Appendix 15

Supplemental Archaeological Inventory Survey

Appendix 15.1

Supplemental Archaeological Assessment

AA PROJECT NO. 2009

DRAFT

ARCHAEOLOGICAL ASSESSMENT REPORT FOR THE KANAHĀ HOTEL AT KAHULUI AIRPORT

Permit Applications CPA 2018/0001, CIZ 2018/0001, SM1 2018/0001, and EA 2018/0001

Wailuku Ahupua'a, Pū'ali Komohana Moku, Wailuku Modern Tax District, Island of Maui

TMK: (2) 3-8-079:013:014 por., 015 por., and 016-018 (Formerly a portion of TMK [2] 3-8-079:013)

'ĀINA ARCHAEOLOGY

COVER PHOTO: HISTORIC MAP FROM 1922 OF THE CURRENT PROJECT AREA AND ITS SURROUNDING HISTORICAL LANDMARKS

AA PROJECT NO. 2009
AA PERMIT NO. 20-20

SUPPLEMENTAL ARCHAEOLOGICAL ASSESSMENT REPORT FOR THE KANAHĀ HOTEL AT KAHULUI AIRPORT

Permit Applications CPA 2018/0001, CIZ 2018/0001, SM1 2018/0001, and EA 2018/0001

Wailuku Ahupuaʻa, Pūʻali Komohana Moku, Wailuku Modern Tax District, Island of Maui

TMK: (2) 3-8-103:014 por., 015 por., and 016-018 (Formerly a portion of TMK [2] 3-8-079:013)

4/29/2021
Draft

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Management Summary

Project Name:	Kanahā Hotel at Kahului Airport
Summary of Project Description:	The proposed project includes the development of a 200-unit Hotel with associated infrastructure and landscaping. The proposed hotel building varies from one (1), two (2), and four (4) stories in height and will be massed toward the center of the Project Site with generous setbacks on all sides accommodating the width of a landscape buffer, the width of two parking stalls and a parking lot drive isle. Amenities and uses include but are not limited to, swimming pool, dining area, and other typical and similar incidental support services and accessory uses for hotel operation. To comply with the Maui Fire Code, the proposed project would also install water storage tanks with a capacity of a minimum of 4,000 gallons, a pump room, and pipelines from the tank site to the project site.
Project Acreage:	5.17
Project Area (PA)	The PA is a 5.17 acre vacant lot that is bound by Lauʻo Loop to the west, Haleakalā Highway to the north, a wall that separates it from Kahului Airport Access road to the east, and another vacant lot to the south. It is located within the Wailuku Ahupuaʻa, Pūʻali Komohana Moku (Wailuku Modern Tax District) on the island of Maui TMK: (2) 3-8-079:013:014 por., 015 por., and 016-018 (Formerly a portion of TMK [2] 3-8-079:013)
Total Acreage Surveyed:	Pedestrian survey of the entire 5.17 acres of the defined project area.
Land Owner and/or Jurisdiction:	Land Owner: Private - R.D. Olson Development
Funding Sources:	Private - R.D. Olson Development
Permit Numbers:	ʻĀina Archaeology 20-20; Permit Applications CPA 2018/0001, CIZ 2018/0001, SM1 2018/0001, and EA 2018/0001

Regulatory Context:	This project is subject to historic preservation review under Hawai‘i Revised Statutes (HRS) Chapter 6E-42 as governed by Hawai'i Administrative Rules (HAR) 13-284: Rules Governing Procedures for Historic Preservation Review to Comment on Section 6E-42, HRS Projects. This study was undertaken in accordance with Hawai'i Administrative Rules (HAR) 13-276: Rules Governing Standards for Archaeological Inventory Surveys and Reports. However, due to the project area containing no significant historical properties this document was categorized as a Supplemental Archaeological Assessment in accordance with rule (HAR) 13-284-5A. Subsurface testing was conducted upon approval of the AIS testing strategy by SHPD Maui Island Archaeologist IV, Andrew McCallister on December 8th, 2020 (via email)
Fieldwork Effort and Project Personnel:	The archaeological inventory survey was conducted from December 14th, 2020 through December 23rd, 2020. The archaeological field crew included Tanya L. Lee-Greig, M.A., Amanda Ruberti, M.A., and Daniel Moore, B.A., under Archaeological Permit Nos. 20-20.
Findings Summary and Number of Historic Properties Identified:	The pedestrian survey indicated that no archaeological sites were present on the surface of the project area and that any observed portable material remains were likely a secondary deposit from modern fill that was used during previous construction activities within the area. Subsurface testing revealed culturally sterile subsurface conditions with little to no potential to contain any significant historic properties.
Significance Evaluations Summary	Not applicable due to no findings of historic properties.
Treatment Recommendations	No further work recommended.

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1.0 INTRODUCTION

R.D. Olson Development is seeking to construct a 200-unit Hotel to provide non-resort hotel rooms that are close to the Kahului airport and in the heart of Kahului to sever business travelers and Hawai'i residents (Chris Hart & Partners 2020:1). The proposed Kanahā Hotel and Kahului Airport (project), formerly known as the Kanahā Hotel Project, would be situated on approximately 5.17 acres at the Maui Business Park Phase II which is located within Wailuku Ahupua'a, Pū'ali Komohana (Wailuku Moku and Modern Tax District), Island of Maui (TMK [2] 3-8-103:014 por., 015 por., and 016-018 [formerly a portion of TMK (2) 3-8-079:013]) (Figure 1-1 and Figure 1-2).

1.1 PROJECT DESCRIPTION

It is anticipated that the Kanahā Hotel at Kahului Airport project will be constructed in a single phase. The construction will start in 2023 and the hotel will be open for business in 2025. The proposed action is to develop a 200-unit Hotel with associated infrastructure and landscaping. The proposed hotel building varies from one (1), two (2), and four (4) stories in height and will be massed toward the center of the Project Site with generous setbacks on all sides accommodating the width of a landscape buffer, the width of two parking stalls and a parking lot drive isle.

Amenities and uses include but are not limited to, swimming pool, dining area, and other typical and similar incidental support services and accessory uses for hotel operation (Figure 1-3). To comply with the Maui Fire Code, the proposed project would also install water storage tanks with a capacity of a minimum of 4,000 gallons, a pump room, and pipelines from the tank site to the project site (see also Figure 1-3).

1.2 PROJECT AREA (PA)

The proposed project is located in a highly developed area and is bound by Lau'o Loop to the west, Haleakalā Highway to the north, a wall that separates it from Kahului Airport Access road to the east, and another vacant lot to the south (Figure 1-3). No known historically significant archaeological sites, historic structures, or historic districts that could be indirectly affected by the construction and operation of the proposed hotel are present within or directly adjacent to the project location. Additionally, no off-site staging or parking is anticipated for this project as all construction activities will take place within the outline 5.17 acre lot. Therefore, the project area (PA) for the Kanahā Hotel is defined as the 5.17 acre boundary of the project footprint (Figure 1-1 and Figure 1-2) as indicated in the overall site plan provided by R.D. Olson (Figure 1-3).

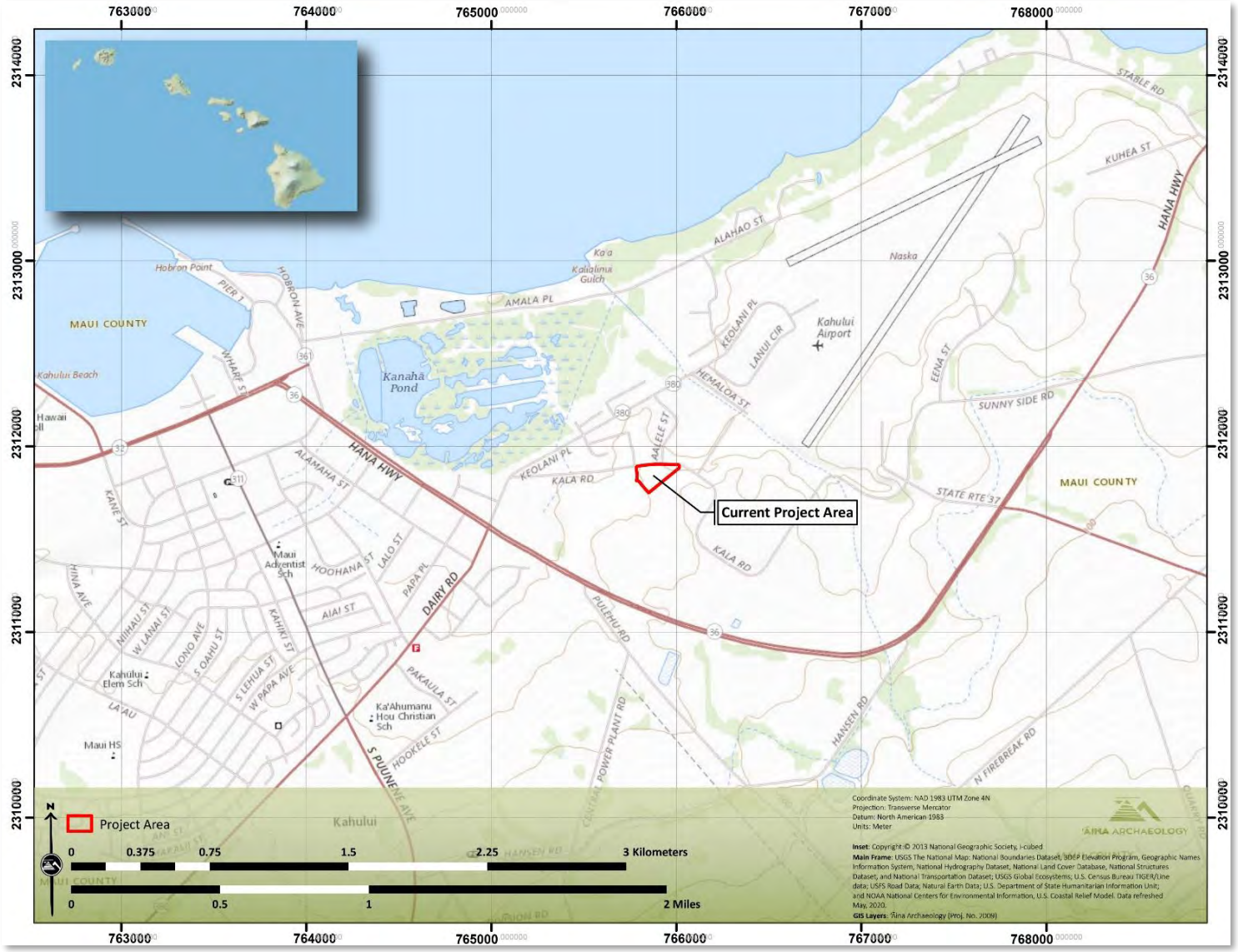

Figure 1-1. A portion of the USGS National Map (2019) showing the approximated location of the Kanahā Hotel at Kahului Airport.

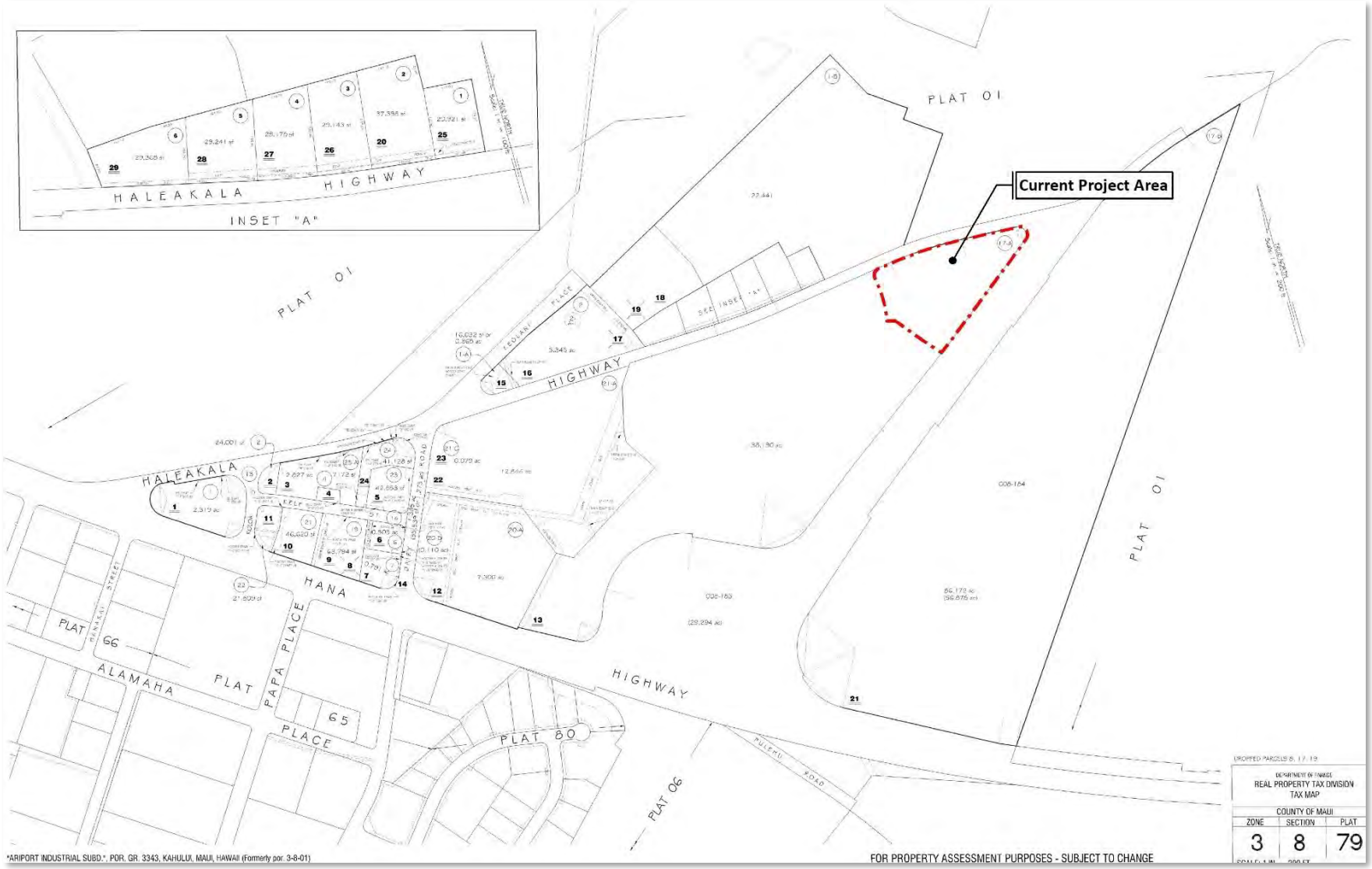

Figure 1-2. Tax Map Key map (2) 3-8-79 showing the approximate location of the proposed Kanahā Hotel at Kahului Airport

Figure 1-3. Conceptual plan for the proposed project (courtesy of R.D. Olson).

