultural remains identified.
13	North of TR. 12. Adjacent to; east of, Honoapiilani Highway.	100 / 280 Az.	5.5 m (L) x .80 cm (W) x 1.8 (H)	Same as TR - 12	Level ground surface area on upper slope. North Previous surface disturbance with past agricultural farming. East Profile. No cultural remains identified.
14	North of TR. 13. Adjacent to; east of, Honoapiilani Highway.	100 / 280 Az.	5 m (L) x .80 cm (W) x 1.7 m (H)	Same as TR - 12, and 13	Level ground surface area on upper slope. North Previous surface disturbance with past agricultural farming. North Profile. No cultural remains identified.
15	North of TR. 14. Adjacent to; east of, Honoapiilani Highway.	100 / 280 Az.	6 m (L) x .80cm (W) x 2 m (H)	Same as TR - 12, 13, 14	Level ground surface area on upper slope. North Previous surface disturbance with past agricultural farming. East Profile. No cultural remains identified.
16	North of TR. 15. Adjacent to; east of, Honoapiilani Highway.	180 / 360 Az.	5 m (L) x .80cm (W) x 1.6 m (H)	Same as TR - 12, 13, 14 and 15	Level ground surface area on upper slope. North Previous surface disturbance with past agricultural farming. Profile. No cultural remains identified.
17	West of TR. 10. Adjacent to; west of, the sewerline easement and east Honoapiilani Highway.	170 / 350 Az.	6 m (L) x .80 cm (W) x 1.7 m (H)	Layer I - Silty Sand, Grayish Brown (10YR 3/4); Layer II - Aeolian Sand, Yellowish Brown (10YR 5/6); Layer III - Silt, Very Dark Brown.	On slope surface area, below a field of agricultural farming of sweet potatoes. East Profile. No cultural remains identified.
18	South of TR. 17 and east of TR. 7. Adjacent to; east of, Honoapiilani Highway and the existing sewerline.	180 / 360 Az.	5 m (L) x .80 m (W) x 1.8 m (H)	Same as TR - 17 with the exception of a disturbed sand layer below Layer I.	On slope surface area. East Profile. No cultural remains identified.
19	West of TR. 18. and east of TR-12. Adjacent to; east of the Kama Ditch.	180 / 360 Az.	5 m (L) x .80cm (W) x 2.2 m (H)	Same as TR - 18	Level ground surface on farm access road along upper slope. East Profile. No cultural remains identified.
20	North of TR. 19. Adjacent to; east of the Kama Ditch.	180 / 360 Az.	5.6 m (L) x .80 cm (W) x 2.8 m (H)	Same as TR - 18 and 19.	On slope surface area along upper slope. West Profile. No cultural remains identified.
21	East of TR. 22. Adjacent to; West of the sewerline easement.	120 / 300 Az.	5.5 m (L) x 1.6 m (W) x 2.5 m (H)	Same as TR - 18, 19 and 20.	Level ground surface. West Profile. No cultural remains identified.
22	West of TR. 21. Adjacent to; east of the Kama Ditch.	90 / 270 Az.	6 m (L) x .80 cm (W) x 2.5 m (H)	Same as TR - 18 thru 21	Level ground surface. East Profile. No cultural remains identified.
23	North of TR. 21. Adjacent to; west of the sewerline easement	90 / 270 Az.	6.5 m (L) x .80 cm (W) x 3.5 m (H)	Same as TR - 18 thru 22	Level ground surface. East Profile. No cultural remains identified.
24	Northwest of TR. 23. Placed in an open unplanted agricultural field. West of existing sewerline easement	180 / 360 Az.	4 m (L) x 2 m (W) x 2 m (H)	Same as TR - 4 and 5	Level ground surface. West Profile. No cultural remains identified.
25	East of TR. 24. Adjacent to; east of existing sewerline easement. Placed in a fallow sweet potatoe field.	90 / 270 Az.	4.6 m (L) x 1.2 m (W) x 1.9 m (H)	Same as TR - 4 and 5	Level ground surface. North / northwest Profile. No cultural remains identified.

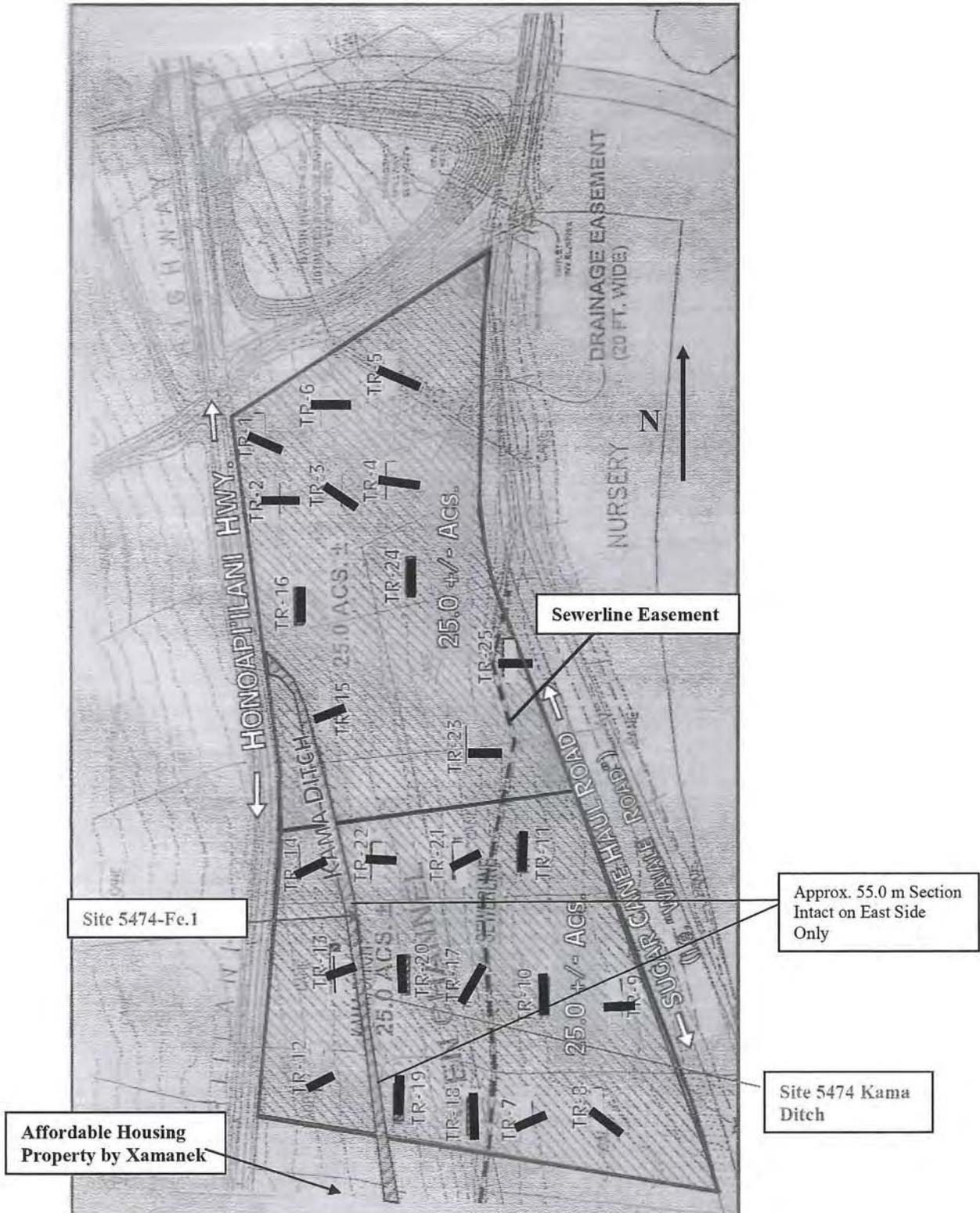


Figure 5. Topographic Map Showing TR's 1-25, Site 50-50-04-5474 and Waiale Housing to South

Backhoe Trench 1 and Backhoe Trench 2

Backhoe Trench 1 (TR1) and Backhoe Trench 2 (TR2), were placed in the northwest portion of the project area, and placed east of Honoapi'ilani Highway (Fig. 5). Trench 1 measured 6.6 m long by .8 m wide and 1.5 m deep, and orientated east / west. Trench 2 was placed c. 100 m south of Trench 1, measured 7.0 m long by .8 m wide and 1.5 m deep, and orientated east / west. Layer I in both trenches contained the plow zone with evidence of past and recent agricultural disturbance. Three stratigraphic layers were revealed in TR1 and TR2 (Fig.7).

Layer I contained the plow zone, was a dark brown (10YR 3/3), fine silty loam, and contained a high content of rootlets. It ranged from 0/40-50 cmbs, and was non-cultural. Layer I was found directly overlying Layer II, and had an abrupt, smooth lower boundary.

Layer II was a dark grayish brown (10YR 3/2), very fine silt, with gravel inclusions. Layer II ranged from .4-.5 / 1.0-1.5 mbs directly overlying Layer III and had an abrupt, smooth lower boundary.

Layer III was a dark grayish brown (10YR 3/2), very fine silt, with colluvial deposited water affected pebbles, cobbles and small boulders; and was non-cultural. Layer III ranged from 1.0 / 1.5 mbs. BOE was terminated at eroding bedrock.

Backhoe Trench 3

Backhoe Trench 3 (TR3), was placed centrally in the northwest portion of the project area, and placed c. 100 m east of Trench 2 and Honoapi'ilani Highway. Trench 3 measured 5.0 m long by .8 m wide and 1.4 m deep, and orientated east / west on a slight slope towards the east. Layer I contained the plow zone with evidence of past and recent agricultural disturbance. Three stratigraphic layers were revealed in TR3 (Fig. 6).

Layer I contained the plow zone, was a dark brown (10YR 3/3), fine silty loam, and contained a high content of rootlets. It ranged from 0/40-50 cmbs, and was non-cultural. Layer I was found directly overlying Layer II, and had an abrupt, smooth lower boundary.

Layer II was a dark grayish brown (10YR 3/2), very fine silt. Layer II ranged from .4-.5 / 1.3 mbs directly overlying Layer III and had an abrupt, smooth lower boundary.

Layer III was a dark grayish brown (10YR 3/2), very fine gravelly silt; and was non-cultural. Layer III ranged from 1.0 / 1.4 mbs. BOE was terminated at eroding bedrock.



Figure 6. Overview of Trench 3, View to West

Backhoe Trench 4

Backhoe Trench 4 (TR4), was placed in the northwest portion of the project area along the lower slope, and placed c. 100 m east of Trench 3. Trench 4 measured 6.2 m long by .8 m wide and 1.3 – 1.6 m deep, and orientated east / west on a slight slope towards the east. Layer I contained the plow zone with evidence of past and recent agricultural disturbance. Two stratigraphic layers were revealed in TR4 (Fig. 7).

Layer I contained the plow zone, was a dark brown to dark yellowish brown (10YR 3/3-3/4), fine silty loam with sand inclusions, contained a high content of rootlets and scattered pieces of cement. It ranged from 0/-50 cmbs, and was non-cultural. Layer I was found directly overlying Layer II, and had an abrupt, smooth lower boundary.

Layer II was a dark brown (10YR 3/2), homogenous fine silt. Layer II ranged from .5 / 1.6 mbs and was non-cultural. BOE was terminated in sterile subsoil.

Backhoe Trench 5

Backhoe Trench 5 (TR5), was placed in the northeast portion of the project area along the lower slope, and placed c. 100 m east of Trench 4. Trench 5 measured 6.2 m long by .8 m wide and 1.5 deep, and orientated east/west on a slight slope towards the east. Layer I contained the plow zone with evidence of past and recent agricultural disturbance, fallow vegetables and fruit were noted in the area. Two stratigraphic layers were revealed in TR5 same as Trench 4 (Fig. 8).