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1.3 SCOPE OF WORK

The purpose of this supplemental archaeological study is to address concerns brought forth by, the State Historic Preservation Division (SHPD) in response to a previous archaeological assessment report for the proposed project entitled *An Archaeological Assessment for the Windward Hotel Project Kahului, Wailuku Ahupuaʻa Wailuku District, Island Of Maui, Hawaiʻi* (Kehajit and Dega 2018). A total of 11 mechanically assisted excavation units of stratigraphic trenches (STs) were carried out for the proposed project, the majority of which were situated along outer footings of the planned hotel, with one located at the deep end of the pool area (Figure 1-4). In their review of the report, the State Historic Preservation Division (SHPD) noted several concerns regarding pedestrian survey coverage and depth of excavation, which ranged from 0.6 m (1 ft. 11 in.) to 1.5 m (4 ft. 11 in.), thereby indicating that the department had insufficient information to determine if the project would adversely affect historic properties with regard to areas of deep excavation in particular (Log No. 2020.00815, Doc. No. 2007AM104). As a result, SHPD recommended archaeological monitoring with a stipulation that the area would be re-surveyed with pedestrian transects spaced "no greater than 5 meters apart" prior to the onset of construction.

R.D. Olson Development sought to address the concerns outlined in the report review letter ahead of construction and in parallel to their EIS process for the proposed project in the form of a Supplemental Archaeological Inventory Survey (SAIS). This study served to address the concerns outlined by SHPD, by re-surveying the project area with pedestrian transects spaced approximately 5m apart (see Section 5.1 Surface Survey Results). An additional nine mechanically assisted test units (BTs) were placed in areas identified to sustain the most ground disturbance during construction (see Section 5.2 Subsurface Survey Results)(Figure 1-5 and Figure 1-6). The purpose of the nine additional BTs was to further investigate the subsurface conditions of the project area and ascertain whether the construction of the Kanahā Hotel had the potential to impact historic properties that may have been present within the project area (see Section 5.0 Results of Fieldwork and Section 6.0 Summary and Interpretation).

After a pedestrian survey and subsurface testing revealed no significant historical properties within the project area (see Section 5.0 Results of Fieldwork), these findings are reported as a Supplemental Archaeological Assessment rather than an Supplemental Archaeological Inventory Survey in accordance with Hawaiʻi Administrative Rules (HAR) 13-284-5A.

Figure 1-4. Approximate locations of the previous testing (in blue) as adapted and georeferenced from Kehajit and Dega (2018:Figure 6) in relation to the proposed project plan(courtesy of R.D. Olson Development).

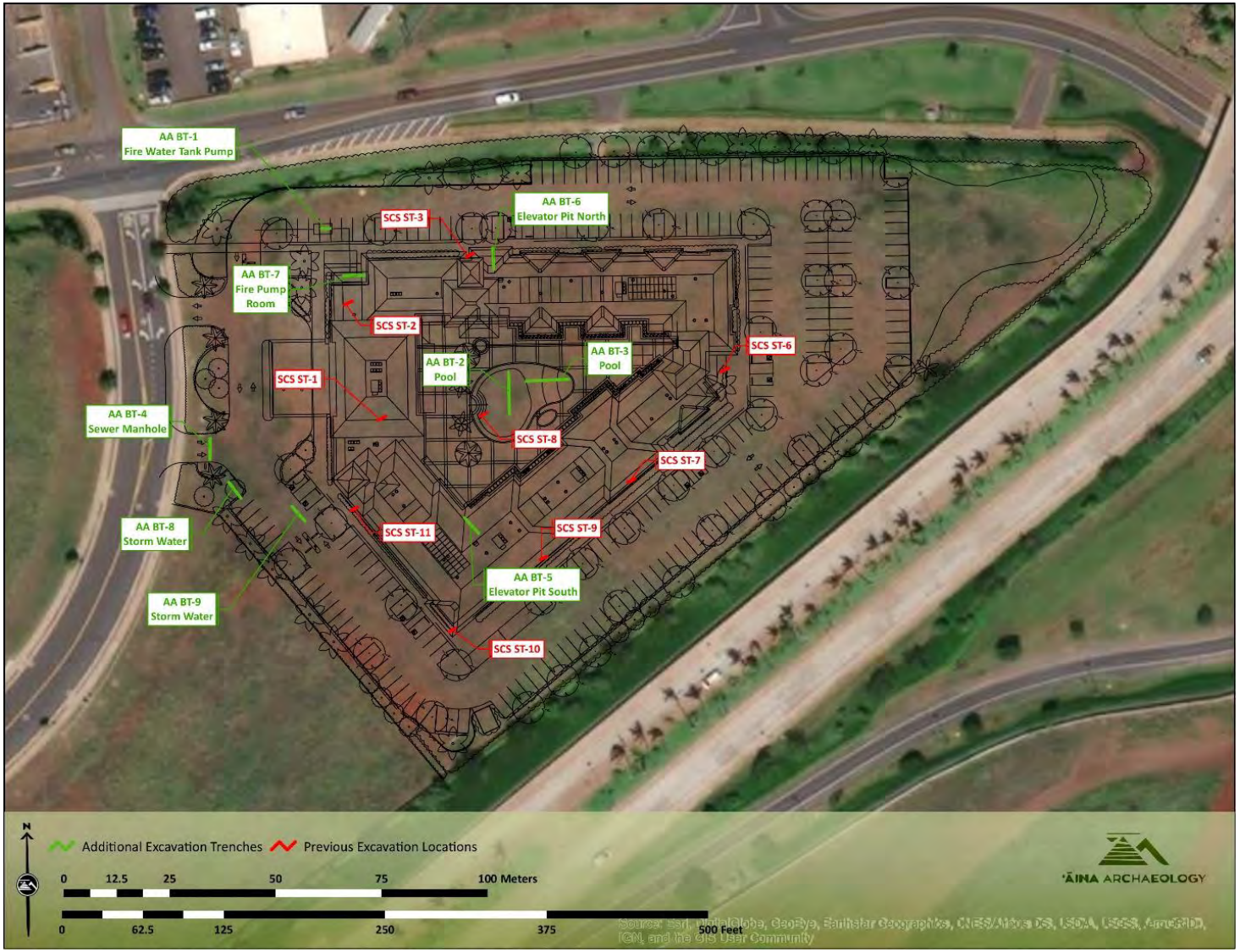

Figure 1-5. Proposed supplemental testing locations (in green) in relation to the revised proposed project conceptual design and environmental conditions (CAD plan provided courtesy of AXIS/GFA Architecture + Design).

Figure 1-6. Proposed supplemental testing locations (in green) in relation to the revised proposed project conceptual design (plan provided courtesy of R.D. Olson Development)

2.0 ENVIRONMENTAL SETTING

The following section describes that natural and built environment of the project area.

2.1 NATURAL ENVIRONMENT

The project area is located along the north shore of the central isthmus of Maui, between the shoreline and the 100-foot contour. The approximate rainfall for this region is 18 inches per year (Thomas W. Giambelluca et al. 2013) with the heaviest rainfall occurring during November and April (Foote et al. 1972:96). The average annual temperature is 74°F with the warmest temperatures occurring between July and August and the coldest temperatures occurring between December and February (T.W. Giambelluca et al. 2014). It is further notable that the region in which the proposed project area is situated generally sustains moderate to high winds with an average annual wind speed of 7.2 mph (T.W. Giambelluca et al. 2014).

The U.S. Department of Agriculture (USDA) soil survey data shows that the sediments within the project area are a part of the Molokai Soil Series (Figure 2-1). This soil series is characterized by well-drained soils generally located in nearly level to moderately steep upland areas(Foote et al. 1972:96) . Elevations for the Molokai Soil Series range from nearly sea level to 1,500 feet (Foote et al. 1972:96). More specifically the proposed construction area for the Kanahā Hotel overlies Molokai Silty Clay Loam (MuB) (Figure 2-1). MuB soils have a 3 to 7 percent slope resulting in slow to moderate runoff with an erosion hazard of slight to moderate (Foote et al. 1972:96). MuB soils have been mapped in small areas where dark reddish brown silty clay loams overlay fine textured, gravelly alluvium, and dark reddish-brown silty clay soils with mottled subsoils (Foote et al. 1972:96).This soil variant is typically utilized for sugarcane, pineapple, pastures, wildlife habitats, and homesites (Foote et al. 1972:96).South/southwest and east/northeast of the project area are regions containing the Molokai Silty Clay Loam (MuA) soil variant that is found on 0 to 3 percent slopes (Figure 2-1). MuA soils are typically dark reddish-brown in color (Foote et al. 1972:96). These soils range between being slightly acidic to neutral and generally have slow runoff with a slight erosion hazard (Foote et al. 1972:96). On Maui, MuA soils are used only for sugarcane cultivation (Foote et al. 1972:96).

Other soil series that are present within the vicinity of the project area include Beach, Dune Land, Jaucas, Ewa, and Pulehu soil series. A variant of the Jaucas Soil Series is located northwest of the project area (Figure 2-1) which is characterized by “excessively drained, calcareous soils that occur as narrow strips on coastal plains, adjacent to the ocean”(Foote et al. 1972:48). Regions containing the Jaucas Soil Series are nearly level to strongly sloping with an elevation ranging between sea level to 100 feet (Foote et al. 1972:48). Jaucas sand, saline (JcC) located on 0 to 12 percent slopes is the only soil variant of the Jaucas Series that is found within the vicinity of the project area. The JcC soil variant is located north and northwest of the project area and occurs near the ocean in areas with shallow water tables and salt accumulation (Foote et al. 1972:49).

Depressions of JcC typically contain a layer of silty alluvial material formed due to high concentrations of soluble salt (Foote et al. 1972:49). JcC soil is utilized for pasture, wildlife habitat, and urban development (Foote et al. 1972:49).

Located north/northwest of the JcC soil variant and the project area are beaches consisting of light-colored sands formed by continuous erosion of coral and seashells (Figure 2-1)(Foote et al. 1972:28). Beaches in Maui are typically utilized for recreational activities and resort development (Foote et al. 1972:28). Located south of the beaches and northeast/northwest of the project area is Dune Land (Figure 2-1). Dune Land is characterized by the accumulation of sand-sized particles of shell and coral that are deposited by the wind (Foote et al. 1972:29). Dune Lands are constantly shifting and thus, contain no fixed or developed soil horizons (Foote et al. 1972:29). Regions containing Dune Lands have elevations ranging from nearly sea level to 150 feet (Foote et al. 1972:29). Dune Lands have been recently utilized for wildlife habitation, recreational activities, and a source for liming material (Foote et al. 1972:29).

Located south of the Dune Lands and north/west of the project area is a region containing a soil variant belonging to the Ewa Soil Series (Figure 2-1). The Ewa Soil Series is characterized by well-drained soils located in basins and on alluvial fans (Foote et al. 1972:29). These soils are nearly level to moderately sloping are have elevations ranging between near sea level to 150 feet (Foote et al. 1972:29). The Ewa soil variant located within the vicinity of the project area is Ewa Silty Clay Loam (EaA) with 0 to 3 percent slopes. EaA soils have very slow run off. As a result, this soil variant is slightly hazardous in regards to erosion (Foote et al. 1972:30). At the time of the soil survey, EaA soils were utilized for growing sugarcane and for homesites (Foote et al. 1972:30).

South/south east of the proposed project area is an area of land containing soil variants belonging to the Pulehu Soil Series (Figure 2-1). The Pulehu Series consists of well-drained soils located on alluvial fans, stream terraces, and in basins (Foote et al. 1972:115). These soils are nearly level to moderately sloping with elevations ranging between nearly sea level to 300 feet (Foote et al. 1972:115). Soil run off is generally slow with a slight erosion hazard (Foote et al. 1972:115-117). Four soil variants of the Pulehu Series are located within the vicinity of the project area and include Pulehu Silt Loam (PpA), Pulehu Cobbly Clay Loam (PtA), Pulehu Clay Loam (PsA), and Pulehu Cobbly Silt Loam (PrA). The soil variant PpA covers the largest area of land southeast of the proposed project area (Figure 2-1). The PpA soil variant is found on 0 to 3 percent slopes and is similar to the PsA soil variant but has a texture of silt loam (Foote et al. 1972:116). This soil variant is primarily utilized for sugarcane and occasionally small homesites (Foote et al. 1972:116).The PtA soil variant is located further south of the project area and the PpA soil. PtA soil is also similar to the PsA soil variant but is more cobbly (Foote et al. 1972:116). This soil variant is found on 0 to 3 percent slopes and is utilized for sugarcane (Foote et al. 1972:116). Located south of the PtA soil variant is the PsA soil variant. PsA soil is dark-brown in color when found on the surface and ranges between dark-brown, dark greyish brown, and brown when located subsurface (Foote et al. 1972:115-116). The soil ranges between neutral to mildly alkaline

and has moderate permeability (Foote et al. 1972:116). PsA soil is utilized for sugarcane, truck crops, and pasture (Foote et al. 1972:116). The southernmost soil variant of the Pulehu Series is PrA. PrA is found on 0 to 3 percent slopes and is most similar to PsA soil but has a silt loam texture and contains a higher density of cobbles when located on the surface (Foote et al. 1972:116). PrA soil is utilized for sugarcane and pasture (Foote et al. 1972:116).