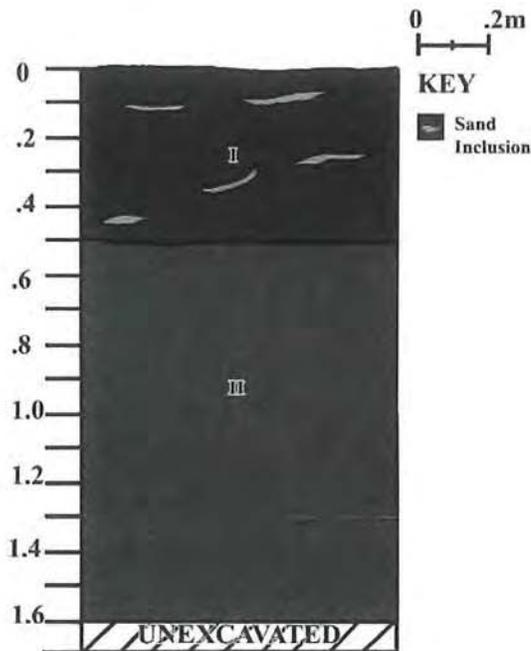
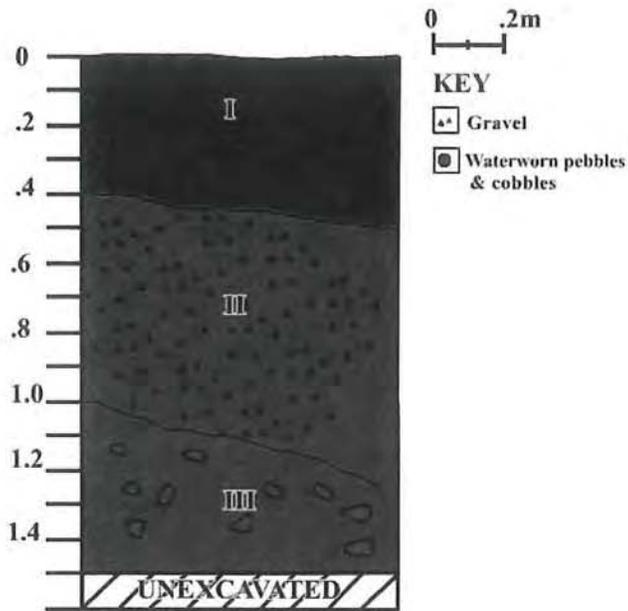


Figure 7. Representative Stratigraphic Profiles for Trenches 1-5, (top) TR2 North Wall (bottom) TR4 South Wall



Figure 8. Trench 5, View to North

Backhoe Trench 6

Backhoe Trench 6 (TR6), was placed along the northern boundary of the project area, situated centrally along a slight slope to the east, and placed c. 100 m east of Trench 1 and c. 100 m north of Trench 3. Trench 6 measured 4.8 m long by .8 m wide and 1.6 deep, and orientated east / west. Layer I contained the plow zone with evidence of past and recent agricultural disturbance, fallow vegetables and fruit were noted in the area. Three stratigraphic layers were revealed in TR6 same as Trench 3.

Backhoe Trench 7

Backhoe Trench 7 (TR7), was placed in the southeast portion of the project area, along the southern boundary, east of the existing sewerline easement in an area previously sand mined. Trench 7 measured 5.5 m long by .8 m wide and 1.4 deep, and orientated east / west. Surface area was relatively flat with scattered modern historic debris. Three stratigraphic layers were revealed in TR7, and a concentration of riverbed pebbles and cobbles were noted in the north face (Fig. 11).

Layer I was a dark brown to dark yellowish brown (10YR 3/4), silt with sand inclusions, and contained a high content of rootlets. It ranged from 0/45 cmbs, and was non-cultural. Layer I was found directly overlying Layer II, and had an abrupt, smooth lower boundary.

Layer II was a dark brown (10YR 3/3), fine silt, with sand and gravel inclusions Layer II ranged from .45 / 1.25 mbs directly overlying Layer III and had an abrupt, smooth lower boundary.

Layer III was a dark brown to dark yellowish brown (10YR 3/3-3/4), homogenous fine silt; and was non-cultural. Layer III ranged from 1.25 / 1.4 mbs. BOE was terminated in sterile subsoil.

Backhoe Trench 8

Backhoe Trench 8 (TR8), was placed in the southeast portion of the project area, along the southern boundary, east of the existing sewerline easement, and east of TR7, in an area previously sand mined. Trench 8 measured 5.5 m long by .8 m wide and 1.5 m deep, and orientated east / west. Surface area was relatively flat with scattered modern historic debris. Three stratigraphic layers were revealed in TR8 (Fig. 9).

Layer I was a dark brown to dark yellowish brown (10YR 3/4), mottled silty sand with sand inclusions, and contained a high content of rootlets. It ranged from 0 / 50 cmbs, and was non-cultural. Layer I was found directly overlying Layer II, and had an abrupt, smooth lower boundary.

Layer II was a dark brown (10YR 3/3), fine silt, Layer II ranged from .50 / 1.0 mbs directly overlying Layer III and had an abrupt, smooth lower boundary.

Layer III was a dark brown (10YR 3/3), fine silt; with subangular and water affected cobbles and was non-cultural. Layer III ranged from 1.0 / 1.5 mbs. BOE was terminated in sterile subsoil.



Figure 9. Trench 8, View to North

Backhoe Trench 9

Backhoe Trench 9 (TR9), was placed in the southeast portion of the project area, along the southern boundary, east of the existing sewerline easement, and north of TR8 and the cane road (Waiale Road), in an area previously used for sweet potato cultivation. Trench 9 measured 6 m long by .8 m wide and 1.5 m deep, and orientated east / west. Surface area was relatively flat with fallow sweet potato vines. Four stratigraphic layers were revealed in TR9 (Fig. 10 and 11).

Layer I was a brown (7.5YR 3/2), mottled silty sand with sand inclusions, and contained a high content of sweet potato rootlets. It ranged from 0 / 40-50 cmbs, and was non-cultural. Layer I was found directly overlying Layer II, and had a wavy, smooth lower boundary.

Layer II was a pale brown, brown (10YR 6/3-5/3), sand, Layer II ranged from .40-.50 / .70 cmbs, was found directly overlying Layer III and had a wavy, smooth lower boundary.

Layer III was a dark brown (10YR 3/3), fine silt; cultural. Layer III ranged from .40 / 1.5 mbs. BOE was terminated in Layer IV lithified sand.



Figure 10. Trench 9, View to South

Backhoe Trench 10

Backhoe Trench 10 (TR10), was placed in the southeast portion of the project area, along the southern boundary, east of the existing sewerline easement, and west of Trench 9 and the cane road (Waiale Road), in an area previously used for sweet potato cultivation.

Trench 10 measured 6 m long by .8 m wide and 1.5 m deep, and orientated north / south. Surface area was relatively flat with fallow sweet potato vines. Five stratigraphic layers were revealed in TR10.

Layer I was a very dark grayish brown (10YR 3/2), mottled silty sand with charcoal flecks, irrigation driplines and contained a high content of sweet potato rootlets. It ranged from 0 / 50-80 cmbs, and was non-cultural. Layer I was found directly overlying Layer II, and had a wavy, smooth lower boundary.

Layer II was a brown to dark brown (10YR 5/3-4/3), sandy silt, Layer II ranged from .50-.80 / 1.0 mbs directly overlying Layer III and had an abrupt, smooth lower boundary.

Layer III was a pale brown, (10YR 6/3), fine grain sand; and was non-cultural. Layer III ranged from 1.0 / 1.2mbs and had an abrupt, smooth lower boundary.

Layer IV was a very dark grayish brown, (10YR 3/2), silt; and was non-cultural. Layer IV ranged from 1.2 / 1.3 mbs. Abrupt, smooth boundary.

Layer V was a light brown grey, (10YR 6/2), coarse lithified sand; non-cultural. Layer V from 1.3 / 1.5 mbs. BOE was terminated lithified sand.

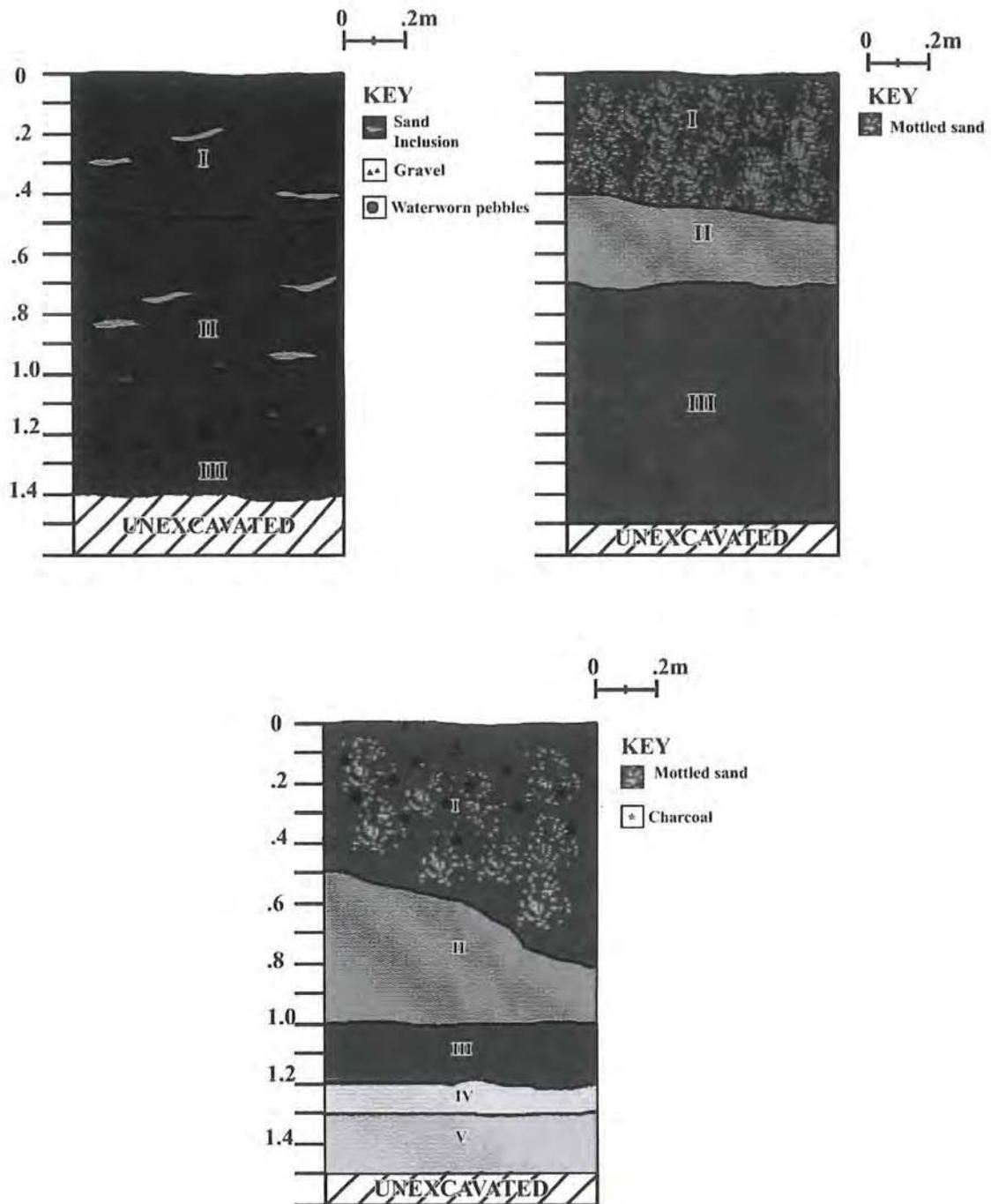


Figure 11. Representative Stratigraphic Profiles for Trenches 6 through 10, (top left) TR7 South Wall, (top right) TR9 South Wall and (bottom) TR10 West Wall

Backhoe Trench 11

Backhoe Trench 11 (TR11), was placed in the southeast portion of the project area, along the southern boundary, east of, adjacent to, the existing sewerline easement, and north of Trench 10 and south of a farming access road, in an area previously used for sweet potato cultivation. Trench 11 measured 6 m long by .8 m wide and 1.5 m deep, and orientated north / south. Surface area was relatively flat with fallow sweet potato vines. Three stratigraphic layers were revealed in TR11 (Figs. 11 and 13).

Layer I was a very dark grayish brown (10YR 3/2), silty loam, and contained a high content of sweet potato rootlets. It ranged from 0 / 40 cmbs, and was non-cultural. Layer I was found directly overlying Layer II, and had an abrupt, smooth lower boundary.

Layer II was a dark brown (10YR 5/3-4/3), silt, Layer II ranged from .40 / 1.2 mbs directly overlying Layer III and had an abrupt, smooth lower boundary.

Layer III was a dark brown, (10YR 3/3), silt; and was non-cultural. Layer IV ranged from 1.2 / 1.5 mbs. BOE was terminated in sterile subsoil.

Backhoe Trenches 12 through 14

These three trenches were placed west of the Kama Ditch (Site5474), in the southwestern portion of the project area, east of Honoapi'ilani Highway, and excavated in the abandoned pineapple fields. All three trenches contained the plow zone – Layer I and all revealed a three layer substratum (Figs. 12 and 13).

Layer I was a very dark grayish brown (10YR 3/2), silt; with scattered subangular cobbles. It ranged from 0 / 80 cmbs directly overlying Layer II and had an abrupt lower boundary.

Layer II was a dark brown (10YR 3/3), silt. It ranged from .80 / 1.5 directly overlying Layer III and had an abrupt lower boundary

Layer III was a dark brown (10YR 3/3), silt with many water affected cobbles and pebbles. 1.50 to 1.80 mbs. BOE was terminated in sterile subsoil.