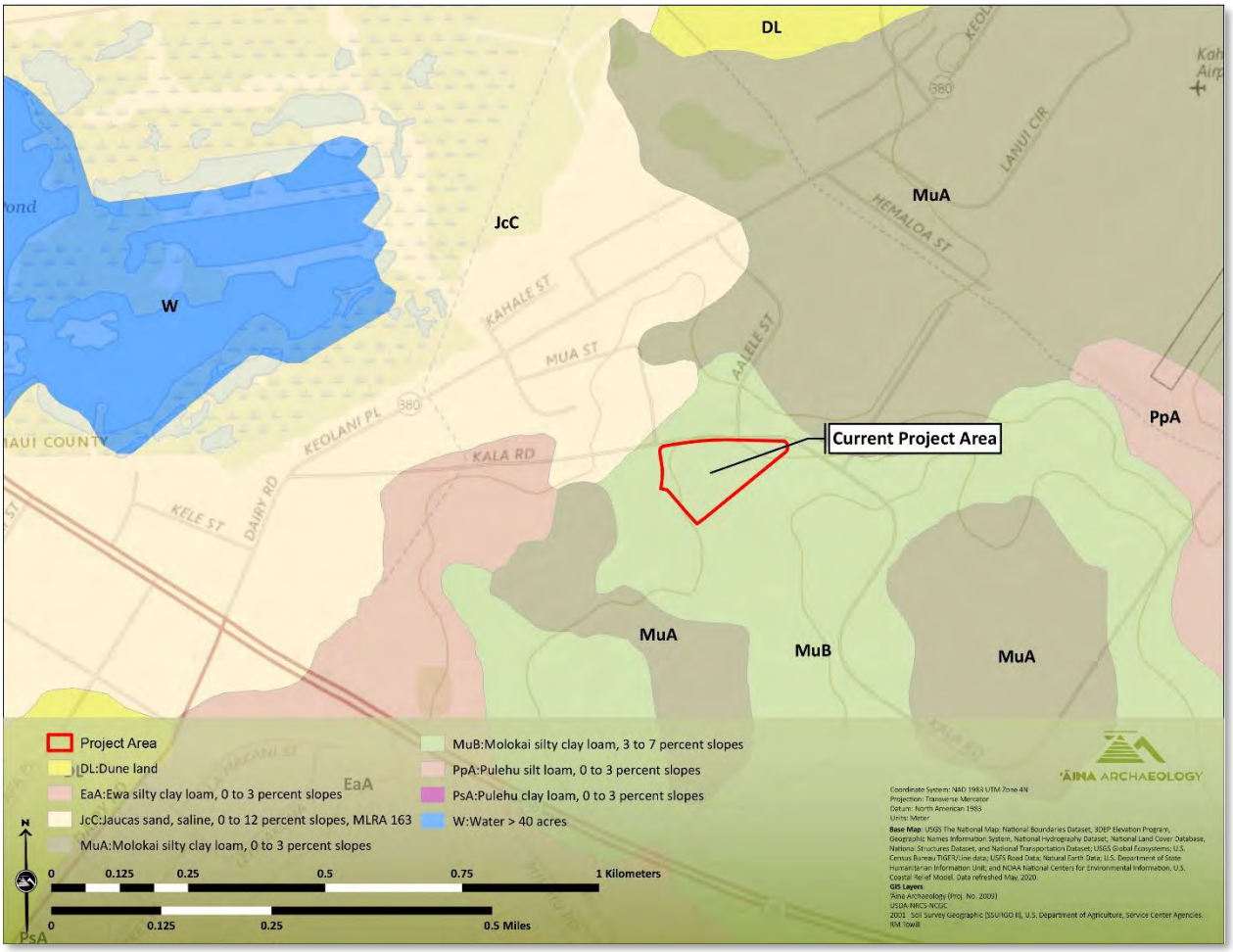

Figure 2-1 A portion of the USGS Topographic Map, Wailuku Quadrangle (1997) showing the project area outlined in red in relation to the underlying soil types (USDA-NRCS-NCGC 2001)

The combination of these soils as well as the annual temperature and rainfall in this region would have supported a native ecosystem consisting of lowland dry and mesic forest, woodland, and shrubland (Pratt and Gon III 1998:122). Plains, low slopes, dry ridge tops, and cliffs supported grass and shrub lands containing a variety of vegetation such as *pili* (*Heteropogen contortus*), *kāwelu* (*Eragrostis variabilis*), *ʻaʻaliʻi* (*Dodonaea viscosa*), and *ʻūlei* (*Osteomeles anthyllidifolia*)(Pratt and Gon III 1998:127). Ridges, rocky slopes, and leeward gulches housed mesic forests of native tree species including *ʻōhiʻa*, *koa*, *lama*, and *halapepe* (*Pleomele* species)(Pratt and Gon III 1998:127).These ecosystems are known to have supported an array of fauna including a variety of native birds, insects, as well as the Hawaiian horny bat (*ʻōpeʻāpeʻa*,

Lasiurus cinereus semotus)(Pratt and Gon III 1998). Due to extensive human modifications, particularly the growth of sugarcane, the current ecosystem of the Wailuku district varies greatly from the native ecosystems of the past. Today, this area consists primarily of fallow cane fields that contain invasive tall dry grasses.

2.2 BUILT ENVIRONMENT

While the current proposed project area consists of vacant land, the surrounding area has been heavily developed. Most of the developed land is located north, northeast, and northwest of the project area (Figure 2-2). The land northwest of the project area is occupied by the Kahului Airport (OGG). Land to the north contains multiple modern warehouses, shops, and roads. The project area is bound by Haleakala Highway to the north and Kahului Airport Access road to the south. South of Kahului Airport Access road and the project area is vacant land that was previously utilized for sugarcane cultivation.

Figure 2-2 . ESRI world imagery orthophoto (2018) showing the project area outlined in red in relation to the built environment

3.0 CULTURAL HISTORICAL BACKGROUND

A review of the cultural and historical genealogy of any project site begins with a basic understanding of *palena*, or "place-boundaries." The Hawaiian scholar Dr. Kamanamaikalani Beamer explains that this concept of *palena* involves "a particular type of boundary, one created in a specific context, which defines a place that has unique functions" (Beamer 2014:32). The sections below provide an overview of the project site's traditional boundaries, along with the names and sayings that speak to the historical functions or characteristics of these places.

The first major delineation of land boundaries on the island of Maui occurred during the rule of Kakaʻalaneo and was overseen by a *kahuna* named Kalaihaohiʻa (Beckwith 1970:383). This resulted in the creation of large land divisions called *moku* (districts), which were further broken down into subdistricts, the primary ones being *ahupuaʻa* and *ʻili*, and managed by agents of the ruling chiefs (Beckwith 1970:383). The *moku o loko*, or *moku* as it's commonly called, literally means "to cut across, divide, separate" (Lucas 1995:77). When used as a term of traditional land tenure, a *moku* is similar to a modern political district. Maui is divided into twelve *moku*: Hāmākuapoko, Hāmākualoa, Koʻolau, Hāna, Kīpahulu, Kaupō, Kahikinui, Honuaʻula, Kula, Wailuku, Kāʻanapali, and Lāhainā.

Within these *moku* are smaller units of land called *ahupuaʻa.* The typical *ahupuaʻa* is wedge-shaped and extends from the sea to the mountain peaks so that the *aliʻi* (chiefs) and the *makaʻāinana* (native tenants) had access to resources of the *wao lāʻau* or *wao nahele* (forested region), the *wao ʻamaʻu* and *wao kanaka* (cultivated land), and the *kula uka* and *kula kai* (the lower grasslands and shoreline) (W. D. Alexander 1882:4; Mueller-Dombois 2007). The boundaries of an *ahupuaʻa* generally followed prominent landforms (i.e. ridge lines and valley walls), but there were many exceptions to the classic wedged-shape.

In 1862, the Hawaiian government created the Boundary Commission whose purpose was to settle the boundaries of the larger lands, like *ahupuaʻa* and some *ʻili*, which had not been formally surveyed at the time of the Māhele. The Boundary Commission relied on testimony provided by *kamaʻāina* who knew the traditional boundaries to create a metes and bounds survey and map of the lands in question. Unfortunately, not all *ahupuaʻa* were submitted to the process, particularly those retained by the Government.

The general area of study is located in the *ahupuaʻa* of Wailuku (Figure 3-1). An independent *ahupuaʻa* that was once able to sustain hundreds of families, Wailuku is often mistakenly refered to as a small part of one large *ahupuaʻa* that includes three other *ahupuaʻa*: Waikapū, Waiehu, and Waiheʻe. Traditionally, these four districts have been collectively referred to as Nā Wai ʻEhā, or The Four Waters. In the Māhele Book, which recorded the names of all the *ahupuaʻa* on each of the islands, these four *ahupuaʻa* are identifed as being in the *kalana* (a land division smaller than a *moku*) of Pūʻali Komohana (West Isthmus). After the establishment of the Office of

Hawaiian Government Survey (OHGS) in 1870, Maui was surveyed and mapped. This resulted in Wailuku being used as the primary name for the *ahupuaʻa* and the larger district of Wailuku, of which the four *ahupuaʻa* are now a part of. A reason for this name choice was given by Curtis J. Lyons, an OHGS surveyor, who wrote, "Wailuku, Waikapu, Waiehu, and Waihee were independent, belonging to no *Moku*. On the map it was necessary to form a new district and call it Wailuku, Nawaieha, the four waters, being too cumbursome and ill understood" (Lyons 1903:29). More specifically, the current project area is located within the north-easternmost portion of Wailuku Ahupuaʻa and is situated east of Kahului Harbor in the vicinity of Kanahā and Mauoni Ponds (Figure 3-2).

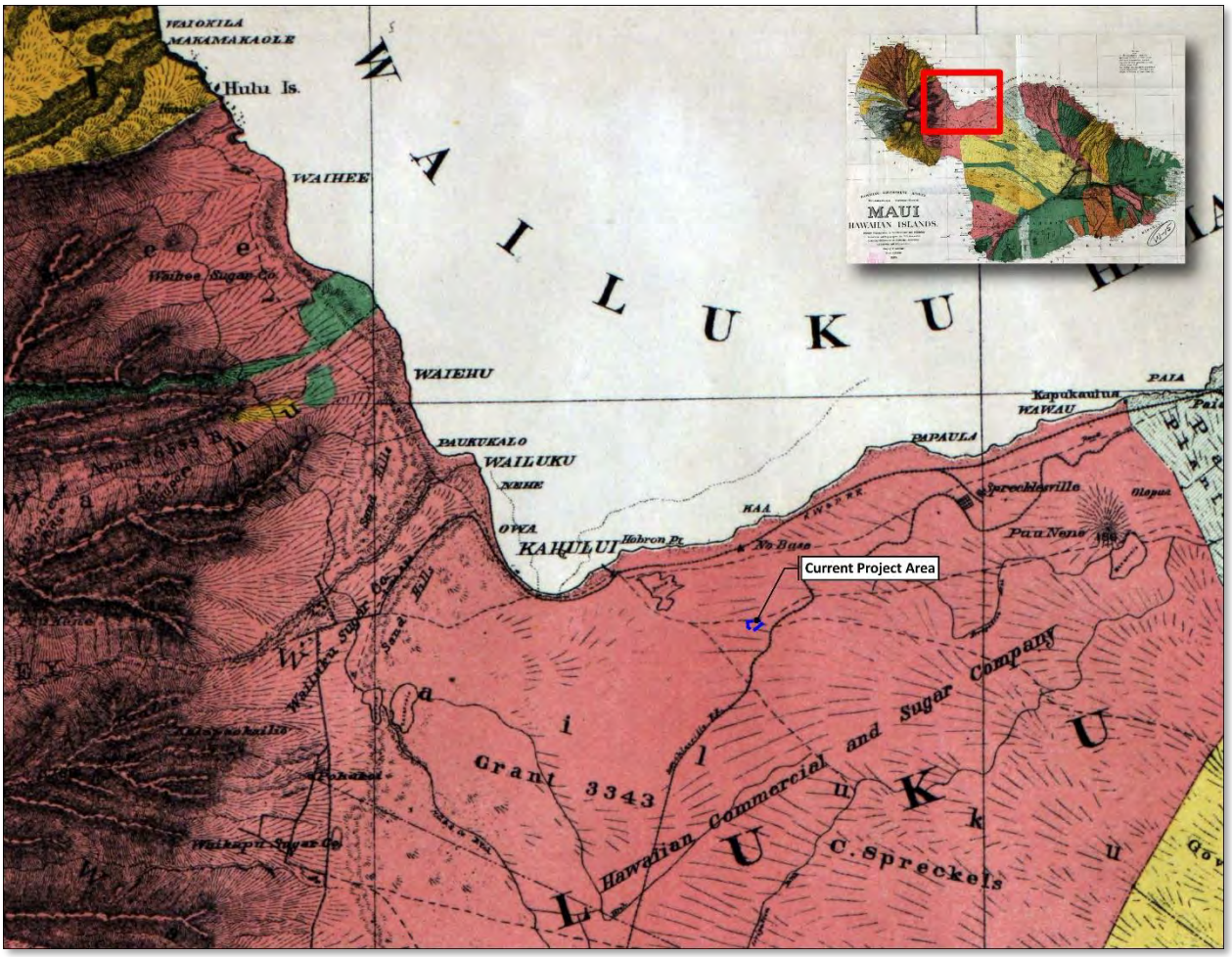

Figure 3-1. A portion of the Hawaiian Government Survey map of Maui Island (Dodge 1885) showing the approximate location of the current project area (outlined in blue) in relation to the ahupuaʻa and moku of Wailuku.