Figure 12. Trench 14, View to North

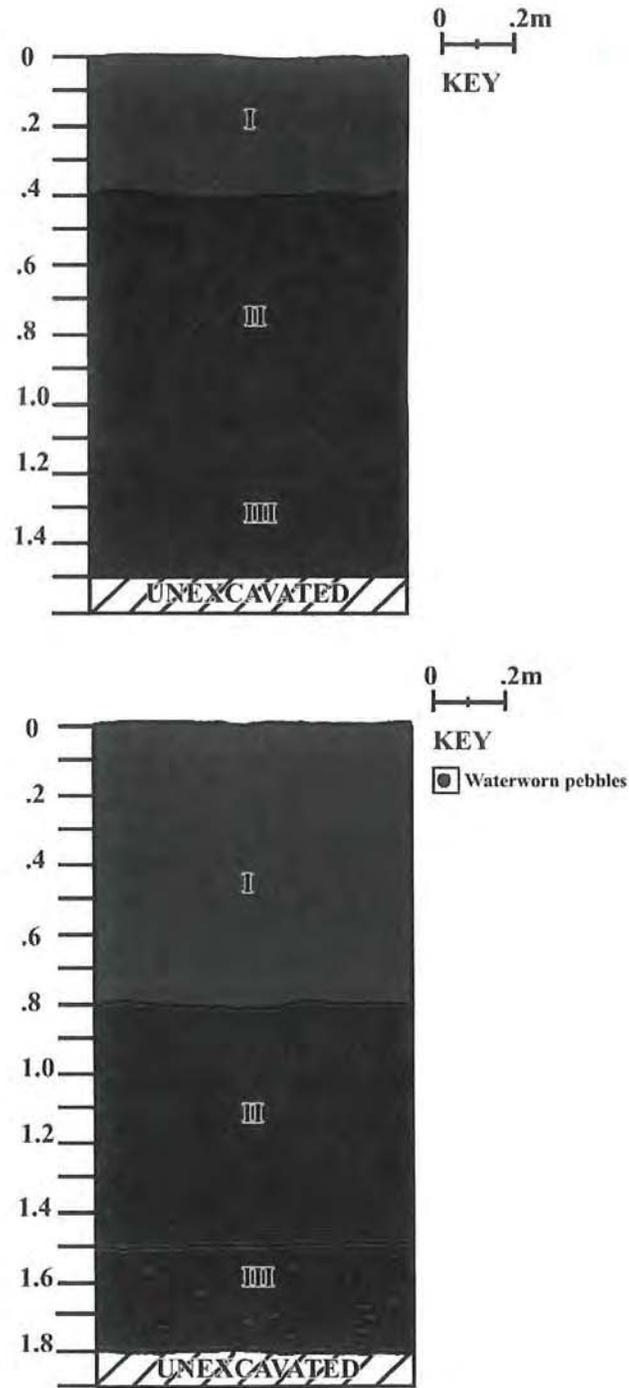


Figure 13. Representative Stratigraphic Profiles for Trenches 11-15 (top) TR11 South Wall and (bottom) TR12 North Wall

Backhoe Trenches 15 and 16

These two trenches were placed east of the Kama Ditch (Site 5474), in the western portion of the project area, east of Honoapiʻilani Highway, and excavated in the abandoned pineapple fields. Both of these trenches contained the plow zone – Layer I, and all revealed a three layer substratum such as identified in Trenches 12 through 14.

Backhoe Trench 17

Backhoe Trench 17 (TR17), was placed centrally in the south portion of the project area, along the southern boundary, west of, adjacent to, the existing sewerline easement, and east of the Kama Ditch (Site 5474), along a farming access road, in an area used for active sweet potato cultivation. Trench 17 measured 6 m long by .8 m wide and 1.65 m deep, and was orientated north / south. Surface area was on a slight slope towards the east. Three stratigraphic layers were revealed in TR17 (Figs. 14 and 16).

Layer I was a grayish brown (10YR 3/4), mottled silty sand with sand inclusions, and contained a high content of sweet potato rootlets. It ranged from 0 / 40-50 cmbs, and was non-cultural. Layer I was found directly overlying Layer II, and had an abrupt, smooth lower boundary.

Layer II was a yellowish brown, (10YR 5/6), Aeolian sand, Layer II ranged from .40-50 / 1.0 mbs, was non-cultural. Layer II was found directly overlying Layer III and had an abrupt, smooth lower boundary.

Layer III was a very dark brown (10YR 2/2), silt; was non-cultural. Layer III ranged from 1.0 / 1.65 mbs. BOE was terminated in Layer IV lithified sand.

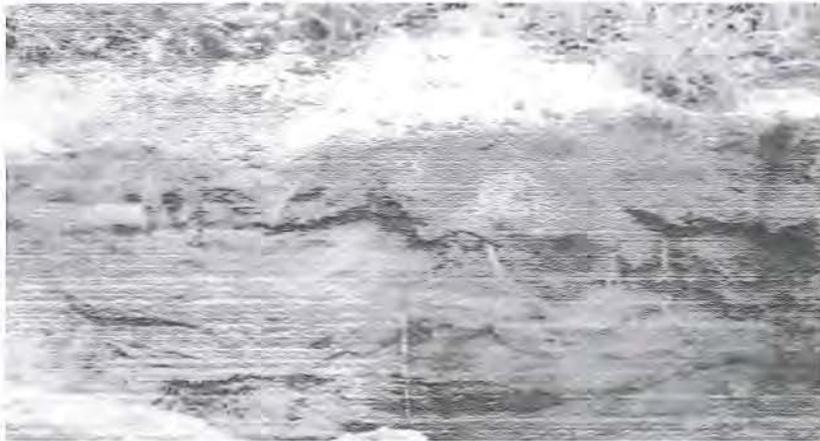


Figure 14. Trench 17, View to East

Backhoe Trench 18

Backhoe Trench 18 (TR18), was placed centrally in the south portion of the project area, along the southern boundary, west of, adjacent to, the existing sewerline easement, and east of the

Kama Ditch (Site 5474), along a farming access road, in an area used for active sweet potato cultivation. Trench 18 measured 5 m long by .8 m wide and 1.8 m deep, and was orientated north / south. Surface area was on a slight slope towards the east. Three stratigraphic layers were revealed similar to TR's 17, 19-22 with the exception of a disturbed sand layer with lithified dune inclusions located below Layer I and above the original dune layer of layer III (Fig. 16).

Backhoe Trench 19

Backhoe Trench 19 (TR19), was placed along the southern boundary of the project area, west of the existing sewerline easement, and east of; adjacent to; the Kama Ditch (Site 5474), along a farming access road, in an area used for active sweet potato cultivation. Trench 19 measured 5 m long by .8 m wide and 2.2 m deep, and was orientated north / south. Surface area was on a level roadbed. Three stratigraphic layers were revealed in TR19 similar to TR17 through TR 22.

Backhoe Trench 20

Backhoe Trench 20 (TR20), was placed in the southern portion of the project area, approximately 50 m north of TR19, west of the existing sewerline easement, and adjacent, east to Kama Ditch (Site 5474), along a farming access road, in an area used for active sweet potato cultivation. TR20 measured 5.5 m long (N/S) by .8m wide by 2.8m deep. Surface area was on a level roadbed. Three stratigraphic layers similar to TR's 17 through 22 were documented and culturally sterile (Fig. 15).



Figure 15. Trench 20, View to West

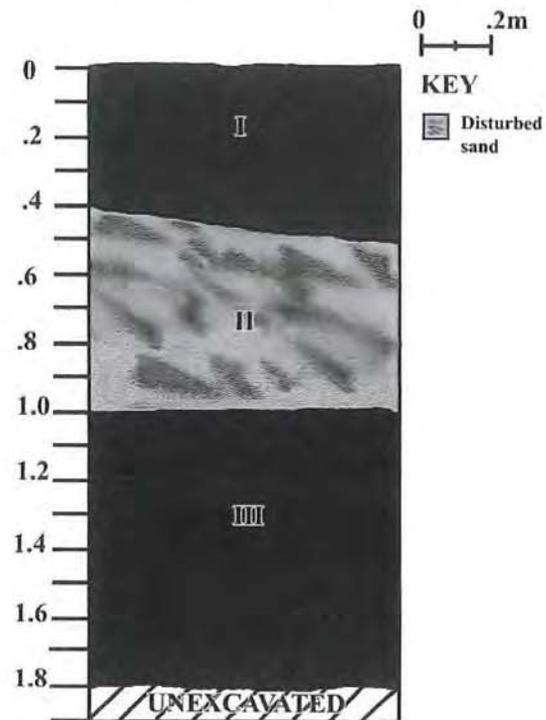
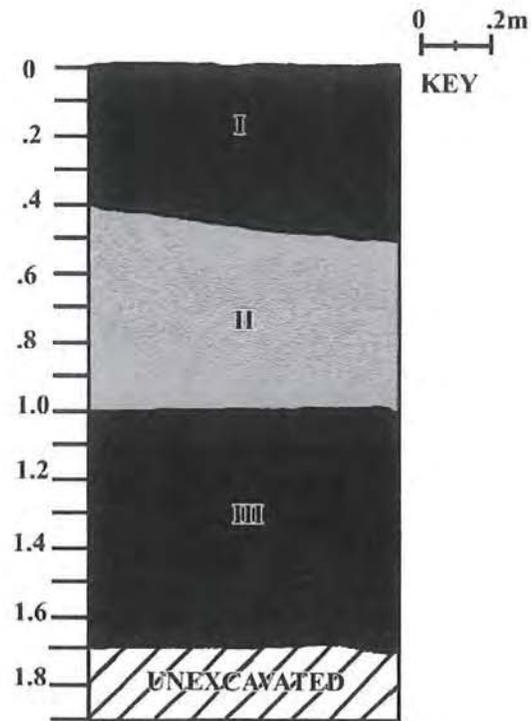


Figure 16. Representative Stratigraphic Profiles for Trenches 16 through 20, (top) TR17 East Wall, (bottom) TR18 East Wall

Backhoe Trench 21

Backhoe Trench 21 (TR21), was placed in the southern portion of the project area, approximately 100m west of TR19, west of the existing sewerline easement, east of Kama Ditch (Site 5474), along an access road, mid-slope in an area of active sweet potato at the base of a lithified dune. TR21 measured 6 m long by .8 m wide by 2.5 m deep, oriented north/south. The surface area was on a slight slope towards the east. Three stratigraphic layers similar to TR's 17-20 and 22 were documented and negative for cultural remains (Fig. 17).



Figure 17. Trench 21, View to North

Backhoe Trench 22

Backhoe Trench 22 (TR22), was situated in the southern portion, approximately 50 m west of TR21, west of the existing sewerline easement, and adjacent and east of Kama Ditch (Site 5474), along the access road and in the active sweet potato area. Trench 22 measured 5 m long by .8 m wide and 2.5 m deep, and oriented north/south. Surface area was a level road bed. Three stratigraphic layers similar to TR's 17-21 were documented.

Backhoe Trench 23

Backhoe Trench 23 (TR23) was placed along the same elevation contour as Trenches 17, 18, and 21, in the central portion of the project area, located west of the existing sewer easement. Backhoe Trench 23 (TR23), measured 6.5 m long by .8 m wide and 2.5 deep. A two stratigraphic sequence was revealed in Trench 23, the same Layer I and Layer II as found in TR's 17 through 22 (Figs. 18 and 19). BOE was terminated in sterile substratum Layer II (Aeolian dune).

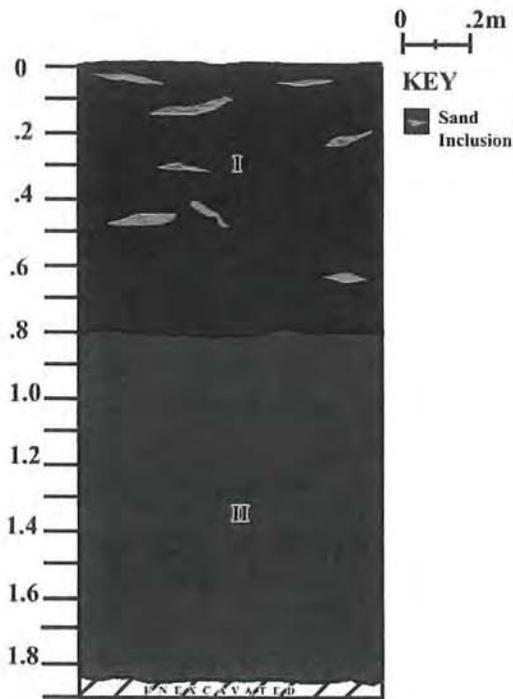
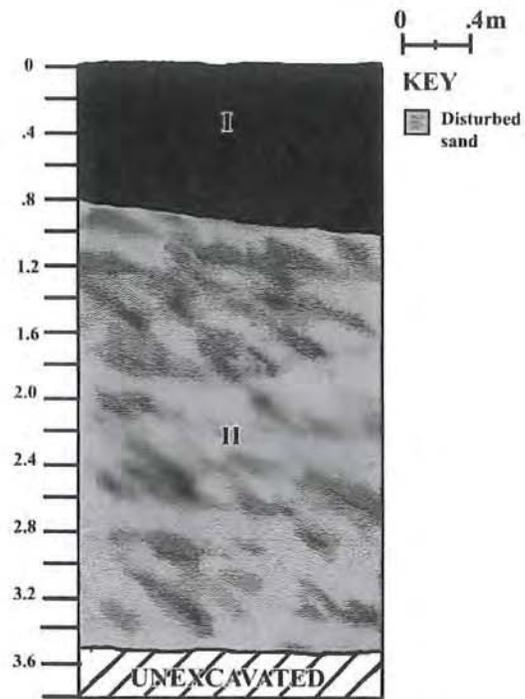


Figure 18. Representative Stratigraphic Profiles for Trenches 21-25 (top) TR23 East Wall (bottom) TR25 North Wall



Figure 19. Trench 23, View to East

Backhoe Trench 24

Backhoe Trench 24 (TR24) was placed along the same elevation contour as Trenches 4, and 5, in the central portion of the project area, in an open, recently tilled, unplanted agricultural field, located west of the existing sewer easement. Backhoe Trench 24 (TR24), measured 4 m long by .8 m wide and 2 m deep. The same three stratigraphic sequence was revealed in Trench 24, as those found in Trenches 4 and 5. BOE was terminated in sterile substratum.

Backhoe Trench 25

Backhoe Trench 25 (TR25) was placed in the central portion of the project area, in an open, fallow sweet potato agricultural field, located east of; adjacent to, the existing sewer easement. Backhoe Trench 25 (TR25), measured 4.6 m long by 1.2 m wide and 1.9 m deep. The same three stratigraphic sequence was revealed in Trench 24, as those found in Trench 9 (Fig. 20). BOE was terminated in sterile substratum.



Figure 20. Trench 25, View to East

SITE 50-50-04-5474

Results of the current investigation identified a segment of historic property State Site 50-50-04-5474, the Kama Ditch, as well as an associated metal sluice gate designated Feature 1 (see Figs 1 and 21). As exhibited below, the current configuration of Kama Ditch commences along the south side of Iao Stream and follows the stream east where it eventually turns southward flowing along the approximate 380 ft. elevation line, through the project area terminating at the Reservoir by Waikapū.

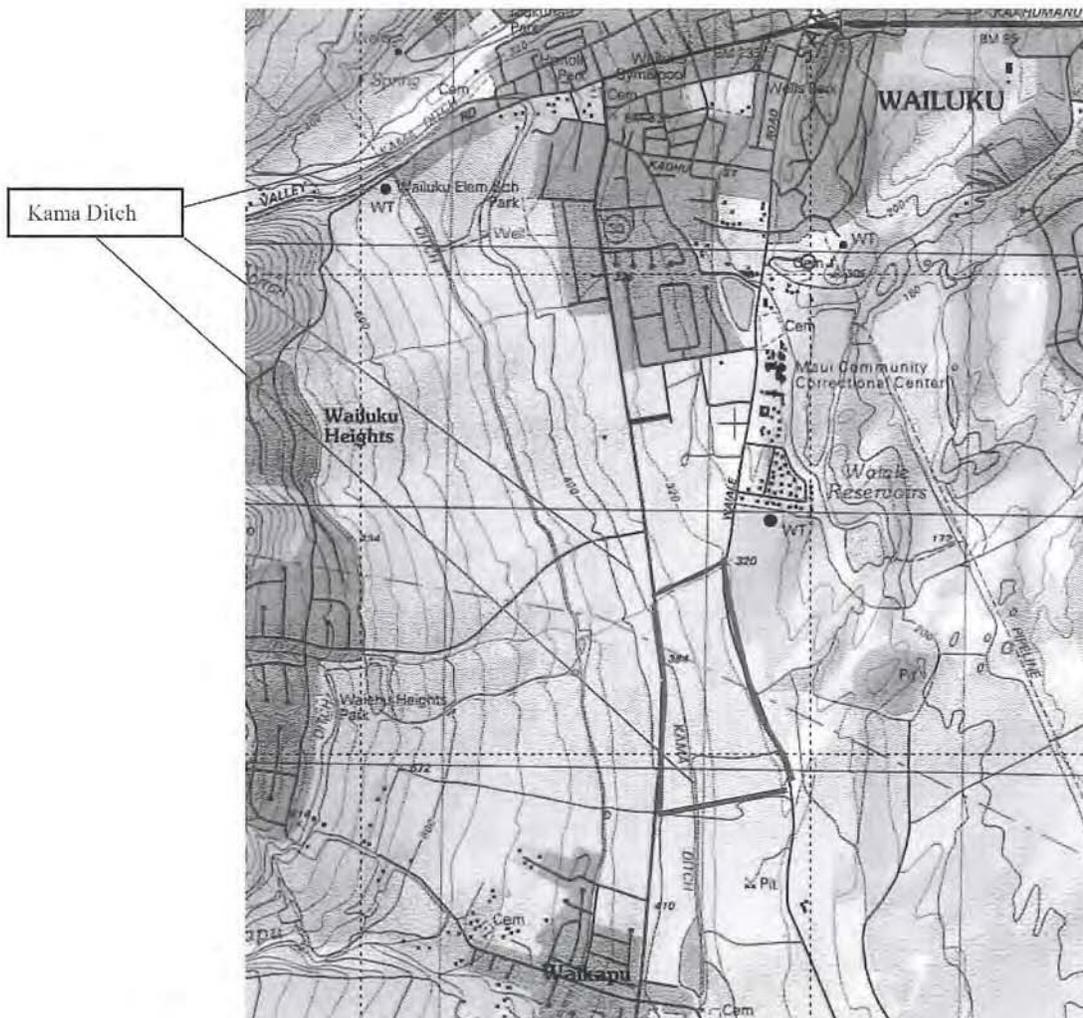


Figure 21. Enlarged USGS Map Showing Kama Ditch from South side of Iao Stream to its Terminus at Reservoir by Waikapū

Originally, the *Kama auwai* or *Kamaauwai* (Kama Ditch) served mostly *kuleana* lands (Wilcox, 1996, p.125 in Fredericksen, 2004:13), and due to this original intent, *Kamaauwai* along with *Kalaniauwai* (on the north side of Iao Stream) became a controversial water rights issue in 1867. In the Peck vs. Bailey case, the complainants alleged that the extension of *Kamaauwai* “beyond its original and true terminus,” to feed his (Bailey’s) *kula* land called *Kahuapuhi* and *Kekipi* was illegal; as the original intent of *Kamaauwai* was to convey water to the defendant’s (Bailey) 12-acres of *kalo* land called *Ka pohakuokauhi* and the excess always spilled over the road (High St./Honoapi’ilani Hwy) to their adjacent lands in *Kalua`ili* (Sterling 1998: 85) (Figure 22).

During the aforementioned court case, there was no date mentioned for when *Kamaauwai* and *Kalaniauwai* were constructed; however per Sterling “these two *auwai* have existed immemorially and were constructed for the purposes of irrigating *kalo* (Sterling 1998: 86). According to Fredericksen (2004), “this system was probably rebuilt by the Wailuku Sugar Company, following their takeover of Waikapū Sugar Company in 1894, and followed an ancient route called *Kamaauwai*.”

Several historic maps were reviewed in an attempt to identify the construction of Site 5474 and to ascertain its’ original extent; however most maps, if available were either illegible or contained inconsistent information. For example, Figure 22 is from the year 1882 and shows Mission Ditch which appears to follow the current route of Site 5474 (Kama Ditch), yet there is no mention of Kama Ditch. As exemplified on Figure 23, Kama Ditch commences along the south side of Iao Stream and continues to the east where it eventually curves to the south and quickly terminates, instead of continuing south towards Waikapū. Perhaps this map exemplified the original extent of *Kamaauwai* discussed in the above court case. Unfortunately, there was no date available for this map. Also noted on the aforementioned map is Old Mill Ditch, which after the Kama Ditch curves south, the Old Mill Ditch continues to the east and crosses over/under High Street, terminating before Market Street. Another historic map from 1907 obtained from the Bailey House Museum shows *Kama auwai* along the south side of Waifuku Stream (instead of Iao Stream) and Baileys Ditch parallel and further south, along the south side of Iao Valley Road (Figures 25-27). Interestingly, Old Mill Ditch or Mission Ditch are not identified and this is the first indication of a separate ditch for Bailey. Unfortunately, this map was only created along the Stream, thus the configuration of *Kama auwai* apart from the stream (i.e. south) is not known.