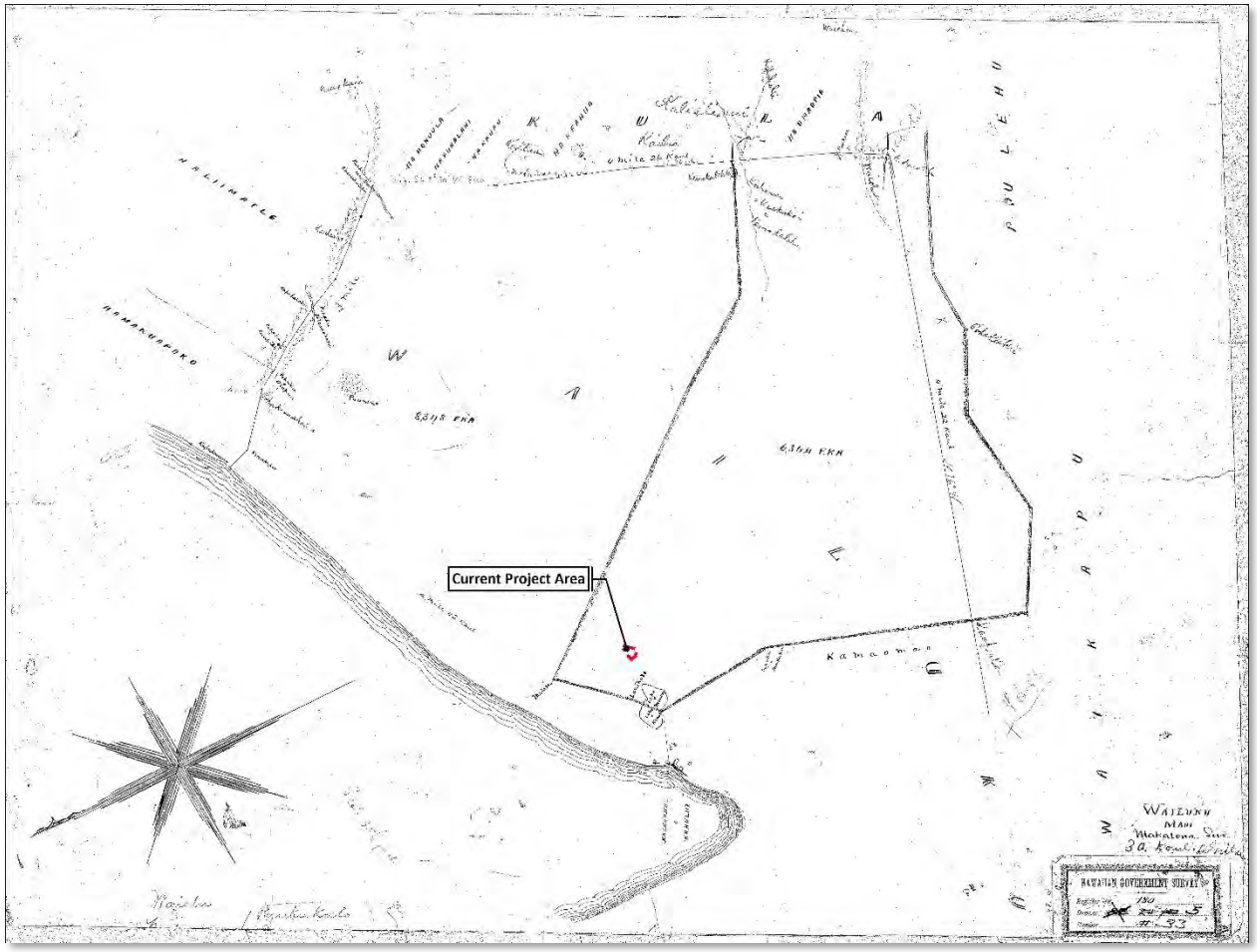

Figure 3-2. Registered Map 180, Map of Wailuku by Makalena showing the location of the proposed project (outlined in red) in relation to

3.1 WAHI INOA – PLACE NAMES AND BOUNDARIES

In ancient Hawai'i, the practice of naming places was widespread, and virtually all aspects of the land and sea could be identified by name. Lyons notes that as a consequence of the long tenancy of the people on land, "every piece of land had its name, as individual and characteristic as that of its cultivation" (Lyons 1903:23). From beaches, bays, ocean channels, and points to hills, plains, valleys, mountains, and ridge lines, many of the place names we know today have ancient origins. In Hawaiian culture, natural and cultural resources are one and the same. This belief permeates all aspects of Hawaiian beliefs and practices, even today. Its origin can be seen in one of the principal creation stories, a chant known as the Kumulipo, that orders the origin of plants, animals, and humans along a shared, unbroken genealogy.

Similarly, the various forms of the natural environment, both animate and inanimate, are believed to be embodiments of Hawaiian gods and deities. From the heavens and volcanoes, to the forests and the planting fields, to the shoreline and ocean depths – not to mention the winds,

rains, clouds, stars, and the many useful living things – all have some connection to a complex pantheon of *akua* (gods), *kupua* (demigods), and *ʻaumakua* (deified ancestor gods). These gods and deities are the subject of *moʻolelo* (stories) that the Hawaiian people told and retold across generations, *moʻolelo* that explain how things came into existence.

One such *moʻolelo* depicts the Hawaiian Islands as being born to two gods: Wākea (the expanse of the sky) and Papa-hānau-moku (Papa, who gave birth to the islands), also called Haumea-nui-hānau-wā-wā (Great Haumea born time and time again). In an ancient *oli* (chant) which tells this origin story, Hawaiʻi Island is first to be born, followed next by Maui:

Hanau o Maui he moku, he aina	Maui was born an island, a land,
Na kama o Kamalalawalu e noho.	A dwelling place for the children of Kamalalawalu.
	(Fornander 1880:2-3)

In the chant, Maui is called "a dwelling place for the children of Kamalalawalu," and Kamalalawalu was the grandson of Piʻilani, a 16th century *mōʻī* (paramount ruler) of Maui and founder of one of its greatest dynasties. One of the traditional poetic names for Maui is Maui-a-Kama or Maui-Nui-a-Kama (Maui of Kama, Great Maui of Kama), named after Kamalalawalu. Another is Nā-Hono-a-Piʻilani (The Bays of Piʻilani), after Piʻilani and the distinctive bays that line Maui's shoreline. More ancient names include Ihikapalaumaewa, who was another child of Papa and Wākea, and Kūlua, which means "twins" which was perhaps inspired by the island's two volcanic forms (Sterling 1998:1).

Finally, names were inspired by the characteristics of the land. They could be literal or metaphoric in that description, or they might be commemorative of a person or event having some relationship to the land. In a place's name, there is often a bit of information about that place prior to Western contact, so consideration of the place name meanings for the study area may yield insight into the stories, patterns of life, and land uses within the *ahupuaʻa* of Wailuku. The names listed below are for areas, divisions, and features of the land and sea that are in the vicinity of the project area, roughly within a radius of several miles. They are just a subset of the many names that comprise this *ahupuaʻa*, as identified through research of the Māhele ʻĀina documents, Hawaiian language newspapers, and other available historic literary resources. Unless indicated otherwise, the spelling and orthography presented below are taken from Pukui (Pukui et al. 1974).

Kai Kūono o Kahului	*Lit.,* bay or sea inlet of Kahului (Pukui and Elbert 1986:116)
Kahului	*Lit.,* the winning
Kalialinui	No definition available. A land division and gulch. (Pukui et al. 1974:77)

Kamaʻomaʻo (plain of Kula)	*Lit*., the greenness; noted as being at the eastern isthmus of Maui, connecting East and West Maui (Fornander 1919:554)
Kanahā (*loko* [pond])	*Lit.*, the shattered [thing]. "[S]aid to have been built by Chief Kiha-a-Piʻilani, brother-in-law of ʻUmi who lived about A.D. 1500" (Pukui et al. 1974:83).
Lanihale	*Wahi inoa* or reference to an area belonging to an individual shown on an early survey map of Wailuku (Makalena N.D).
Māniania (ʻili)	*Lit.*, a shuddering sensation.
Mauoni (*loko iʻa* [fishpond])	"Kapiiohookalani, king of Oahu and half of Molokai, built the banks of *kuapa* of Kanaha and Mauoni, known as the twin ponds of Kapiioho–for the purpose he used men from Oahu and Molokai as well as those of Maui under his aunt Papaikaniau. . . . The ponds were completed by Kamehamehanui, king of Maui, who placed a *kapu* on the bank or *Kuapa* dividing the two ponds" (Sterling 1998:87). "When the work was finished in this area the chief [KihaPiilani] moved on and lived at Kahului and began the transporting of the stones for the walls of the ponds Manoni [Mauʻoni] and Kanaha. He is the one who separated the water of the pond, giving it two names" (Sterling 1998:88).
Malama	*Wahi inoa* shown on an early survey map of Wailuku (Makalena N.D)
Olopua	Named for a native tree, a member of the olive family. A place in the vicinity of Puʻunēnē (Coulter 1935:131).
Pohaku o Makaku	*Wahi inoa* shown on an early survey map of Wailuku (Makalena N.D), a stone known to Kuihelani where the spirits would gather (Maly and Maly 2003:357)
Papaʻula (point)	*Lit.,* red flats. This point is likely the site of a fishing ground by the same name awarded to Henry L. Brooks as Land Commission Award 215.
Puʻu-nēnē (*puʻu* [cinder cone])	*Lit.,* goose hill. The name of a town comprised of former plantation camps, a former hospital, elementary school, and cinder pit. (Pukui et al. 1974:202)
Wawau	"This name is probably cognate with an old name for Raʻi-ātea in the Society Islands, for an inland area at Vai-taha, Tahuʻata, Marquesas, and for Vavaʻu, and island in the Tongan group" (Pukui et al. 1974:229)

It is clear that the Hawaiian people of old were keen observers of their environment, and in addition to recognizing the unique features of the land, they recognized the unique features of the winds and rains. They understood that were distinct types, with different levels of intensity, duration, timing, sound, and direction, and they identified them as such through naming.

One of the most valuable repositories of Hawaiian wind names is a book called *The Wind Gourd of Laʻamaomao*, which is a translation of a traditional legend, compiled by Moses Kuaea Nakuina and published in 1902. The titular wind gourd was believed to contain all the winds of Hawaiʻi,

and they could be summoned by chanting their names. The name for the wind of Wailuku, as recited in an *oli* naming Maui and Molokaʻi's winds, is Iʻaiki (Nakuina 1990:55), which means "little fish" (Pukui and Elbert 1986:93).

The book *Hānau Ka Ua Hawaiian Rain Names* (Akana and Gonzalez 2015) contains many of the rain names that were recorded in newspapers from the 1800s and other primary source materials. Two rains associated with Wailuku are Kiliʻoʻopu and ʻUlalena. Kiliʻoʻopu is a species of grass whose stalks were used to string small fish, although it's not clear whether there's a relationship between this grass and this particular rain. It was a regional rain, and it appears in the following *mele ʻāina* (land song) for Maui:

He loa Puʻukoaʻe	Expansive is Puʻukoaʻe
He pāpāʻōlelo na ka makani	A conversation held by the wind
Makani lū ʻino i nā lehua o Kaukini	Wind that violently scatters the lehua blossoms of Kaukini
*Polipoli Pūlehu i ka ua **Kiliʻoʻopu** o Waiheʻe*	Pūlehu is polished by the **Kiliʻoʻopu** of Waiheʻe
Me ka ua nā māmala ʻino a ka wai	With the rain come hard strokes of the water
	(Akana and Gonzalez 2015:83)

ʻUlalena is a rain that's associated with various parts of Maui. It means "yellowish-red" (Pukui and Elbert 1986:367), so the name was likely inspired by a physical trait in the rain that the Hawaiians of old observed in different parts of Maui. As it relates to Wailuku, it appears in the following *mele mākaʻikaʻi* (travel chant) composed by someone named Kaleipaʻihala for Queen Emma, the wife of Kamehameha IV.

Pau ʻole koʻu mahalo i ka laulā o Kamaʻomaʻo	My admiration is endless for the expanse of Kamaʻomaʻo
Ka hālana maikaʻi a Keālia	The fine rising of the waters of Keālia
*Ka hemolele o ka ua **ʻUlalena***	The perfection of the **ʻUlalena** rain
Lena ka pua o ka māmane pala luhiehu i ka lā	Yellow are the blossoms of the māmane, soft and lovely in the sun
	(Akana and Gonzalez 2015:267)

Like traditional place names, *ʻōlelo noʻeau* (Hawaiian proverbs and poetic sayings) are another way by which the history and characteristics of Hawaiian places have been recorded and preserved. These expressions were often contained in *mele* (songs), *oli* (chants), and *kanikau* (lamentation chants that commemorate the deceased). In 1983, Mary Kawena Pukui published a volume of close to 3,000 *ʻōlelo noʻeau* that she had collected over a period of decades. For each,

she provides a literal translation along with some usage remarks that provide context and help us understand the deeper meaning being conveyed.

There is one *ʻōlelo noʻeau* that refers specifically to Kanahā, and it's connected to the history of Kanahā Pond, which functioned as a *loko iʻa* (fishpond).

> *Pākāhi ka nehu a Kapiʻioho.*
>
> The *nehu* of Kapiʻioho are divided, one to a person.
>
> Kapiʻioho, ruler of Molokaʻi, had two ponds, Mauʻoni and Kanahā, built on his land at Kahului, Maui. The men who were brought from Molokaʻi and Oʻahu to build the ponds were fed on food brought over from Molokaʻi. The drain on that island was often so great that the men were reduced to eating *nehu* [anchovies] fish, freshwater *ʻopae* [shrimp] and *poi.* The saying is used when *poi* is plentiful but fish is scarce and has to be carefully rationed.
>
> (Pukui 1983:284)

There are several more *ʻōlelo noʻeau* about Wailuku more generally. These next two relate to a famous battle that occurred in 1776 between the warriors of Kahekili, *mōʻī* (king) of Maui, and and of Kalaniōpuʻu, *mōʻī* of Hawaiʻi. The event is described in further detail below.