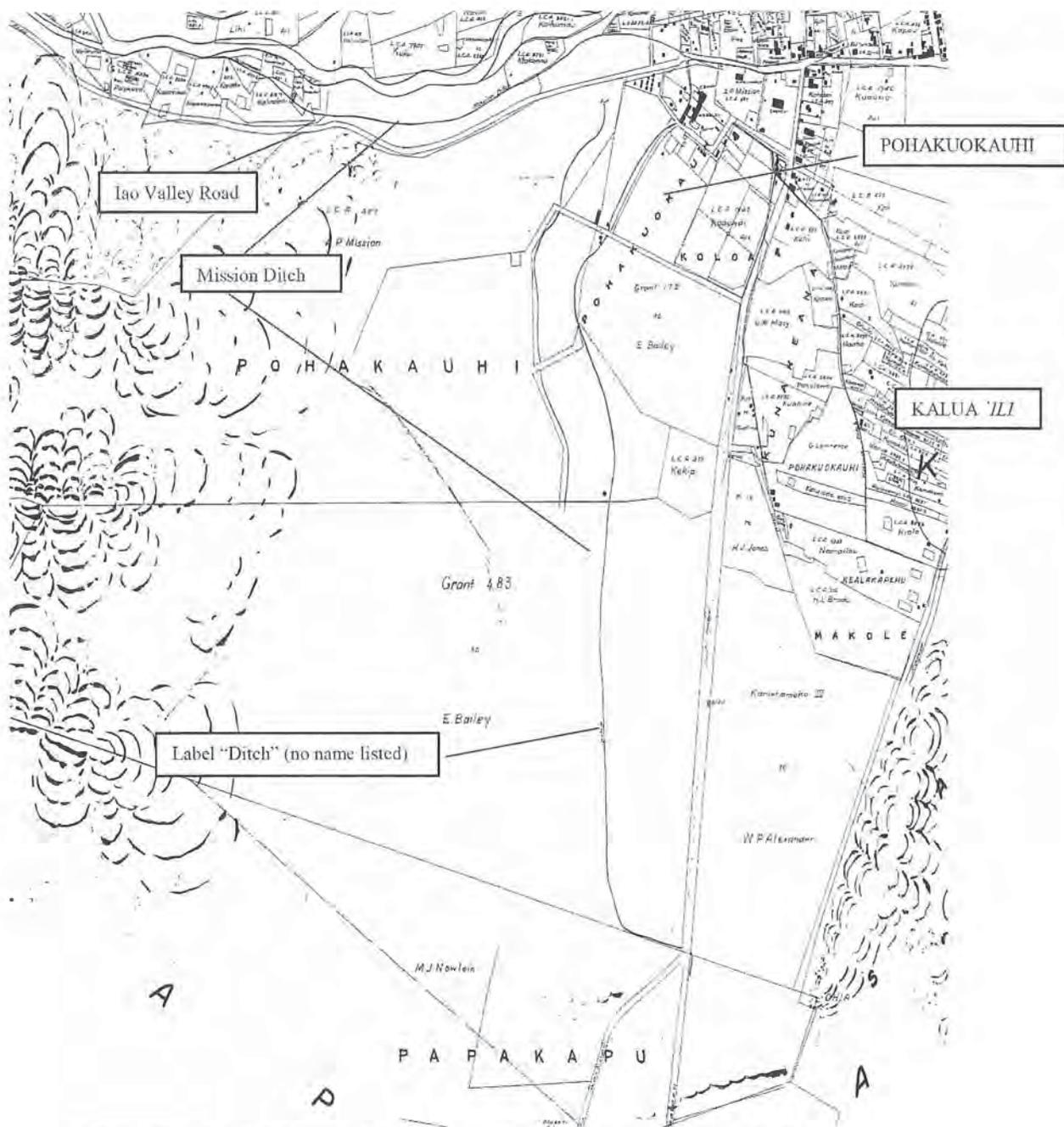


Figure 22. Registered Map 1261 by Monsarratt 1882 Showing a Portion of Wailuku

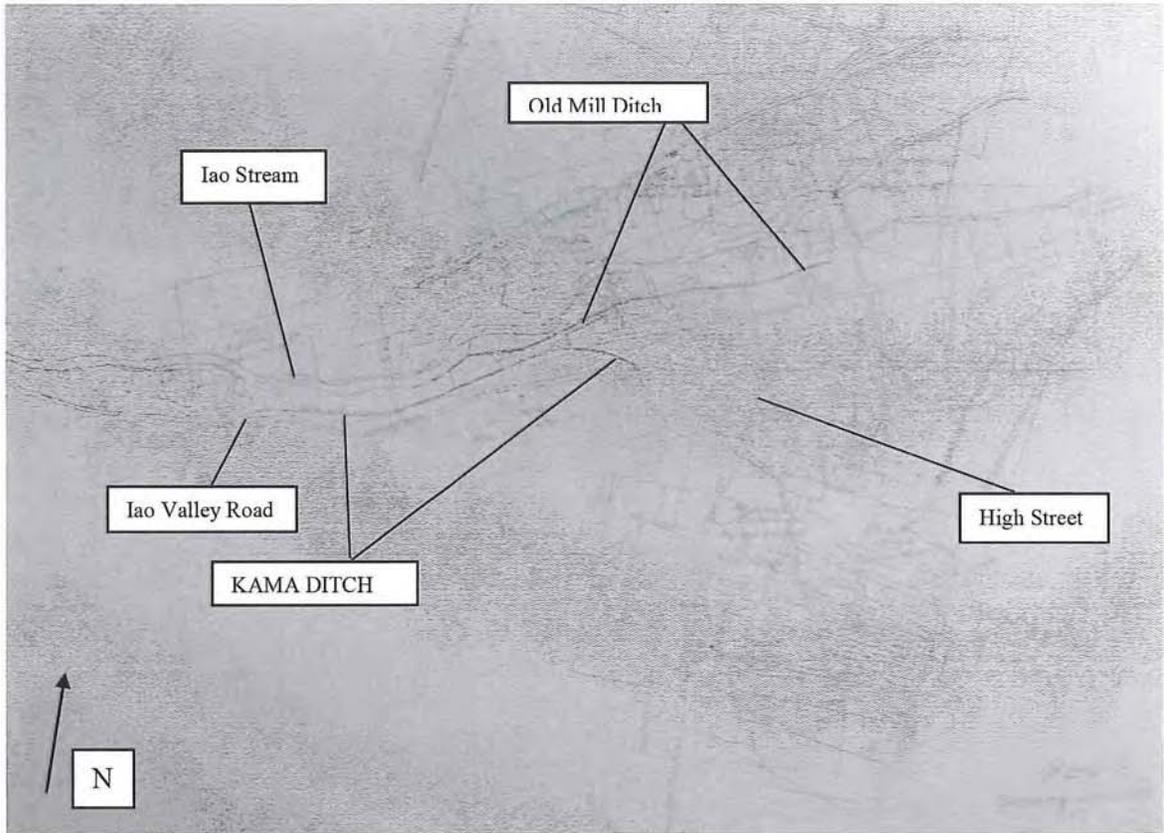


Figure 23. Photo Copy of Map Key for Wailuku from Bailey House Museum Archives likely from Late 1800's early 1900's (original map is no longer available. Photo copy contains no date or drafter's name)



Figure 24. Enlarged Key Map of Wailuku (Fig. 23) Showing Iao Stream, Kama Ditch-Site 5474 and Old Mill Ditch

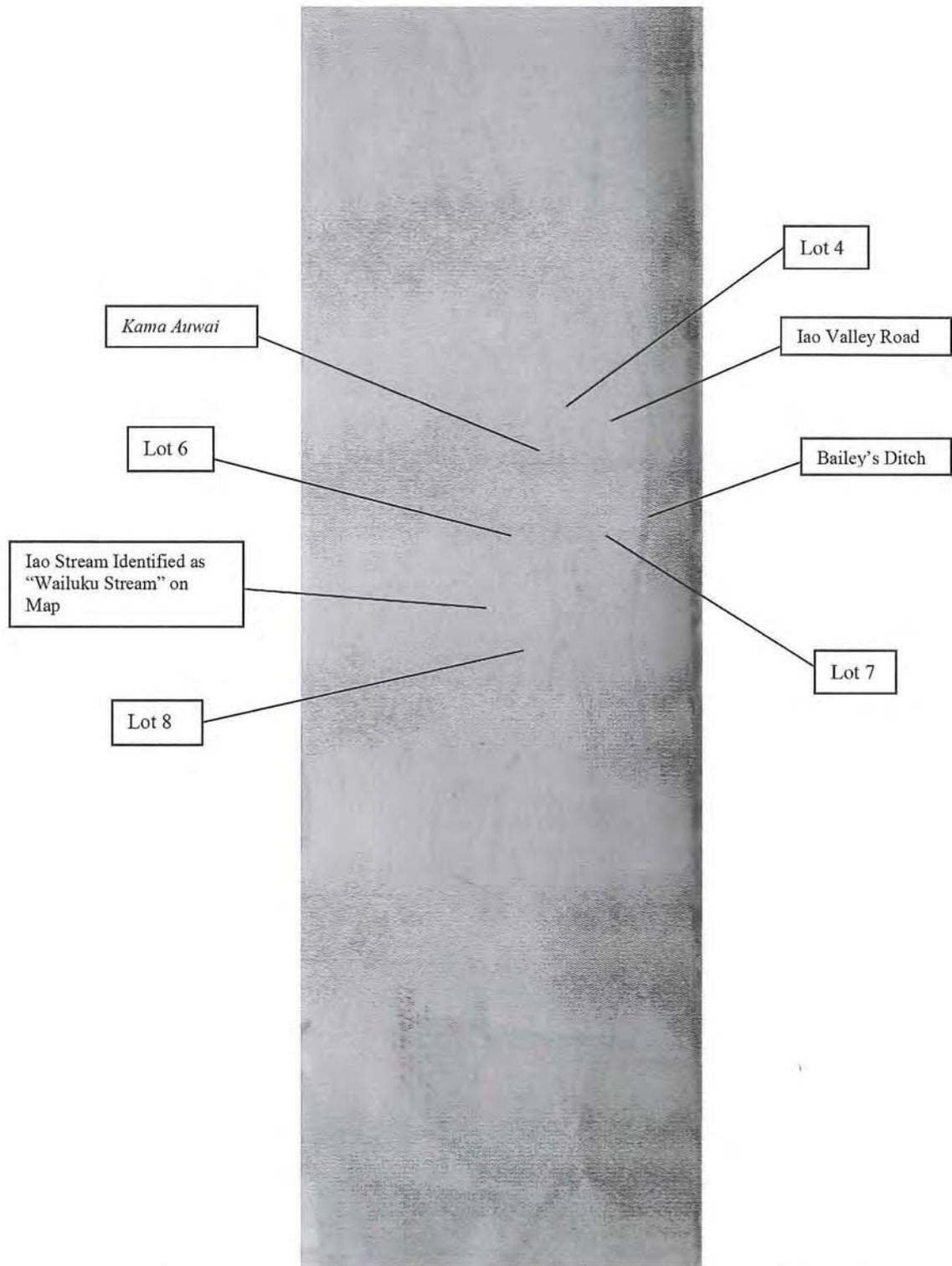


Figure 25. Photograph of Illegible Photo Copy of Map for Wailuku Sugar Co. in Iao Valley from Bailey House Archives (By J.K. Kahookele 1907) (photo copy included here as reference for Figs. 26 and 27 as original map no longer available)

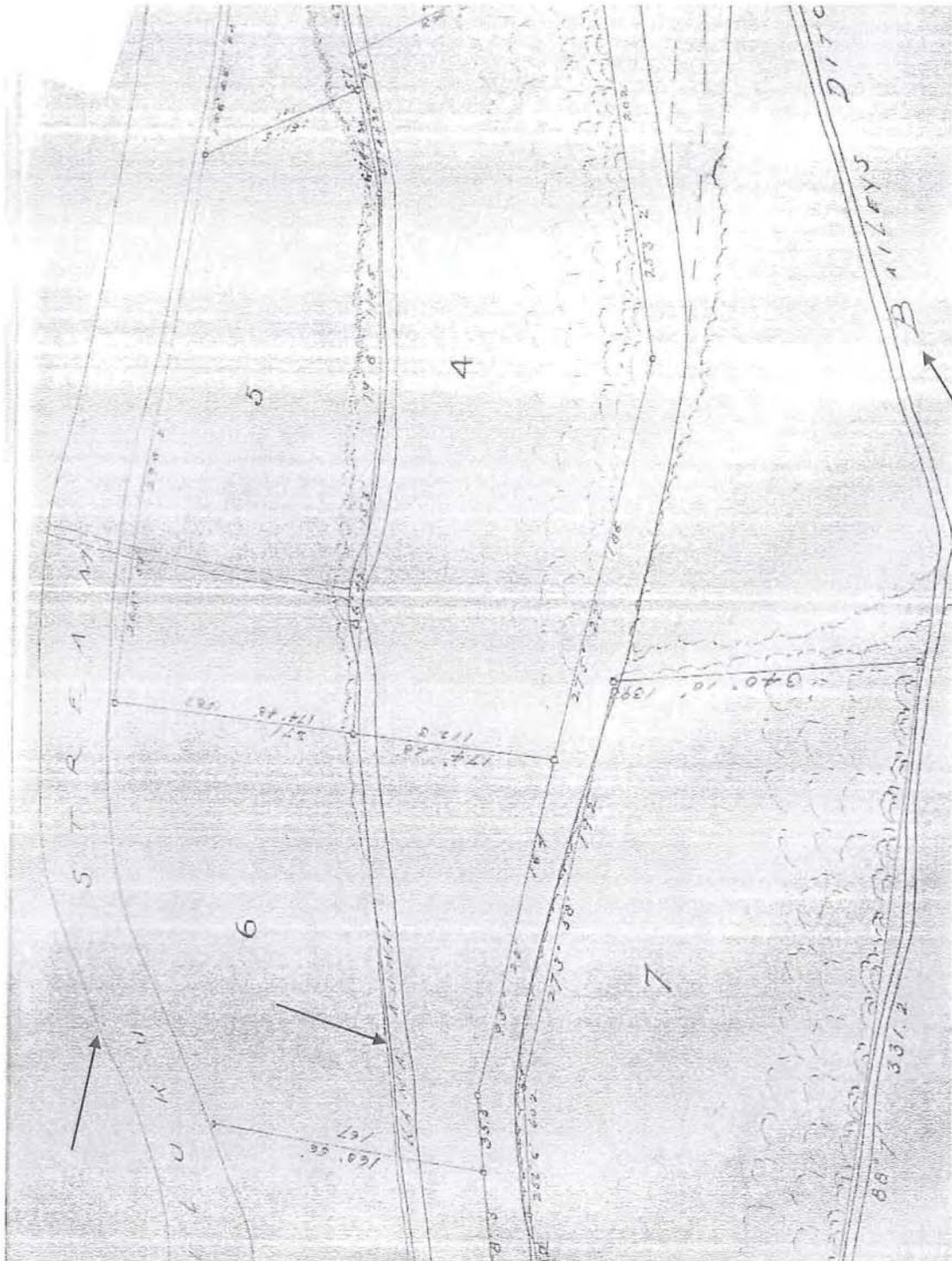


Figure 26. Enlarged Central Section of Wailuku Sugar Co. Map from 1907 (Fig.25) Showing Kama Auwai and Bailey's Ditch (note map designates Iao Stream as Wailuku Stream). Photo Copy courtesy of Baily House Museum as Original Map is no Longer Available

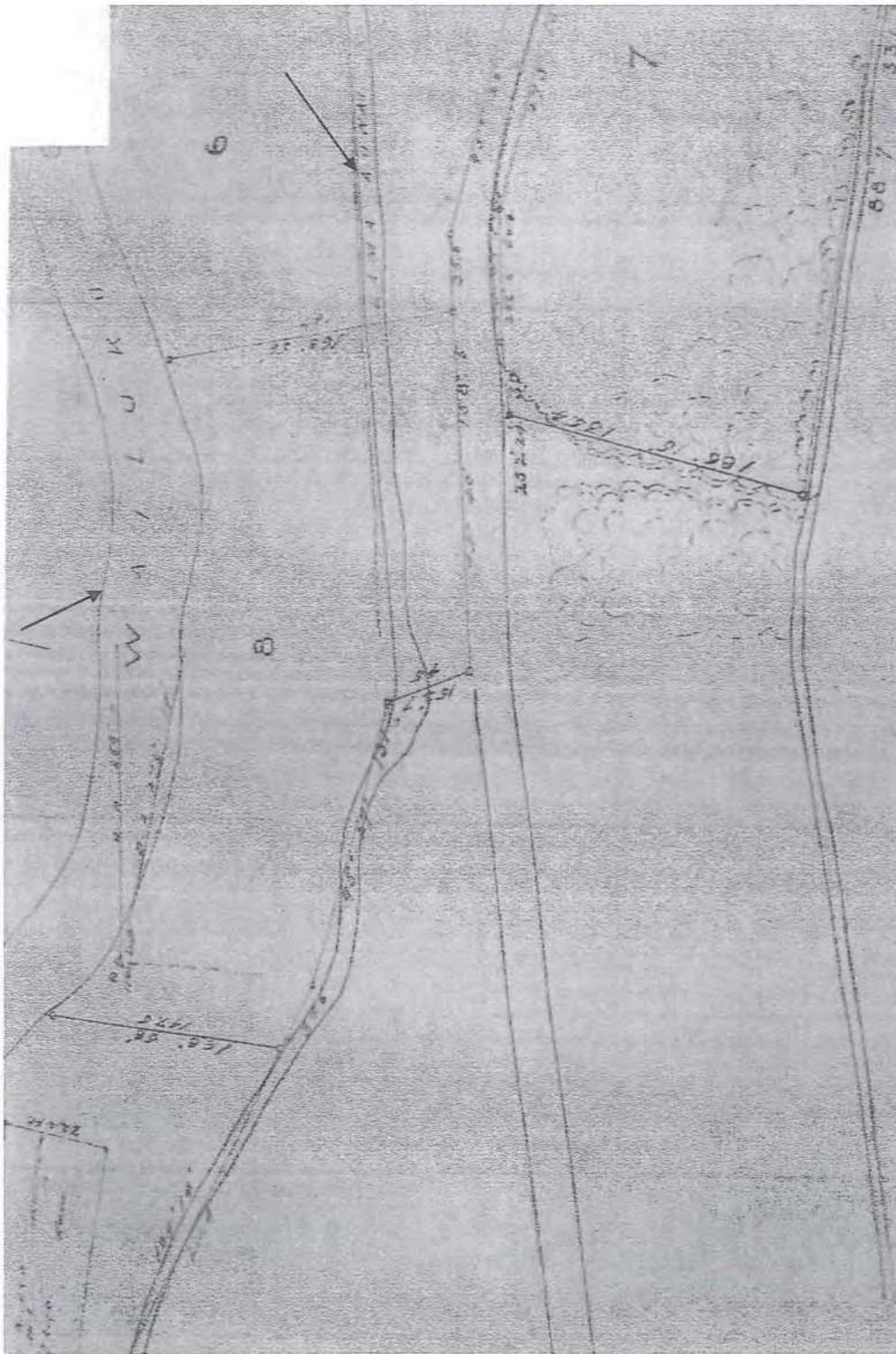


Figure 27. Enlarged Western Section of Wailuku Sugar Company Map from 1907 Showing Kama Auwai and Bailey's Ditch (note map designates Iao Stream as Wailuku Stream)

During the current course of work, the condition of Site 5474 ranged from poor to good with the overall condition as fair. The Kama Ditch was either dirt lined or concrete lined; however the majority, particularly on the northern end and western (*mauka*) side is either pushed up or removed by prior grading with the central portions infilled with vegetation and or soil (Figs. 28-31). The concrete lined portion when extant is along the east side intermittently for approximately 55.0 m. It averages 2.80 m wide by 0.60 m (top of silt) to 1.5 m deep. A metal sluice gate, designated Feature 1 was noted along the eastern side of the ditch approximately 60 m north of the southern boundary. The sluice gate is constructed of sheet metal and measures 0.43 m to 1.0 m long by 0.58 m wide by 0.04 m thick, and when operational, would release water to irrigate the fields below or *makai*. Unfortunately, Site 5474 has been severely damaged through prior grubbing and grading activities, abandonment and natural erosional forces. Site 5474 has been adequately documented at the inventory level and requires no further work beyond construction monitoring during removal.



Figure 28. Aerial Photograph of Southwestern Quadrant of Project Area Showing



Figure 29. Photograph of Site 5474 Kama Ditch (View to North)



Figure 30. Overview Photograph of Project Area and Site 5474 (Kama Ditch) Feature 1 (Sluice Gate) along Southwest Side (View to South)



**Figure 31. Photograph of Site 5474 Feature 1 Metal Sluice Gate of Kama Ditch-Note infill of Silt
(View to East)**

INITIAL SIGNIFICANCE EVALUATION

The following significance evaluations are based on the Rules Governing Procedures for Historic Preservation Review (DLNR 1996; Chapter 275). According to these rules, a site must possess integrity of a location, design, setting, materials, workmanship, feeling and association and shall meet one or more of the following criteria:

Criterion “a”: Be associated with events that have made an important contribution to the broad patterns of our history;

Criterion “b”: Be associated with the lives of persons important in our past;

Criterion “c”: Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;

Criterion “d”: Have yielded, or is likely to yield, important information for research on prehistory or history;

Criterion “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.

State Site 50-50-04-5474 is considered to be significant under Criterion “a” and Criterion “d” of the Hawaii Register of Historic Places. Criterion “a” has been assigned based on its association with the Sugar Plantation and the Landmark Court Case. The sugar industry had significant impacts and contributions to the island for over a century. Criterion “d” is based on the fact that the ditch has yielded important information to the understanding of the pre-history and history of the Wailuku and Waikapū *ahupua`a*.

DISCUSSION

Archaeological Inventory Survey (AIS) procedures comprised of a pedestrian survey and subsurface testing through mechanical excavations was undertaken within the approximate 50-acre project area. A total of 25 backhoe trenches, negative for buried cultural remains, were executed during the current AIS procedures. During the pedestrian survey, a disturbed segment of the Kama Ditch (Site 50-50-04-5474) and an associated sluice gate, Feature 1, was documented in fair to poor within the southwestern portion of the project area and evaluated as significant under Criteria a and d. Site 5474, along with numerous ditches, reservoirs and Mills were constructed or improved during the initial Plantation Era and have subsequently altered and shaped (both negatively and positively) the life styles of the historic period. Site 5474 continues to the north and south outside the subject parcel. However to the south, a 1000 ft. section of the Kama Ditch was approved for removal to develop the affordable subdivision by Spencer Homes at TMK's 3-5-002:001 and 3-8-007: 101 both portions (Fredericksen and Fredericksen 2004). During the review process for the southern subdivision, the SHPD Architecture Branch determined that sufficient information was collected at Site 5474 and the proposed demolition was approved. Similar to the above situation, the section of Site 5474 within the current project area shall be removed during proposed development.

No other significant surface or subsurface cultural remains were encountered during the inventory survey. The project area has undergone extensive compounded disturbances from sugar cane cultivation, past sand mining activities, a sewer line easement and individual farming plots. The backhoe testing and pedestrian survey exemplified that the entire surface consisted of the agricultural till zone designated as Layer I. The south, central section, primarily between the sewer line easement and Site 5474 (Kama Ditch), contains disturbed and un-disturbed sand within TR's 10, 17 through 23. TR's 1, 2, 7, 8 and 12-16 contained episodes of alluvium and possible colluvium comprised of rounded cobbles and boulders, silt and gravel with sub-angular cobbles noted in TR's 7 and 8. TR's 7 and 8 were located on the southeastern boundary, and the remaining trenches were confined to the western boundary adjacent to Honoapi'ilani Highway.

The results of the current investigations produced no evidence for sedentary cultural activities during the prehistoric and early historic periods in the subject area. These negative results are likely due to the prior disturbances across the parcel and the inherent bias in random sampling. Regardless of the negative results, previous archaeological investigations and archival research have documented traditional and historic burials in the vicinity of the subject parcel. Furthermore, based on the number of LCA's and Grants in the vicinity, together with the historical background research, Waikapū and Wailuku would have supported substantial populations.

RECOMMENDATIONS

Based on the negative results of fieldwork, no further inventory level work is recommended prior to commencing construction activities. However, due to the presence of sand dune remnants in the project area, as well as the proximity of archaeological sites and Native Hawaiian burials in neighboring parcels, archaeological monitoring is recommended during all ground-altering activities such as base yards, dust and silt fences, grubbing, grading and etc. Unfortunately, the Kama Ditch, Site 5474 has been severely impacted and retains little if any integrity; thus the site is not recommended for preservation. However, Site 5474 shall be closely monitored to assess and document subsurface construction if applicable.

Prior to the commencement of construction, and Archaeological Monitoring Plan (AMP) will be prepared and submitted for review and approval by the SHPD.

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Appendix D

SHPD Acceptance

Letter of AIS

DAVID Y. IGE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD, STE 555
KAPOLEI, HAWAII 96707

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAROOLAWA ISLAND RESERVE COMMISSION
LAND
STATE PARKS

July 1, 2016

Vince Bagoyo
Emmanuel Lutheran Church and Valley Isle Fellowship
Ybagoyo-devgroup@hawaii.rr.com

LOG NO: 2016.01495
DOC NO: 1607MN01
Archaeology

Dear Mr. Bagoyo:

SUBJECT: **Chapter 6E-42 Historic Preservation Review**
Revised Archaeological Inventory Survey Report of a 50 acre Parcel of Land
Waikapu and Wailuku Ahupua'as, Wailuku District, Island of Maui
TMK: (2) 3-5-002:001

Thank you for requesting our review of the revised draft report titled "*Archaeological Inventory Survey of a 50-Acre Parcel of Land, Waikapu and Wailuku Ahupua'as, Wailuku District, Island of Maui, Hawai'i TMK (2)3-5-002:por 001*" D. Guerriero, L. Rotunno-Hazuka, and J. Pantaleo, June 2016. We received the report in our Kapolei office on February 11, 2016, and reviewed it in a letter dated April 11, 2016 (2016.00321, Doc No. 1604MN02). We received the revised version in our Kaua'i section on May 17, 2016. We received the third draft electronically on July 1, 2016.

At the request of the Emmanuel Lutheran Church and Valley Isle Fellowship, Archaeological Services Hawaii, LLC. (ASH) conducted a 100% pedestrian archaeological inventory survey (AIS) of 50 acres owned by Emmanuel Lutheran Church. The survey, which included subsurface testing, was completed between May 4-7, 2004. One historic property was identified, State Inventory of Historic Places (SIHP) Site 50-50-04-5474, Kama Ditch, and is assessed as significant under criteria a and d in accordance with Hawaii Administrative Rule (HAR) §13-284-6. The authors state that the site is significant under criteria a, for its association with the plantation era, and under criteria d for data potential. No further inventory work is recommended prior to construction, but the authors recommend archaeological monitoring due to the presence of numerous historic properties, including burials, on adjacent properties. The State Historic Preservation Division (SHPD) concurs with this recommendation.

The latest draft of the report contains the information requested regarding Site 5474, including historic maps. **The AIS is accepted, in accordance with HAR§13-276.** Please provide one hard copy of the report, clearly marked FINAL, along with a text-searchable CD to our Kapolei section. Please send one hard copy to the Maui section. Please contact Kaua'i Lead Archaeologist Mary Jane Naone at (808) 271-4940 or Maryjane.Naone@hawaii.gov if you have questions regarding this letter. Mahalo for your assistance in preserving significant historic and cultural properties.

Aloha,

A handwritten signature in cursive script that reads "Mary Jane Naone".

Mary Jane Naone, Kaua'i Lead Archaeologist

cc. Jenny Pickett Maui Archaeologist Jenny.L.Pickett@hawaii.gov
Lisa Rotunno-Hazuka, Archaeological Services Hawaii, LLC. lisa@ashmaui.com
County of Maui, Department of Planning Planning@co.maui.hi.us
County of Maui Department of Public Works - DSA Renee.Segundo@co.maui.hi.us
County of Maui Cultural Resources Commission Annalise.Kehler@co.maui.hi.us

Appendix E

Archaeological

Monitoring Plan (AMP)

**DRAFT ARCHAEOLOGICAL MONITORING PLAN
FOR WAIKAPŪ DEVELOPMENT VENTURE
AFFORDABLE HOUSING PROJECT
WAIKAPŪ AHUPUA'A, WAILUKU DISTRICT,
PŪ'ALI KOMOHANA MOKU
ISLAND OF MAUI
TMK (2) 3-5-002:011 por.
(FORMERLY TMK (2) 3-5-002:001 pors.)**

FOR: Waikapū Development Ventures, LLC. bill@mauiframpton.com

**BY: Ms. Lisa J. Rotunno-Hazuka (B.A.), Mr. Jeffrey Pantaleo (M.A.)
and Mr. Nico Fuentes (M.A.)**

MAY 2018



**ARCHAEOLOGICAL SERVICES HAWAII, LLC.
POB 1015, PU'UNĒNĒ, HI 96784**

In Association With

ATLAS ARCHAEOLOGY

"Protecting, Preserving, Interpreting the Past, While Planning the Future"

INTRODUCTION

At the request of Waikapū Development Ventures LLC., located at 56 Paliuli Place, Kula, HI 96790, and pursuant to recommendations by the State Historic Preservation Division –SHPD (Log. No. 2016.01495 and Doc. No. 1607MN01), Archaeological Services Hawaii, LLC (ASH) of Pu`unēnē in association with Atlas Archaeology of Wailuku, prepared this archaeological monitoring plan (AMP) according to the requirements set forth in the Hawaii Administrative Rules (HAR) §13-279-4. Archaeological monitoring will be performed during all ground-disturbing activities associated with the proposed development of an affordable residential subdivision located between Waiale Road and Honoapi`ilani Highway, Waikapū and Wailuku *ahupua`a*, Wailuku District, Pū`ali Komohana *Moku*; Island of Maui, TMK (2) 3-5-002:011 por. (formerly TMK (2) 3-5-002:001 por.) (Figures 1-4).