> *Ahulau ka Piʻipiʻi i Kakanilua.*
>
> A slaughter of the Piʻipiʻi at Kakanilua.
>
> In the battle between Kahekili of Maui and Kalaniʻopuʻu of Hawaiʻi, on the sand dunes of Wailuku, Maui, there was a great slaughter of Hawaiʻi warriors who were called the Piʻipiʻi. Any great slaughter might be compared to the slaughter of the Piʻipiʻi.
>
> (Pukui 1983:5)
>
> ...
>
> *Ke inu aku la paha aʻu ʻĀlapa i ka wai o Wailuku.*
>
> My ʻĀlapa warriors must now be drinking the water of Wailuku
>
> Said when an expected success has turned into a failure. This was a remark made by Kalaniōpuʻu to his wife Kalola and son Kiwalaʻō, in the belief that his selected warriors, the ʻĀlapa, were winning in their battle against Kahekili. Instead they were utterly destroyed.
>
> (Pukui 1983:184)

The next *ʻōlelo noʻeau* is an ominous invocation of defeat and relates again to the conflict between Kahekili and Kalaniʻōpuʻu:

> *Wehe i ka mākāhā i komo ka iʻa.*
>
> Open the [fishpond] sluicegate that the fish may enter.
>
> This was uttered by Kaleopuʻupuʻu, priest of Kahekili, after the dedication of the *heiau* of Kaluli, at Puʻuohala on the north side of Wailuku, Maui. A second invasion from Kalaniopuʻu of Hawaiʻi was expected, and the priest declared that they were now ready to

trap the invaders, like fish inside a pond. The saying refers to the application of strategy to trap the enemy.

(Pukui 1983:320)

Many Hawaiian places have historical nicknames or epithets, and the following *ʻōlelo noʻeau* is simply a regional nickname for this part of central Maui, a region comprised of four *ahupuaʻa* watered by four great streams:

Na wai ʻehā.

The four *wai*.

A poetic term for these places on Maui: Wailuku, Waiehu, Waiheʻe, Waikapū, each of which has a flowing water *(wai)*.

(Pukui 1983:251)

Double meaning is a common poetic device in the Hawaiian language, and this next *ʻōlelo noʻeau* takes advantage of the word "*luku*" in "Wai-luku," which can mean "destruction."

Pili ka hanu o Wailuku.

Wailuku holds its breath.

Said of one who is speechless or petrified with either fear or extreme cold. There is a play on *luku* (destruction). Refers to Wailuku, Maui.

(Pukui 1983:290)

The inspiration for this final *ʻōlelo noʻeau* is obvious for anyone who has visited Wailuku,nestled at the foot of Iao Valley:

Wailuku i ka malu he kuawa.

Wailuku in the shelter of the valleys.

Wailuku, Maui, reposes in the shelter of the clouds and the valley.

(Pukui 1983:319)

3.2 HE MAU MOʻOLELO NO WAILUKU I KA WĀ KAHIKO - TRADITIONAL STORIES FOR WAILUKU

Preserved in *moʻolelo* are fragments of Hawaiʻi's history before the introduction of writing in the 1820s. *ʻŌlelo Hawaiʻi* (Hawaiian language) was an oral language, and the stories of historical figures and events, as well as gods, deities, and unexplained phenomena, were passed on through memory and recitation for generations. Nineteenth century historians managed to capture and document some of these *moʻolelo* before they were lost.

3.2.1 The Origins of Kanahā and Mauʻoni

At one time, Kanahā pond functioned as a *loko iʻa*. In one of the *ʻōlelo noʻeau* above, a Molokaʻi chief named Kapiʻioho is credited with the pond's construction. There are other *moʻolelo* that attribute to the pond's creation, specifically its division into two ponds called Kanahā and

Mauʻoni, to a Maui chief named Kiha-a-Piʻilani (aka Kihapiʻilani), who ruled during the late-1500s.

In Kamakau's *Ruling Chiefs*, the ponds are mentioned in passing in a *moʻolelo* about the Keawenuiaʻumi, an *aliʻi nui* (high chief) of Hawaiʻi Island who ruled at the same time as Kiha-a-Piʻilani. The *moʻolelo* centers around Pākaʻa, a trusted *kahu* (honored attendant) to Keawenuiaʻumi (Kamakau 1992:36-46). Pākaʻa was an attendant of the highest caliber, and he was entrusted with many important duties. He had a deep understanding of the land, ocean, weather, and skies, which gave him the ability to *kilokilo* – to make forecasts based on observations of the environment.

Pākaʻa was Keawenuiaʻumi's favorite *kahu*, but one day, Keawenuiaʻumi made the mistake of replacing Pākaʻa as his head of navigation with two twin brothers who were also skilled in navigation and sailing. Pākaʻa was so offended that he abandoned his post by leaving in secret and hiding away in Molokaʻi. This *moʻolelo* is relevant for the purposes of this project background, because when Keawenuiaʻumi went searching for Pākaʻa, he paid a visit to Kiha-a-Piʻilani, the *aliʻi nui* of Maui, who happened to be working on the walls for a fishpond at Mauʻoni. Here is how Kamakau describes the brief but cordial meeting of chiefs:

> Keawe-nui-a-ʻUmi sailed from Hilo to Kapuʻekahi in Hana and from Hana to Kahului of Wailuku. There the chief of Hawaii met Kiha-a-Piʻilani, ruler of Maui. Kiha-a-Piʻilani was building the walls of the pond of Mauʻoni. A wide expanse of water lay between Kaipuʻula and Kanaha, and the sea swept into Mauʻoni. The two ruling chiefs met and greeted each other with affection. (Kamakau 1992:42)

The construction of Kanahā and Mauʻoni is also mentioned in a serialized account of Kiha-a-Piʻilani's life, written by a 19th century Hawaiian historian named Moses Manu and published in the Hawaiian language newspaper *Ku Okoa* between January 12, 1884 to August 23, 1884. Here is how the construction of Kanahā and Mauʻoni is depicted:

> Now when the King (Kihapiʻilani) completed his [trail-making] work in this area [in Hāmākua Loa], he moved and lived at Kahului, where he began the collection of stones for the *kuapā* (fishpond walls) of Manoni and Kanahā. He is the one who caused the water in those ponds to be separated, and given two names. The *kuapā* is still there to this day, but a large portion of it has been lost, covered under the sands flying in the winds.

3.2.2 Kahekili: Maui's Last King

Before the islands were united under the rule of Kamehameha I in 1810, for much of Hawaiʻi's history, the islands were ruled as independent kingdoms. The last king of Maui was named Kahekili-nui-ʻahu-manu (Kahekili). He ruled from 1766 until 1782. Kahekili was regarded as a fierce warrior and intelligent leader, and he was famous for his love of *lele kawa*, or cliff-diving. Maui basically had three seats of power throughout its history: Lāhainā, Hāna, and Wailuku; and Wailuku is where Kahekili seemed to have spent much of his life and rule. Kahekili's familiarity

with Wailuku, and the Nā Wai ʻEhā region more generally, is suggested in following passage from Kamakau:

> In the year 1765 . . . Kahekili was living at Pihana [the site of a *heiau* located on a ridge near ʻIao Stream], and at Pukukalo [may refer to Paukūkalo, an *ʻili* in Wailuku], and at Wailuku with the chiefs, and companions and favorites, and his warriors, Ka-niu-ʻula and Ke-poʻo-uahi. The chiefs of Wailuku passed their time in the surf of Kehu and Kaʻakau, those of Waiehu and Napoko in the surfs of Niukukahi and ʻAʻawa, while those of Waiheʻe were accustomed to amuse themselves in the surfs of Palaʻie and Kahahawai. (Kamakau 1992:83)

Kahekili is credited with building the *heiau* called Kaluli, which was located at Puʻuohala in Wailuku. The *heiau* was built in preparation for war between Kahekili and Kalaniʻōpuʻu, the *mōʻī* of Hawaiʻi Island, who had been infiltrating the southern and eastern coasts of Maui since coming to power in 1754. In Kahekili, Kalaniʻōpuʻu seemed to have met his match. Kamakau notes that the two warrior-kings fought regularly between 1775 to 1779 (Kamakau 1992:84). Kahekili landed an early victory against Kalaniʻōpuʻu when his army successfully beat back a raid on Kaupō in a battle called Ka-lae-hohoa. Undeterred, Kalaniʻōpuʻu returned to Hawaiʻi and made ready to retaliate by recruiting warriors from across Hawaiʻi Island and constructing two new *heiau*. Word of Kalaniʻōpuʻu's plans eventually got to Kahekili, who was then advised by his *kahuna* to have Kaluli built. According to Kamakau, after the *heiau* was consecrated, Kahekili's *kahuna* Keleopuʻupuʻu is said to have uttered the words that inspired the *ʻōlelo noʻeau* introduced above: *Wehe i ka mākāhā i komo ka iʻa* (open the sluice gate that the fish may enter) (Kamakau 1992:85).

Soon enough, Kalaniʻōpuʻu returned to Maui seeking vengence. Kamakau puts the date 1776 (Kamakau 1992:85), although Kuykendell suggests that it was later, after the arrival of Captain Cook in 1778 (Kuykendall 1938:31). This battle was known as Ahulau ka Piʻipiʻi i Kakanilua (Slaughter of the Piʻipiʻi at Kakanilua). Kalaniʻōpuʻu's men arrived on Maui's south shore between Honuaʻula and Maʻalaea. His warriors were divided into two regiments: the ʻĀlapa and the Piʻipiʻi. The ʻĀlapa were reputed to be extremely skilled at combat, especially in the use of weaponry. "There were 800 of them," Kamakau wrote, "all expert spear-point breakers, every one of whose spears went straight to the mark, like arrows shot from a bow, to drink the blood of a victim" (Kamakau 1992:85). Kalaniʻōpuʻu's ranks may have been stacked with fearsome fighters, but Kahekili had the strategic upper hand. His Maui warriors were aided by reinforcements from Oʻahu and Molokaʻi, and as the invaders approached Wailuku from the south, making their way across Waikapū, an area Kamakau called "the plains of Puʻuainako (Cane-trash-hill) and Kamaʻomaʻo" (Kamakau 1992:85), Kahekili orchestrated an ambush. Here is how Kamakau describes it:

> The great battle took place between Waikapu and Wailuku. Ka-lani-ʻopuʻu, who had supposed that the battle would be at Kakanilua, but Ka-hekili's men rose at dawn and occupied the sandhills of Kamaʻomaʻo, and a portion of them took their stand on the side toward Waikapu turn, so that the forces of Ka-lani-ʻopuʻu, who had supposed that the battle would be at Kakanilua, found a divided front from which spears, javelins, and other

> missiles poured like water. Death-dealing weapons poured down like a swift rainstorm beating the sides of the fisherman's canoe and agitating the surface of the sea like a cloudburst over the deep ocean. The terrified soldiers were surrounded and took to flight; they were driven by Ka-hekili's men like leaves before a whirlwind. (Kamakau 1992:87)

While the fighting was still in progress, Kalaniʻōpuʻū, sensing certain defeat, sent his son Kīwalaʻō to ask Kahekili to agree to a truce, which he did. Kalaniʻōpuʻu later returned to Maui, waged war across various districts, and succeeded in taking control of Hāna and incorporating it under his rule until his death in 1782.

3.2.3 The Battle of Kepaniwai

One of the most infamous battles in the Hawaiian history occurred in 1790 between Kamehameha and Kalanikupule. By this point, Kahekili, Maui's *mōʻī*, had expanded his territory by invading and conquering the island of Oʻahu, where he stationed himself at Waikīkī. In his absence, Kahekili put his son Kalanikupule in charge of Maui.

Kamehameha had not yet consolidated his rule of Hawaiʻi Island, but he had recruited the British sailors John Young and Isaac Davis as advisors and secured a stockpile of Western weaponry, including a cannon, which was nicknamed Lopaka (Hawaiian for Robert). Emboldened, Kamehameha made his move, landing his war party at Kahului where two days of fighting ensued. Kamakau states that had the two sides "fought face-to-face and hand-to-hand, as the custom was, they would have been equally matched" (Kamakau 1992:148). But the cannon tipped the scales in Kamehameha's favor. His army advanced aggressively, pushing their opponents into the narrow confines of ʻĪao Valley and firing their weaponry, dealing a bloody defeat to the Maui forces. This battle came to be known as Kepaniwai, which translates to mean, "the water dam" (Pukui et al. 1974:109), because the number of dead was so great that the corpses blocked the flow of Wailuku Stream.

Kamehameha's victory on Maui brought the island briefly under his rule, but he was forced to return to Hawaiʻi Island to quell an uprising. It was not until Kahekili's death in 1794, and the resulting scramble for power between his son Kalanikūpule and brother Kaeo that Kamehameha went on the offensive, leading his large and well-trained army on a war path. He conquered Maui, then Molokaʻi, and then Oʻahu, culminating in the famous Battle of Nuʻuanu in the spring or summer of 1795 (Kuykendall 1938:47). In 1810, a negotiation between Kamehameha and Kaumualiʻi, Kauaʻi's ruling high chief, resulted in the peaceful transfer of Kauaʻi's sovereignty to Kamehameha, uniting all of the islands under a single ruler (Kuykendall 1938:50).

3.2.4 Ka ʻOihana Mahi ʻAi a Wailuku – The Agricultural Traditions of Wailuku

More than anywhere else in Polynesia, in Hawaiʻi, planting and farming evolved into a highly sophisticated and systematic practice that played a central role in the development of culture and society. "Certain it is that the Hawaiians were primarily planters," stated Handy, "and that fishing was for them a supplementary rather than a basic means of livelihood" (Handy et al. 1991:77).

One reason for this is Hawaiʻi's topography and environment, which is distinguished by the presence of wide flatlands capable of irrigation and broad mountain slopes capable of supporting *ʻuala* (sweet potatoes) or dryland *kalo* (taro) fields. Hawaiʻi also has a climate that differs from elsewhere in Polynesia in that there is a clearer distinction between the summer and winter months. The lack of rain in the summer, for example, made it all the more necessary to establish a system of stream-fed irrigation. And the need to plant and harvest at very specific times during the year elevated agricultural practices in ways that dictated many other aspects of life in ancient Hawaiʻi.

Here is how Handy explains it:

> Planting was a universial occupation throughout Polynesia; but nowhere else was it a systematic and engrossing occupation to the extent that it was in Hawaii. Farming was a profession in Hawaii in a sense that it was nowhere else. In Tahiti, Samoa, and the Marquesas, taro, breadfruit, bananas, coconuts, and other foods were planted; but once planted they required little in the way of systematic cultivation. The Hawaiian farmer was engaged continuously in tending his crops of taro and sweet potato. (Handy et al. 1991:16).