The proposed development is an affordable housing project submitted for the 201H process. The construction activities comprise grading across the entire project parcel (approximately 2.0 to 4.0 ft. below surface-bs), and the installation of infrastructure including sewer, drain, water and electrical lines within utility corridors (approximately 1.5 ft. to 10.0 ft. bs). The location of utility corridors is in the early design stages; however, the majority of utilities will be situated within the proposed roadways. The current subdivision layout is presented on Figure 3.

PROJECT AREA DESCRIPTION

The project area, comprised of 12.5 acres, is a portion of a 25.0- acre parcel located in Central Maui, along the western perimeter of the isthmus and base of West Maui Mountains. It is juxtaposed by Waiale Road to the east and Honoapi`ilani Highway to the west, undeveloped portion of Parcel 11 for Valley Isle Fellowship to the north, undeveloped parcel to the southwest for Emmanuel Lutheran Church, and Waiale Elua affordable subdivision currently under construction to the southeast (Parcel 12). The Lower Main/Waiale Road corridor is a culturally and archaeologically sensitive corridor that contains numerous historic properties, including burial sites.

Geographically, the subject parcel is situated within an environmental zone containing three depositional systems comprised of colluvial (gravity transported or slope wash), alluvial (water transported) and aeolian (wind). Colluvium (soils, various sizes of angular to sub-angular rock), and alluvium (silts, clays various sizes of rounded rock) deposits transported from West Maui

Mountains would likely occur along the western perimeter, and Aeolian (sand dune) deposits within the central and eastern sections.

The project area has undergone compounded disturbances from past agricultural activities (sugar cane and pineapple cultivation and individual farm plots) spanning the entire parcel, construction of historic Kama Ditch (Site 50-50-04-5747) formerly in the southwest, installation of County sewer line to the southeast and prior sand mining operations. These disturbances have altered the entire parcel a minimum of 0.60 mbs (2.0 ft.), and from 1.53 mbs (5.0 ft.) along the western perimeter to 3.0 mbs (9.5 ft.) in the southeast portion.

BACKGROUND INFORMATION

The project area is located within the central portion of a larger AIS study area conducted in 2004 by ASH. An AIS, for subdivision purposes, was conducted of a 50-acre parcel located in a portion of TMK: (2) 3-5-002:001 por. (Guerriero et. al. 2016). The AIS consisted of a pedestrian survey and mechanical subsurface testing comprised of 25 mechanical trenches (Figure 4). The parcel was subdivided into two, 25.0-acre parcels for Emmanuel Lutheran Church to the north (now designated as TMK: (2) 3-5-002:012), and Valley Isle Fellowship to the south, TMK: (2) 3-5-002:011 (see Figures 1 and 2). During the pedestrian survey, one historic property, consisting of a portion of Kama Ditch (Site 50-50-04-5474) and an associated metal sluice gate designated Feature 1 was recorded along the western perimeter of the property. Also noted was compounded disturbances from agricultural activities (sugar cane, pineapple and independent farming), the construction of Kama Ditch, the installation of a County sewer line and prior sand mining activities.

The subsurface testing program, comprised 25 trenches (TR's 1-25) executed across the parcel to obtain a sampling of the subsurface conditions. The results of testing were negative for buried cultural remains, and the trench profiles exhibited various disturbances and soil deposition. Distinct riverbed (rounded cobbles, pebbles and silts) deposits, indicative of a former active channel were recorded on the western and southern portions in TR's 1, 2, 7, 8 and 12-16. Seven trenches, TR's 1, 2 and 12-16 were located along the western perimeter and comprised both alluvial and colluvial deposits (silts, clays, angular and rounded rock). In the eastern section, the remaining 18 trenches, TR's 3-11, 17-25 were executed. Nine trenches (TR's 9, 10 and 17-23) contained remnant sand dune deposits, some of which were in a disturbed context, and/or comprised a thin deposit. The notable absence of sand in half of the eastern trenches; coupled

with the presence of disturbed sand dune matrices in the central and east portions indicated extensive prior sand mining activities.

In 1996, Aki Sinoto Consulting conducted an archaeological assessment (AIS with negative results), for the proposed retention basin and drainage channel along Waiale Road, which encompassed portions of the project area (Titchenal 1996). The project area extended south from the Waiko Road intersection, north to the Kuihelani Drive intersection, along the *mauka* (west) and *makai* (east) sides of Waiale Road. A total of 13 trenches were conducted, one which occurred within the current project parcel, TR11. TR11 was executed on the eastern side of the existing County sewer line and excavated to 3.3 mbs. TR11 contained two strata comprised of a thick, 2.8 m of silty loam with rounded cobbles, overlying an intact sand dune deposit.

The proposed retention basin and drainage channel project were monitored by Scientific Consultant Services (SCS) and ASH in 2005 (Morawski, Shefcheck, and Dega 2006). Five sites were recorded and consisted of a historic road bed (50-50-04-5963), a sugarcane flume (50-50-04-5964), an *in situ* burial (50-50-04-5680), and two areas of isolated human remains (50-50-04-5965 and -5966) (see Figure 1). The isolated finds were encountered in a previously disturbed context, most likely associated with the initial construction of the Waiale Road.

Additional Native Hawaiian burials were encountered along Kuikahi Avenue extension (Site 50-50-04-6261) and adjacent Walgreens (Site 50-50-04-6573) just north of the project (O'Claray-Nu et al. 2018) (see Figure 1).

Pursuant to HAR §13-279-4(1) What kinds of archaeological remains or historic properties are anticipated or require protection and (2) Where in the project area are these properties known to be located or anticipated?

EXPECTABILITY OF SUBSURFACE SITES

Based on the foregoing information, the subject parcel is located within a culturally significant area containing historic sites, and traditional burial sites. However due to the compounded disturbances incurred at the project area that impacted the parcel from 0.60 mbs to 3.0 mbs (2.0 ft. to 9.5 ft.); the likelihood of encountering primary/*in situ* burial features is low along the western perimeter, and medium to the east. Alternatively, since un-monitored sand mining activities were conducted in the parcel, there is a high likelihood scattered skeletal elements, dispersed cultural materials, and remnant burial features may be extant. Thus all ground-disturbing activities related to construction will be monitored.

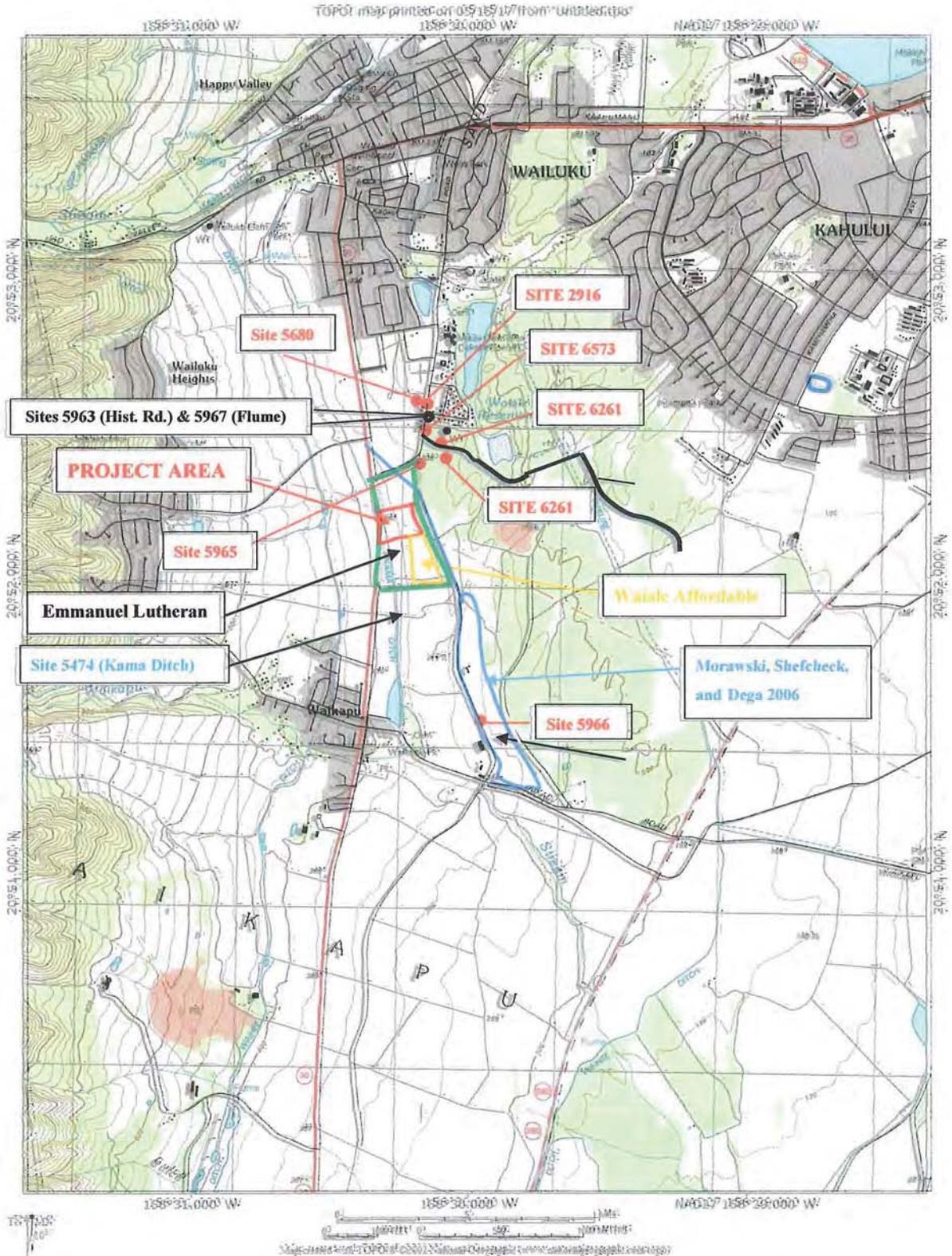


Figure 1. USGS Wailuku Quad (2002) Showing Project Area (red) & Nearby Historic Properties