Nearly all of the important food and material crops were introduced to Hawaiʻi by the early Polynesian settlers, what Handy referred to as the "Native Hawaiian horticultural complex" (Handy et al. 1991:13). These included *kalo* (taro), *ʻuala* (sweet potato), *uhi* (yam), *maiʻa* (banana), *kō* (sugar cane), *ʻulu* (breadfruit), *niu* (coconut), *wauke* (paper mulberry), *ʻawa* (kava), *ipu* (gourd), *kī* (ti), *pia* (arrowroot), *ʻolena* (turmeric), *ʻohe* (bamboo), and *olonā*. Only *olonā*, a shrub used for making sennit cord, is endemic to Hawaiʻi.

These, along with other wild but useful shrubs and trees, grew where they were best suited, and although Maui is the second largest island after Hawaiʻi, it has been theorized that of the four largest islands (Hawaiʻi, Oʻahu, Maui, and Kauaʻi), Maui ranked last in terms of areas cultivated (Handy et al. 1991:488). This is partly due to the island's unique geography.

Maui was formed by two volcanoes. Haleakalā reaches 10,023 feet in altitude and makes up the bulk of East Maui. The volcano that formed the West Maui Mountains, sometimes referred to as Mauna Kahalawai, is the older and smaller of the two with a height of 5,788 feet. This lower elevation means that the leeward side of West Maui is less dry than that of East Maui, where Haleakalā forces nearly all of the moisture brought in by trade winds to precipitate along its eastern slopes, which are very wet. But because it is younger and less eroded, Haleakalā has relatively fewer valleys that offer the kind of conditions suited for *loʻi* terracing. The older valleys of West Maui tend to be short, highly eroded, and lacking in quality soils, and they too are less than ideal for growing *kalo*. This may be why, according to Handy, Maui produced the least *kalo* in comparison to Hawaiʻi, Oʻahu, and Kauaʻi and had the smallest population (Handy et al. 1991:488), despite excelling in the production of *ʻuala*.

Nā Wai ʻEhā was one area, though, where *kalo* was extensively grown. The four streams of Waiheʻe, Waiʻehu, Wailuku, and Waikapū drain the eastward watershed of Puʻu Kukui and flow through terrain that was conducive to terracing. At one time, this region boasted the largest, contiguous band of wetland *kalo* cultivation in all of Hawaiʻi:

> From Waihee to Wailuku Valley, in ancient times, was the largest continuous area of wet taro cultivation in the islands. Today [the 1930s] the northern and southern slopes and the mouth of Waihee Valley are well cultivated, about a third of the old patches being used as commercial plantations, some worked by Hawaiians, some by Japanese, some by Portuguese. (Handy 1940:107)

In Wailuku, the city itself is built upon former terrace sites, and *kalo* was grown for miles into ʻIao Valley along the streambed. Handy notes that in the 1930s, former terraces were converted into houses, gardens, playgrounds, and roads for the plantation camps of the Wailuku Sugar Plantation (Handy et al. 1991:497). Some of the terraces throughout the four *ahupuaʻa* retained their agricultural purpose and were used for private and truck gardens, but many were destroyed in the process of converting the land to sugar plantations.

Kalo was Hawaiʻi's most important crop – superior to *ʻuala* (sweet potato), *maiʻa* (banana), and *ʻulu* (breadfruit), food crops that factor more heavily into traditional diets in other parts of Polynesia. There are at least two explanations as to why *kalo* was so favored in Hawaiʻi. First, it is central to one of the origin stories that the Hawaiian people have about themselves, a people who descended from a child born to the god Wākea and his human daughter Hoʻohōkūkalani. Their first son was born prematurely and died. He was named Hāloanaka (quivering long stalk). He was buried in the ground, and at the site of his burial grew the very first *kalo* plant. Their second son was named Hāloa in honor of his older brother, and from him descended the Hawaiian people. Birth order conferred certain duties and privileges, and the first-born child was considered superior and of a higher status than his or her younger siblings. So because Hāloanaka was the older brother, *kalo* was seen as deserving of reverence and respect from the descendants of Hāloanaka's younger brother, the ancestor of man.

A second reason for *kalo*'s predominance is that it has certain qualities that make it a more dependable and versatile food crop. Its cultivation requires longer growing periods and more complicated and labor-intensive farming methods, but when compared to *ʻuala*, *kalo* actually does better in a wider variety of altitudes, soils, moisture. Once cooked and pressed into hard cakes called *paʻi ʻai*, it will keep for long periods of time without spoiling. Even as *poi*, it lasts for days longer than mashed *ʻuala*.

Kalo was grown throughout Polynesia, Melanesia, and South-East Asia, but it was cultivated with an unmatched level of intensity and skill in Hawaiʻi, where there were at least several hundred varieties adapted for the various localities, soils, and terrain (Handy et al. 1991:79). There were two general types of planting: *kalo maloʻo*, or taro grown in rain-watered regions without

irrigation, and *kalo wai*, or taro grown alongside streams, ditches, and in flooded *loʻi* irrigated with flowing freshwater (Handy et al. 1991:90). *Kalo wai* was the preferred method of cultivation.

It was customary to use the banks surrounding the *loʻi* to plant other crops such as *maiʻa* (bananas), *kō* (sugarcane), *pia* (arrowrooot), and *kī* (ti) (Handy et al. 1991:94). Bananas were also sometimes planted in *loʻi* that had been drained of water and no longer used for growing *kalo*, and Handy has documented evidence of this having occurred in Wailuku (Handy et al. 1991:161-162).

3.2.5 Ka ʻOihana Lawaiʻa Wailuku – Traditional Fishing at Wailuku

ʻŌlelo noʻeau such as "Pakahi ka nehu a Kapiʻioho" remind us of the importance of fishing traditions in the area of what is currently known as Kahului in Wailuku. In *Ka hana lawaiʻa a me nā koʻa o na kai ʻewalu (A history of fishing practices and marine fisheries of the Hawaiian Islands)*, the testimony of a man named Kiha tell us that the two fishponds, Mauoni and Kanahā, upon the land of Wailuku, Maui, were cared for by his elder sister and brother (Kahāʻulelio 2006). He relays in this testament the history of stewardship in these fish ponds, noting that his siblings "were the ones who cared for the above mentioned ponds under Kamehameha First. When Kamehameha First died, they went to Auwae, then Naea was his replacement, the father of Queen Emma- wife of Kamehameha IV. And when he was finished, it went to Keahi. When he was done, it went to P. Nahaolelua, who is the Konohiki at this time" (Maly and Maly 2003:356). The fishponds, however, were left without stewardship at some point before 1884, when an article published in Nupepa Kuokoa states:

> Aia no keia kuapa ke waiho la a hiki i keia la ua nalowale kona hapanui i ka uhiia e ke one lele i ka makani
>
> kuapā is still there to this day, but a large portion of it has been lost, covered under the sands flying in the winds ("Ka Moolelo o Kihapiilani" 1884)

The history of Hawaiians stewarding fishponds is significant in the agricultural life of Hawaiʻi. The practice of maintaining *loko iʻa* was profound in Hawaiian history, where many people could be fed from a single food source. The fishpond Kanahā is a loko kuapā, a fishpond consisting of a seawall built out of rocks and other materials with sluice gates to let small fish in and keep large fish from getting out. According to a 1989 study, fishponds in Hawaiʻi "are unique aquaculture systems that exist throughout Hawaiʻi, and were developed to optimize natural patterns of watersheds, nutrient cycles, and fish biology" (Inc. 1989). The optimization of these ecological systems ranged from the incorporation of fresh water springs into the fish ponds, creating nutrient-rich brackish conditions for young fish to grow, to serving as a protective layer from tidal waves and other ocean related phenomena.

3.2.6 Traditional Ceremony and Religion

The spiritual lives of the people at Wailuku were assuredly complex and centered around a network of *heiau* or temples. At these *heiau,* offerings and prayers were made to the primary gods—Kū, Lono, Kāne, and Kanaloa—as well as lesser deities and *ʻaumakua* (ancestral gods).

Kamakau (1992) records that there are several *heiau* in the *ahupuaʻa* of Wailuku: Pihana, Kaluli, Malumaluakua, Olopio, and Malena. Sterling (1998) also notes another heiau in the ahupuaʻa, Halekiʻi. These *heiau* served various purposes, but of particular importance was the Pihana-Halekiʻi *heiau* complex. According to Yent (1983:7). Kamehameha's wife was born at the Halekiʻi *heiau,* and that Kahekili and Kekaulike– both former rulers of Maui and Oʻahu– had once lived at the same site. These *heiau*, thus, have historical significance to this area, and position Wailuku as an important site within Nā Wai ʻEhā as well as in the area of the *ʻĪao* settlement. Following the battle of *ʻĪao,* a battle between Kahekili and Kamehameha I in his efforts to unify the Hawaiian Islands, Pihana is also said to be the place where Kamehameha I evoked his war god, Kū. Both Pihana and Halekiʻi were associated with Kahekili from 1765 to 1790 and Kamehameha following his conquering of Maui in 1792.

According to Kamakau (1992), fishponds such as Paukukalo and Kanahā in Wailuku were guarded by *moʻo*, deified water spirits. Such stories were often deeply connected to the experience of Hawaiians of the time. Kamakau (1992) tells of the *moʻo* Mokuhinia, who had been seen on Maui "at Kapunakea, in Lahaina, and at Paukukalo and Kanahā in Wailuku; and...at Kalepolepo at the time that Kamehameha Kapuaiwa died." Indeed, in Wailuku and specifically Kanahā, the presence of *moʻo* signify not only a deep reverence for and sacredness of the place but also a deep *kuleana*, responsibility, to the place itself. This *kuleana* relationship involved a lifelong committment to caring for these *ʻaumakua,*where the *ʻaumakua* took care of the people who would take care of them. Kamakau (1992) further writes of the process of being "taken" by the gods at the time of death, that those with *kuleana* to a *moʻo* or another *ʻaumakua* would disappear at the time of their death, and their body would not be found. Thus, the presence of *moʻo* in Wailuku is notable and denotes an important cultural and historic context for the consideration of this study. In addition to the *heiau* where the people of Wailuku conducted ceremonies and rituals, the fishpond Kanahā and the surrounding area were under the protection of a *moʻo*, requiring with it a routine of ceremony, respect, and approach. Such protocols inevitably shaped the lives of the people in the *ahupuaʻa*.

3.3 WESTERN CONTACT AND 19TH CENTURY CULTURE CHANGE

In 1778, Captain James Cook of the British Navy made contact with Hawaiʻi as he led two ships, *Resolution* and *Discovery*, north from the Society Islands en route to North America. On this first encounter, the ships spent two weeks in the islands and visited Oʻahu, Kauaʻi, and Niʻihau while engaging in trade, principally of iron in exchange for food and water. The Hawaiian people treated the principal officers of these foreign ships as they would their *aliʻi* of the highest rank.

Eight months later, in the fall of 1778, Captain Cook returned to Hawaiʻi with the intent of spending the winter here. His ships arrived off the northern coast of Maui on the morning of November 26, and the next day, Kahekili, Maui's *mōʻī* at the time, paid a visit to the *Discovery* and gifted Captain Charles Clerke, in command of that ship, with an *ʻahu ʻula* (feather cloak). The ships remained off the coast of Maui until early-January before heading to Hawaiʻi Island, where

a dispute between the foreigners and the Hawaiians famously resulted in Cook's death at Kealakekua.

Eight years passed before any foreigners returned to Hawaiʻi. In 1786, and from that point on, one or more ships visited the islands every year. In May of 1786, the French explorer Jean-François de La Pérouse sailed past Maui and landed briefly on the island's south side, at Keoneʻoʻio in the *moku* of Honuaʻula, anchoring in the bay that now bears his name (La Pérouse Bay). He was the first European to set foot on Maui and spent one day ashore engaging in trade and exploring the area (Dunmore 1985:227). Accounts from this expedition suggest a relatively large and well-established community with ready access to resources:

> More than one hundred and twenty of them, men, women, and children had been out in their canoes since the crack of dawn and immediately offered to begin trading. Two of them, who seemed to be the men of authority, approached. They made a long, serious speech to La Pérouse, who did not understand a single word, and presented him with a pig, which he accepted. In return he gave them some medals, hatchets, and pieces of iron, which they valued very highly. By this generosity, the French succeeded in winning the friendship of the islanders.
>
> During his reconnaissance, La Pérouse saw four small villages of ten or twelve houses. These are made of grass and are covered with the same material. They have the same shape as the thatched cottages found in certain parts of France. The roofs are pitched on two sides, and the door, which is located on the gable end, is only three feet high, so that it is necessary to stoop when entering. The furnishings consist of mats, which like our carpets make a very neat flooring on which the islanders sleep. The only cooking utensils they have are gourds painted in various colors. Their cloth is made from the paper mulberry tree, but, although painted in a great variety of colors, it appears less skillfully made than the cloth of other South Sea islanders.
>
> When he returned aboard, the commander learned that Captain Clonard, his executive officer, had received a chief and had bought a cape and a fine red helmet from him; he had also acquired more than one hundred pigs, some bananas, yams, taro, mats, and various small objects made of feathers and shells. (Jean-François de Galaup 1969:24-25)

3.3.1 1800-1840 – New Aspects of Trade, Religion, and Demographics

From circa 1790, the population of foreigners residing in Hawaiʻi began to grow, slowly at first, but their presence brought new customs and practices, new ways of organizing land and labor, new technologies, new threats and, for a few, new opportunities. Wailuku, as elsewhere in Hawaiʻi, felt the effects of these changes in large and small ways.

3.3.1.1 The Beginnings of Trade and Commerce

For the better part of two decades, beginning in 1800, the fur trade established a network of American ships traveling between China, Alaska, and up and down the North American west coast. Hawaiʻi became a critical outpost in this trading network, a place where ship captains could restock their food, wood, water, and salt provisions. Around 1820, whaling added to, and then supplanted, the demand for goods that came in through the fur trade.

The whaling trade lasted for much of the 19th century and peaked in 1846. Whaling ships used Hawai‘i as a stopover between the United States and Japan, where whales were hunted primarily for their blubber, which was processed into whale oil and used for heating, lighting, and as an industrial lubricant. Each spring and summer, hundreds of whaling ships would arrive and spend months at a time in Lāhainā and Honolulu.