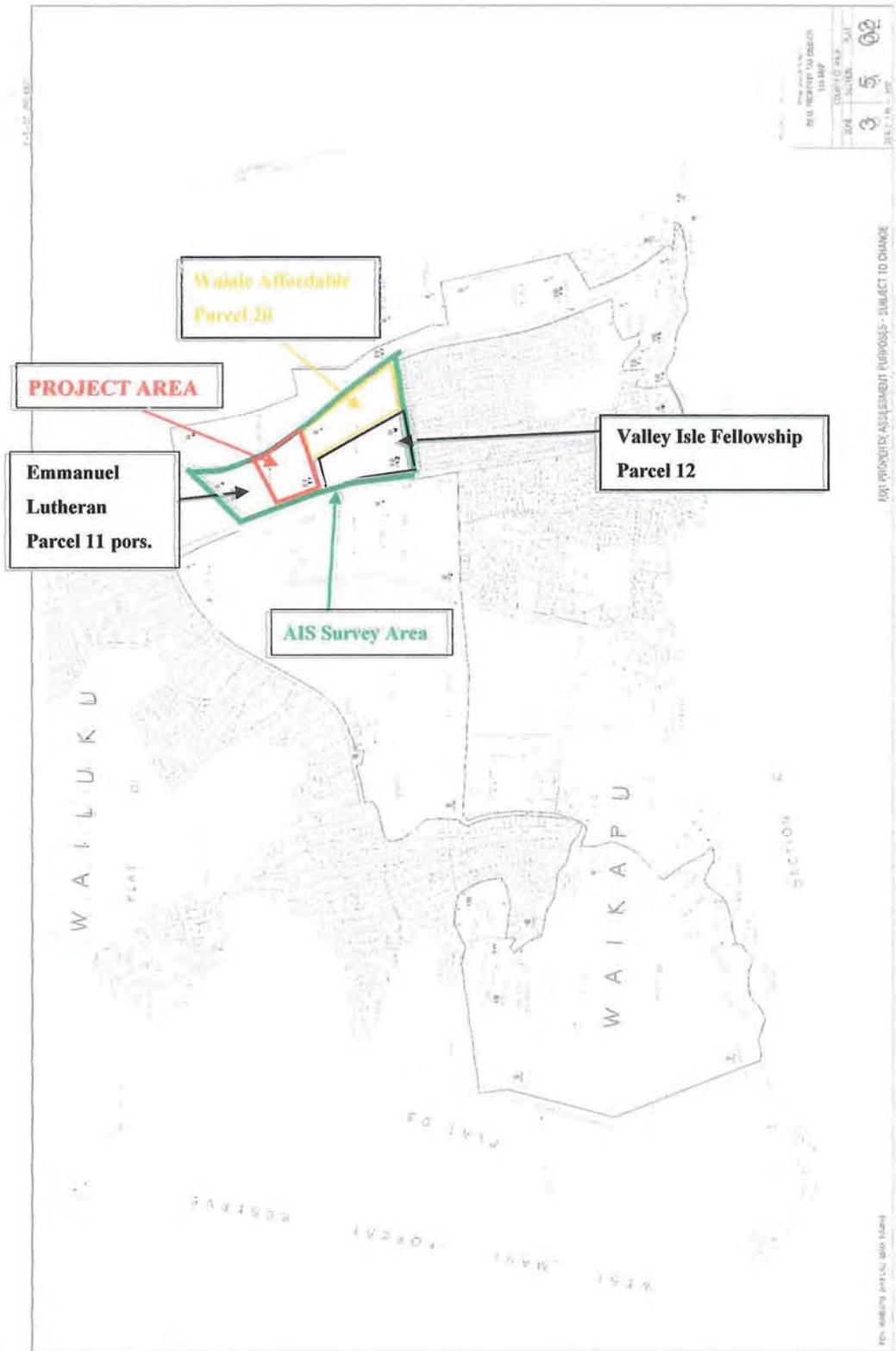


Figure 2. Location of Project Area (red) within Parcel 12 on TMK Map 3-5-002

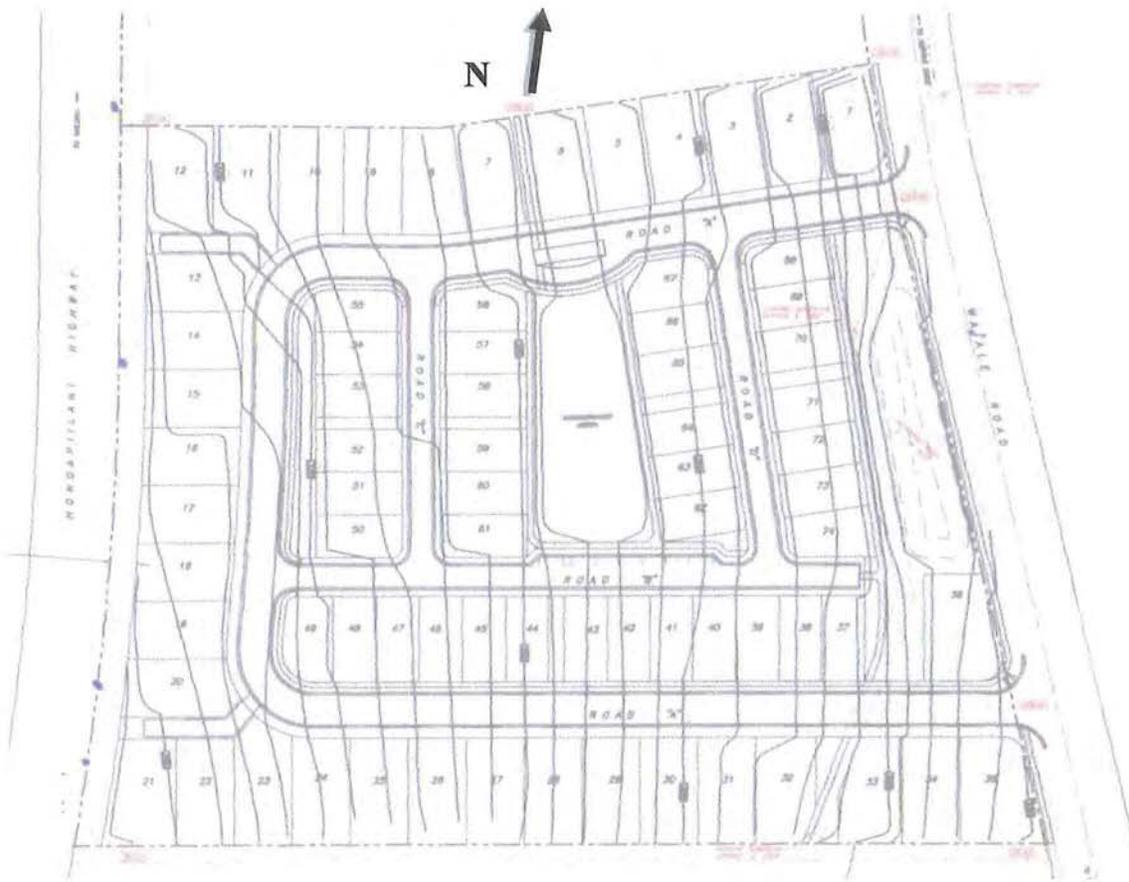


Figure 3. Proposed Waiale Affordable Residential Subdivision Lots 1-71

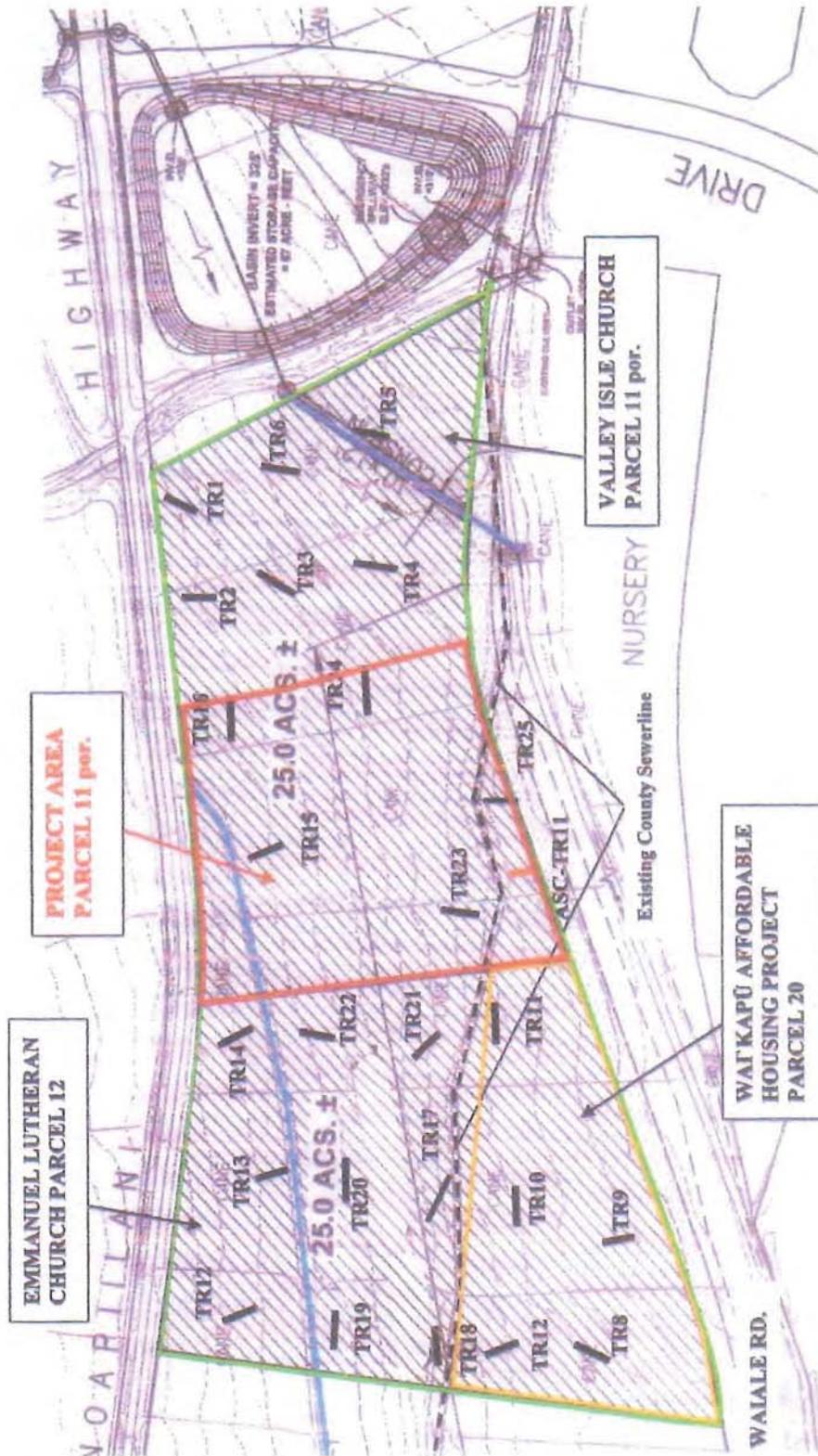


Figure 4. Topo Map Showing Project Area (red), AIS Study Area (green), TR's 1-25, and Site 50-50-04-5474 and Easements

MONITORING PLAN

The construction plans call for excavations ranging from 2.0 to 10.0 ft. deep. Full-time monitoring will be the protocol for this project, with one archaeological monitor per piece of ground-disturbing equipment at all times and in all locations while the equipment is in operation. The purpose of the monitoring program is to identify, protect, document, and assess any inadvertently exposed primary burials and/or scattered human skeletal remains, as well as any pre-Contact and/or post-Contact historic properties such as non-burial features (e.g., cultural layers, trash pits, buried architectural remains). SHPD Archaeology Branch will be notified of the onset and completion of the proposed project. Additionally, no changes may be made to the monitoring provisions without written approval by SHPD.

Pursuant to HAR §13-279-4(4) ...the archaeologist conducting the monitoring has been given the authority to halt ground disturbing activities in the immediate area of a find... and (5) a coordination meeting with any construction team and the archaeologist, so the construction team is aware of the plan;

Prior to the commencement of construction, a coordination meeting will be held with all pertinent parties including but not limited to construction and archaeological personnel. The purpose of the pre-construction meeting is to inform all personnel of the monitoring procedures as stipulated in the AMP, as well as the monitor's authority to halt work in the vicinity of a find. All stop work in the area of a find is necessary to protect and document any encountered historic property; however construction activities may shift to other localities of the project area.

Pursuant to HAR §13-279-4(3) needed fieldwork to protect or document known or anticipated historic properties.....

If subsurface (non-burial) historic properties are exposed during construction, the procedures for the inadvertent discovery of historic properties pursuant to HAR §13-279-5(5) will be instituted. These procedures include but are not limited to the following steps:

1. Temporarily halt ground-disturbing activities in the immediate area of the find and once the archaeologist makes an assessment of the historic property and condition, consultation with SHPD Archaeology Branch will be undertaken to determine the appropriate mitigation measures for the find.
2. The area around the historic property shall be protected by erecting orange fencing or yellow caution tape.

3. The historic property will be located utilizing GPS points (Garmin Montana 615t) and recorded utilizing all standard archaeological methods and procedures; such as plan view maps (to scale with north arrow) of all historic properties, stratigraphic profiles of the subsurface cultural features and natural soil deposition, photographs will be taken; and soil samples will be collected not only from the subsurface site, but from selected locations within the project area.
4. If large historic trash pits are encountered, SHPD will be consulted regarding appropriate field documentation (i.e. maps, photographs, quantification and description of artifacts) and collection of a representative sample.
5. All historic bottles are to be collected and analyzed by the archaeologist.
6. During nighttime work, the archaeological monitor has sole discretion to determine if lighting is adequate to perform visual inspections of the soil.

In the event that human remains are inadvertently exposed during this project, the monitor will implement the procedures for the inadvertent discovery of human skeletal remains stipulated in Chapter 6E 43.6 and HAR §13-300-40 and in accordance with SHPD History and Culture Branch directives. These procedures include, but are not limited to the following:

1. Upon the identification of human remains, the archaeological monitor will halt all construction activities in the immediate area of the find and secure the area.
2. The monitor will immediately notify the SHPD History and Culture Branch-Burial Sites Specialist and the SHPD Archaeology Branch. SHPD will contact the geographic representative of the Maui Lana`i Islands Burial Council. If warranted, the police and medical examiner will also be notified.
3. The monitor will establish a protective perimeter buffer zone using yellow caution tape or orange construction fencing and the exposed human remains will be secured and protected with sand, cloth, tarp and/or plywood to protect them from the elements.
4. In consultation with SHPD, the burial feature location will be recorded by a licensed surveyor and or by archaeological personnel using a hand-held GPS unit.

Pursuant to HAR §13-279-4 (6) any laboratory work expected to be done;

If cultural materials (midden and artifacts) are identified during the course of field work, all collected materials will be labeled with provenience information, sorted, counted and/or weighed, measured (if artifacts) and tabulated for the archaeological monitoring report (AMR). Soil samples collected from cultural and natural soil sequences will be recorded using USDA soil terminology and soil colors using the Munsell color charts. Charcoal samples collected from *in situ* features, as well as intact cultural and or natural layers may be submitted for identification to taxon. After identification, charcoal samples representing short-lived native or Polynesian introduced taxa may be submitted for radiocarbon dating analysis.

Pursuant to HAR §13-279-4(7) Report preparation and (8) Archiving of any collection;

Analyses of cultural materials, charcoal samples and etc. will be synthesized into a draft AMR. Upon acceptance of a Final AMR, hard and electronic copies of the report will be submitted to SHPD Maui and O`ahu libraries, and to the client. All notes, photographs and artifacts will be archived at the consulting archaeologists' office. After the analyses are complete, the final archiving location of all artifactual material will be decided in consultation with the landowner and SHPD.

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