Whaling ship crews hailed mostly from New England, and their desire to eat foods that were familiar influenced what some farmers planted on Maui and O‘ahu. Most notably, the American whalers’ appetite for white potatoes led to its extensive cultivation in Kula, where it grew especially well. In fact, the ready supply of white potatoes on Maui, among other fruits and vegetables, is one reason why whaling ships preferred Lāhainā over Honolulu. Here’s an excerpt singing Lāhainā’s praises from an article published in the *Pacific Commercial Advertiser* newspaper on February 12, 1857:

> To whale ships no port at the islands offers better facilities for all their business (with the exception of heavy repairs) than does Lahaina. As it is on this island, and but a short distance that the extensive potato fields are located that have furnished an almost inexhaustible supply for many years, and also the large sugar plantations from which the best sugar and molasses are procured, and fine herds of cattle which dress up better, than any beef slaughtered for market that can be produced on the group.

3.3.1.2 The Early Missionary Influence

The operations of American traders in the Pacific attracted the attention of New England missionaries, who first arrived in Hawai‘i in 1820. Their primary objective was to convert the Hawaiians to Christianity, and they happened to arrive just months after the dismantling of the pre-existing religious order under the *kapu* system. Mission stations were established across the islands; Wailuku’s came in 1832. To help facilitate their religious teachings, soon after arriving in Hawai‘i, the missionaries introduced a uniform orthography for the Hawaiian language and printing technology that quickly made reading and writing commonplace throughout the Hawaiian Kingdom (Kuykendall 1938:101-102).

The missionaries saw themselves as a civilizing force, a counterweight to a culture they saw as barbarous and a people vulnerable to the corrupting influences of whalers and traders, so education became one of their chief concerns. With the support of the *ali‘i*, the missionaries began to establish schools throughout Hawai‘i in 1824, and hundreds of them sprung up in a matter of years (Kuykendall 1938:106). Most schools were very simple, and with few instructional materials available, lessons consisted of spelling and reading in the Hawaiian language, and classes were populated mostly by adults (Kuykendall 1938:107). By the 1930s, the educational focus turned towards children. In 1835, Maui’s Governor Hoapili issued an edict requiring all children on Maui over the age of four to be enrolled in school (Kuykendall 1938:110), and in 1837, a children’s school was started in Wailuku with an enrollment of 245 students ("Report of the Wailuku Station" 1837:5).

Investments in teacher training and permanent schoolhouses with greater experimentation in academics, including manual and industrial education, also began in the 1930s, and the founding of Lahainaluna Seminary in 1831 is a pioneering example (Kuykendall 1938:111). Other missionary-established schools soon followed, and they included the Wailuku Female Seminary, which was founded in 1837 by Reverend Jonathan S. Green, pursuant to a resolution adopted at the 1836 General Meeting of the Sandwich Islands' Mission, as reflected in the following excerpt from the meeting minutes:

> That in order to secure the greater amount of influence of the students of the High School eventually in favor of civilization and christianity, corresponding efforts should be made to raise the character of the females of the country, and to train up in a special manner suitable companions for them who may take part with them in giving an elevated and consistent character to the nation which it can never possess without the aid of an extensive salutary female influence, Resolved, That a Central Female Boarding Seminary be established at Wailuku, and that Mr. and Mrs. Green be requested to take charge of it, and that Miss Brown be requested to assist them in teaching the domestic arts; and that the ladies of the mission generally, be requested to give special attention to the education and formation of character of female children and youth. (*Extracts from the Minutes of the General Meeting of the Sandwich Islands' Mission, Held at Honolulu, June and July, 1836* 1836:11-12)

It was a boarding school, comprised of a dormitory, two-story seminary building, a stone cookhouse, and a teacher's cottage, all on the grounds of the Wailuku mission. The students were mostly taught by one of two female instructors, Miss Lydia Brown and Miss Maria Ogden, who were recruited for their knowledge of both academic subjects and the domestic arts (Beyer 2003:98). One of the school's objectives was to prepare the girls for marriage to their male counterparts at Lahainaluna, and so special attention was paid to shaping their development as wives and mothers in the American missionary mold (Beyer 2003:99). In 1849, the school was converted into a co-educational day school and operated more like a private, tuition-based school until 1858, when it was forced to close due to financial difficulties (Beyer 2003:100).

3.3.1.3 The Foundations of the Sugar Industry

Farming as a commercial enterprise was a foreign concept. The Hawaiian people were indeed expert in the ways of farming Hawaiian land, but there was never a profit motive; the notion of a "market" or "marketplace" did not exist. Growing, gathering, hunting, fishing, and making things for oneself and one's *ʻohana*, supplemented by practices of gifting and exchange, defined the economy of pre-contact Hawaiʻi.

It took some time for the economic principles and policies that would later enable the development of industrial agriculture to take root. Trade with European and American ships familiarized the Hawaiian people with notions of supply and demand. Kamehameha recognized the value of trade, and he engaged in it himself. He understood, for example, that a monopoly on pork or sandalwood could command higher prices, and yet he also endeavored to ensure that deals were fair and faithfully executed (Kuykendall 1938:83).

Hawaiʻi first true export was *ʻiliahi*, a native sandalwood that American traders collected in Hawaiʻi, usually in exchange for various foreign goods, and sold in China (Kuykendall 1938:86). The sandalwood trade grew in importance after the War of 1812. Kamehameha maintained a monopoly over the trade, and under his orders, the wood would be cut, gathered, and transported to the ships. Relying on large populations of *makaʻāinana* (commoners) to gather wood meant that there would be no one to farm or fish, and whole communities risked going hungry. And so, according to Kamakau, Kamehameha tried to balance a desire for sandalwood, which enabled the purchase of items such as ships, and the needs of his people to farm and fish for their livelihoods (Kuykendall 1938:88-89).

Kamehameha's restraint eased Hawaiʻi into the new rules of commerce, but after his death in 1819, his son and successor Liholiho allowed other *aliʻi* to engage in the trade of sandalwood, and the results were disastrous. These *aliʻi* embarked on a spending frenzy, facilitated by American traders promoting all manner of foreign goods and luxuries and paid through the labors of the *makaʻāinana* who were ordered to go into the mountains and gather the wood. By 1829, just ten years after Kamehameha's death, the *ʻiliahi* trees had grown scarce, and the trade in sandalwood dried up (Kuykendall 1938:92).

The search for new sources of industry began thereafter, encouraged by the American missionaries, certain members of the *aliʻi* class, and Westerners who saw the economic potential of Hawaiʻi's natural resources. Sugar did eventually become the commodity of choice, but it took decades for the sugar plantation business model to develop.

Kō, or sugarcane, arrived with the first Polynesian settlers; it was one of over a dozen so-called "canoe crops" that provided the essential building blocks of life in early Hawaiʻi. *Ōpū kō* (clumps of cane) were generally found around homes, in garden plots, and along the banks of *loʻi* (taro ponds). It was a subsistence crop for the Hawaiians, who used it for a wide range of applications: from food, to decoration, to medicine and ceremony, even the formulation of tattoo ink. Dozens of native varieties of *kō* developed over the centuries of pre-contact cultivation in Hawaiʻi.

It has been reported that sugar was first milled in Hawaiʻi by a Chinese man named Wong Tze Chun in 1802 on Lanaʻi (*Wailuku Sugar Company Centennial, November 1862 - 1962: A Century of Progress in Sugar Cane Cultivation* 1962:41). Years later, in circa 1823, members of the Lāhainā Mission Station began to process sugar from native sugarcanes for their household use. This was the same year that a Chinese man named Hung Tai is reported to have constructed and operated Wailuku's first mill (*Wailuku Sugar Company Centennial, November 1862 - 1962: A Century of Progress in Sugar Cane Cultivation* 1962:41).

The first permanent sugar plantation was established at Koloā on Kauaʻi in 1835 (Kuykendall 1938:176). Previous attempts had been made at growing and processing sugarcane at scale, but they were not successful. From Kauaʻi, other sugar establishments on Maui and Hawaiʻi were

started through the 1840s and 1850s, and they laid the groundwork for a powerful industry that would transform major aspects of Hawaiian society by the century's end.

Between 1835 and 1840, Kuykendall states that, "a great many sugar mills were set up in various parts of the kingdom, being especially numerous on Maui, Oahu, and Kauai" (Kuykendall 1938:180). One of these included a mill belonging to King Kamehameha III and built in Wailuku sometime in 1839-40 (MacLennan 1995:36). The missionary Richard Armstrong gave a brief explanation of operations in his 1839 station report:

> [T]he King has given out small lots of land, from one to two acres, to individuals for the cultivation of cane. When the cane is ripe, the King finds all the apparatus for manufacturing & when manufactured takes the half. Of his half one fifth is regarded as the tax due to the aupuni (government) & the remaining four fifths is his compensation for the manufacture. These can cultivators are released from all other demands of every description on the part of chiefs.
>
> So far the concern works well – of its success and beneficial tendency there can be no question. A few individuals, perhaps 3 or 4, who entered into the arrangement, have proved to be unfaithful, partly owing perhaps to inveterate habits of indolence & partly to an impression that the King will not fulfil [sic] his engagement. A serious difficulty has been to get seed cane & on this account some have failed to plant all their land in the proper season, having first to purchase the *pulapula* [seed cane] & then carry it on their backes [sic] several miles, but with all this difficulty about 80 acres have been planted & is growing beautifully. (Armstrong 1839:7)

The venture was short-lived and was beset by problems that were completely novel for the time. In fact, many of the sugar plantations and mills started between 1840 and 1860 failed, and in her survey of these early ventures, Maclennan identified at least two common issues (MacLennan 1995:48-53). The first was that it cost a lot of money and manpower to establish a commercial sugar operation, and capital was not readily available at the time. The second issue stemmed from inefficiencies in the production chain. Almost nobody, not even the Americans, had any technical knowhow in manufacturing sugar on an industrial scale, so only through costly trial-and-error was progress made. The mills themselves relied on crude technology, and poor coordination between the sugar processing and harvesting functions created waste. All of this drove up the cost of doing business and made it all but impossible to survive for more than a few years.

Some of the sugar from the King's Wailuku mill managed to make it to market, as evidenced by a newspaper advertisement in 1841, promoting the sale of white sugar from a Wailuku plantation under the name of Hung & Co. It's not clear exactly when the business folded. In February of 1847, a letter from the missionary Jonathan S. Green, published in the English-language newspaper *The Polynesian*, mentioned the sugar enterprise, which by then was no longer operating. His letter also provides us with a broader picture of Wailuku at this time:

> The sugar making experiment at Wailuku has, you are aware, proved a failure. This ought not to have been, and need not have been. Why it proved a failure, I need not, in this place, inform you. There is nothing in the shape of sugar cane now to be seen in the place [of Wailuku]. Still there are many indications of industry and thrift. I have not for a long time seen the valley so well cultivated with *kalo*, which is the staple production of Wailuku. I was happy to see also that several of the people have obtained cattle. Some of them are beginning to make butter, which they sell chiefly to foreigners. Others have oxen and carts, with which they carry their surplus food to the bay, whence it is taken by canoes to Lahaina. The people have of late been making adobie [sic] fences around their cultivated lands. If they complete this work and do it well, they will be able to raise a large amount of food. Coffee would do well in the mouth of the valley, could the cattle be kept out of the plantations. Some has been raised already, and at Waikepu [sic] is cured yearly a considerable quantity.
>
> It is worthy of notice also, as a token for good, that more attention than formerly is being paid to the mechanic arts. . . . There are also two blacksmiths and one or two shoemakers in the place, who, though not accomplished workmen, can nevertheless do plain work, and may thus be measurably useful. (Green 1847)

3.3.1.4 The Collapse of the Hawaiian Population

One of the more consequential aspects of this period was a quickening decline in the population of Hawaiians, which had begun with the arrival of Cook in 1778. The mid-1830s was a period with one of the highest rates of relative decline in Hawaiʻi's history. Death, infertility, and infant mortality brought on by introduced diseases like syphilis, gonorrhea, whooping cough, influenza, and other respiratory ailments were largely to blame. In addition to disease, some population loss came from the hundreds of Hawaiians who joined whaling ship crews and either emigrated to the U.S. or perished at sea (Schmitt 1973:16). According to the historian Seth Archer, "Hawaiʻi was home to half a million people in the eighteenth century. By 1850, the population had been reduced by as much as 90 percent" (Archer 2018:2).

The first large-scale population counts were conducted by the missionaries, first in 1831-1832 and then again in 1835-1836, and these were followed by government-conducted censuses, with the first reasonably complete and accurate count not occurring until 1850 (Schmitt 1973:2-3). The population of Wailuku in 1831-1832 was 2,256 out of a total of 35,062 for the island of Maui (Schmitt 1973:18). Less than five years later, the population of Wailuku had shrunk by roughly 40 percent to 1,341 (Schmitt 1973:36).

3.3.2 1840-1851 – The Māhele

The Māhele reformed Hawaiʻi's traditional system of land tenure, from one where the chiefs and people held the land in common, to one of private ownership modeled off of Western land regimes. It was a multi-part process that began in 1845 with the establishment of a Board of Commissioners to Quiet Land Titles, also known as the Land Commission. Those who intended to secure rights or title to any lands would submit their claims to the five-member Land Commission Board. The Board would then determine the validity of those claims and issue a Land Commission

Award (LCA) to successful claimants (Chinen 1958:8-9). Upon payment of a commutation fee to the government, a Royal Patent would be issued, perfecting title to the land (Chinen 1958:21).

The actual land division, or *māhele*, began in 1848. It required an initial process of clarifying and separating out the respective property interests of the King, the chiefs and *konohiki* (*ahupuaʻa* managers), and the native tenants or *hoa ʻāina* (Chinen 1958:15). The intent was for the King (Kamehameha III) to retain his own individual lands (known as the Crown Lands), and for the remaining lands to be divided into thirds and entitled to the government, the chiefs and konohiki, and the native tenants (Chinen 1958:15-16). These three land categories have been classified as as Government Lands, Konohiki Lands, and Kuleana Lands respectively.

This *māhele* (division) between the King and more than 240 chiefs and *konohiki* occurred between January and March of 1848. In what's called the *Buke Mahele* (Mahele Book), the chiefs and *konohiki* surrendered all interests in any lands the King wanted to retain, and the King did the same with any lands that they wanted to retain. The *aliʻi* and *konohiki* claims were typically for the entire *ahupuaʻa* or smaller, whole subdivisions within *ahupuaʻa*. Van Dyke clarifies that, "[t]hese agreements did not confer legal title but merely extinguished the rights of each party in the land of the other" (Van Dyke 2008:44). The *aliʻi* still had to go through the Land Commission process and pay the commutation fees in order to receive Royal Patents. Commutation fees were usually paid in land, at a rate of one-third of an awardee's total award, and placed into the inventory of Government Lands (W. D. Alexander 1890:114).

At this phase in the Māhele, the *ahupuaʻa* of Wailuku was retained by Kamehameha III, except for various *ʻili* within Wailuku that were quitclaimed to other *aliʻi* (Buke Mahele 1848:204). These *aliʻi* were Queen Kalama (the wife of Kamehameha III), Victoria Kamāmalu, and William Charles Lunalilo. To Queen Kalama went the *ʻili* of Kaʻohe, Puhiawawa, Lemukeʻe, Puʻuohala, and Mānienie (Buke Mahele 1848:147). To Kamāmalu, the *ʻili* of Kalua (Buke Mahele 1848:4). And to Lunalilo, the *ʻili* of Peʻepeʻe (Buke Mahele 1848:22). None of these *ʻili* were within the project area, and so the lands within the project area were included in the greater Wailuku *ahupuaʻa* that had been retained by Kamehameha III and became Crown Lands.

The distinction between Crown and Government Lands is an important one. From their inception, they were regarded as separate and distinct classifications of property. Crown Lands were defined as the:

> … private lands of His Majesty Kamehameha III., to have and to hold for himself, his heirs and successors forever; and said lands shall be regulated and disposed of according to his royal will and pleasure subject only to the rights of tenants. (Kingdom of Hawaii 1848)

At the death of Kamehameha III, the Crown Lands passed to Kamehameha IV. But at the death of Kamehameha IV, there was no immediate heir to the throne, which created some confusion as to the inheritance of Crown Lands and whether or not it followed the family line or the throne. It was decided by the Supreme Court that under the confirmatory Act of June 7th, 1848, "the

inheritance is limited to the *successors* to the *throne*, . . . the wearers of the crown which the conqueror had won," and that at the same time "each successive possessor may regulate and dispose of the same according to his will and pleasure as private property, in the manner as was done by Kamehameha III" (W. D. Alexander 1890:121).

In contrast to the Crown Lands were the Government Lands, which were defined and set aside in a manner more typical of public lands. They were defined as:

> … those lands to be set apart as the lands of the Hawaiian Government, subject always to the rights of tenants. And we do hereby appoint the Minister of the Interior and his successors in office, to direct, superintend, and dispose of said lands, as provided in the Act … (p)rovided, however, that the Minister … shall have the power, upon the approval of the King in Privy Council, to dispose of the government lands to Hawaiian subject, upon such other terms and conditions as to him and the King in Privy Council, may seem best for the promotion of agriculture, and the best interests for the Hawaiian Kingdom … (Kingdom of Hawaii 1848)

In designations of lands as either Crown or Government, and through all awards of whole *ahupuaʻa, ʻili*, and later land sales to foreigners, the rights of the native tenants were expressly reserved: "*Koe na Kuleana o Kanaka"* (Reserving the Rights of Native Tenants) (W. D. Alexander 1890:114). For the native tenants, it took the passage of the Act of August 6, 1850, commonly known as the Kuleana Act, to facilitate the process of taking title to their own landholdings, which became known as Kuleana Lands. The Act waived the commutation fee, although a survey was still required. The native tenants were permitted to make claims for any lands that they actually cultivated and were required to provide evidence of such through testimony, and claims often included multiple *ʻili*, or *ʻāpana* (land parcel), located both *mauka* and *makai.* Kuleana Land claims were presented to and heard by the Land Commission.

In Wailuku, there were over 180 Kuleana Land claims, and many of these claims were for multiple ʻ*āpana*. Many of these Kuleana Lands were clustered close together in the *mauka* and *kula* regions of Wailuku where *kalo* had historically been grown. There were no claims in the vicinity of the project area. The nearest Kuleana Land claims are in the Paukūkalo coastal area, where kalo was grown and could be watered by the ʻIao Stream and where at least one claimant maintained *loko iʻa*.

3.3.3 1850-1900 – Sugar Becomes King

By the 1850s, the development of a commercial agriculture industry was a goal shared by many. The missionaries viewed it as a means of further molding the Hawaiian people into something that reflected their own ideal of the land-holding, industrious, civilized, New England yeoman farmer (MacLennan 1995:35). King Kamehameha III (Kauikeaouli) and his advisors had also taken up the charge, and the King's interests reflected a desire to see the his nation and people achieve greater independence and strength.

At this moment in time, sugar was just one of many commodities being produced in Hawai‘i for several different markets. Crops like wheat, kalo, and rice were grown for domestic consumption (wheat, poi, rice). Demand for potatoes, vegetables, sugar syrup, and molasses came from the Pacific trading ships. And then there was sugar, *pulu* (tree fern wool used as pillow and mattress stuffing), goat skins, and coffee, which were exported to places like China, Oregon, and California.

3.3.3.1 Wailuku's Transition Towards Sugarcane

Sugarcane and sugar production started to gain predominance in the two decades between 1860 and 1880, which Maclennan identifies as "the link between the earlier failed commercial plantations of mid-century and the powerful industrial plantations that dominated the landscape when Hawai‘i lost its independence" (MacLennan 1997:97).

A number of factors provided fuel to Hawai‘i's fledgling sugar industry during this period, turning it from an incidental crop to the dominant agricultural commodity. For one, there was the Civil War in the United States, which brought sugar production in Louisiana to a halt and created an opening in the market for Hawaiian sugar between 1860 and 1866 (MacLennan 1997:99). The whaling industry, which had peaked in 1846, was in decline, and the slowdown in demand for other agricultural goods like potatoes and various vegetables concentrated interest and investment around sugar. Innovations in agricultural technology, production capacity, financing, and operations management helped a new class of sugar planters overcome some of the problems that brought down their predecessors (MacLennan 1995:54). Momentum was further supported by the Hawaiian government, whose need for income led to decisions around immigration and foreign trade policy, the sale and lease of Government and Crown Lands, and investment in infrastructure that were designed to bolster industrial sugar (MacLennan 1997:100).

Wailuku is one of the regions where this second wave of sugar cultivation began. What made it attractive as a sugar-producing region (which included Waihe‘e and Waikapū) are the same reasons that made it a premier *kalo*-growing region: a good supply of water and a topography that could support large irrigated canefields (MacLennan 1997:102). Wailuku Sugar Company was organized in 1862, and the following station report, written by the missionary William P. Alexander, is from the same year and helps us see the economic transition taking place:

> The fields have been fruitful & the herds have yielded increase & yet the people of Wailuku, who are both pastoral and agricultural, have complained more of pecuniary destitution than ever before. Although their two staple products *kalo* & beef have yielded abundantly, the market has failed them. Hitherto they found a ready market for these in the great sugar plantations of Makawao & the irish potatoe [sic] fields of Kula, a continued draught [sic] for three successive years has greatly crippled the former & the latter have been almost abandoned, because whaleships ceased to come & purchase their crops.
>
> This has left the people without the means to pay their taxes or accomplish anything that required money. Necessity has been laid upon them to produce something in exchange for which they could find a market & I doubt not the embarrassment they now suffer will lead to

> a much more prosperous condition. Some have commenced the culture of rice & others of sugar cane & there is a general disposition to enclose their lands with substantial fences.
>
> We have two small sugar mills now in the field & another with superior machinery is being erected, some capitalists are making arrangements to erect a fourth. We also have two flour mills, whose machinery is carried by water power, for manufacturing the wheat of East Maui, one of which is being greatly enlarged and improved. All these things tend to increase the motives for active industry. May we not expect the people will become more thrifty – more virtuous & more godly? (W. P. Alexander 1862:1)

The missionaries viewed the burgeoning sugar industry as a positive development, but there is evidence that for some Wailuku residents, sugarcane posed a threat. On March 16, 1865, for example, the Hawaiian-language newspaper *Ka Nupepa Kuokoa* reported that Wailuku's sugarcane fields were set on fire by "the evil-hearted, without any affection for the sugarcane fields" (*"kekahi mea naau lokoino aloha ole i ua mala ko nei*") ("Pau i ke Ahi! Pau i ke Ahi!" 1865).

In January of 1866, someone by the name of S. D. Hakuole wrote a letter to the newspaper *Ka Nupepa Kuokoa*, lamenting the increasing cultivation of sugarcane, which, he explained, induced foreigners to dry up former *loʻi* and which he feared would hasten the disappearance of *poi* from the Hawaiian people's diets:

AUWE! PAU WAILUKU I KA MAHIKO. – Ua hiki mai ma ko makou nei keena hana, he palapala na S. D. Hakuole, o Kula, Maui, e hai mai ana i ka pau loa o ka aina o Wailuku i ka mahina i ke ko. A ke hai hou mai nei no ke hoomaloo ia nei na loi kanu kalo e na Haole, i wahi e kanu ai i ke ko. A ke makau nei oia e pau ana ka ai ana o na kanaka oia wahi i ka ai ana i ka poi, a e ai wale aku ana no paha i ka balena oolea polea hoeha niho, a palaoa mama e maona ole ai na kanaka Hawaii. Oiai ua maa na kanaka i ka ai i ka poi.	DESPAIR! WAILUKU IS BEING DESTROYED BY THE SUGAR PLANTATION! – A letter by S. D. Hakuole, of Kula, Maui arrived at our office, he was declaring that the land of Wailuku is being lost due to the cultivation of sugarcane. Furthermore, he states the current condition of once cultivated taro patches being dried up by the foreigners, where they are now planting sugarcane. Also, he fears that Hawaiians of that place will no longer be able to eat poi, and that there will probably only be hard crackers which hurt the teeth when eaten, a cracker to snack on but does not satisfy the hunger of the Hawaiian people. Although, let it be known that the Hawaiian people were accustomed to eating poi. ("Auwe! Pau Wailuku i ka Mahiko" 1866)

By 1867, 2,250 acres of land in the Waikapū-Wailuku-Waiheʻe region were planted in cane (MacLennan 1997:102). The industry was supported by a relatively large workforce of foreigners, several different mills, a number of independent growers, and the potential to purchase land through government land sales (MacLennan 1997:102).

By the early-1880s, there were three plantations operating in Wailuku (Wailuku Sugar Company, Bal & Adams, and E. Bailey & Son), and they irrigated their fields with water from Wailuku River by diverting it through three ditches: Kalani ʻAuwai, Kama ʻAuwai, and Malukaheka ʻAuwai (a.k.a, Kaupoli or Mill Stream) (*Wailuku Sugar Company Centennial, November 1862 - 1962: A Century of Progress in Sugar Cane Cultivation* 1962:19).

Another article from the newspaper *Ka Lāhui Hawaiʻi* lamented the continuing loss of Wailuku's taro-growing lands to sugar:

NA LOʻI KALO – O Wailuku ke kahawai i palahalaha no ka mai kalo ana, no ka mea, he nui na kau papa loi, mai kai mai o Nehe, a komo i uka o na pali o Iao. I keai wa nae, ke hookamaaina maila ke ko, ma kahi o ke kalo, a ke ne mau maila ke ko e hoopiha i na loi. Me he mea la, he mau makahiki hou aku i koe, e pau loa ana paha na loi kalo, a he ko wale no. Elua no nae kumu e koe ai ka aina aole paa i ke ko. 1. O ke aloha i ka poi kalo, ka ai makuahine o keia aina. 2. O ke aua i ka aina taro, aole e kuai a hoolimalima aku me ka haole.	THE TARO PATCHES – Wailuku is the river that is spread out for the farming of taro, because, the taro patches are many, from the ocean of Nehe, entering the cliffs of ʻĪao. However, in this period of time, the sugar is becoming acquainted with instead of taro, and sugarcane is nagging to fill the taro patches. It is as if there are a few years left and all the taro patches will be gone and there will only be sugarcane. There are two reasons remaining as to why the land should not be filled with sugarcane. 1. Love for poi from taro, the mother food of this land. 2. The withholding of taro land, not to be sold or leased to the foreigner. ("Na Loi Kalo" 1876)

3.3.3.2 Claus Spreckels

Claus Spreckels was a wealthy businessman from San Francisco. He was born in Germany on July 9, 1828 and emigrated to the United States in the 1840s. He achieved early success in the grocery business before venturing into the business of refining sugar. Spreckels arrived in Honolulu in 1876 during the third year of King Kalākaua's reign, shortly after the Reciprocity Treaty between the United States and the Kingdom of Hawaiʻi went into effect. The treaty provided for duty-free admission of select commodities, sugar being the most important one, from Hawaiʻi into the

United States. At first, Spreckels opposed the treaty, but once passed, he wasted no time in looking for ways to profit from Hawai‘i’s new trade advantage.

On his first trip to Hawai‘i in the fall of 1876, Spreckels paid a visit to Maui, where Samuel T. Alexander and Henry P. Baldwin were in the early stages of constructing the 17-mile Hamakua Ditch, which was designed to bring water from the northeastern slopes of Haleakalā, between Honopou and Nā‘ili‘ilihaele streams, to irrigate the fields of Haiku Sugar Plantation (Wilcox 1996:55). Having laid eyes on Maui’s expansive but underutilized central plains, which he rightly guessed could be irrigated with water drawn from Haleakalā’s streams, Spreckels set a plan into motion that would lead to his acquisition of thousands of acres of land in Wailuku along with the the necessary water rights.

Spreckels was an outsider whose wealth and ambition accelerated his influence in Hawai‘i, but he was also unscrupulous in his dealings, and evidence of corruption can be found in some of his water and land acquisitions. For example, on June 24, 1878, Spreckels petitioned King Kalākaua and his cabinet of ministers for a water lease at $500 per year, which was executed two weeks later on July 8, 1878, at around the same time, Spreckels gifted Kalākaua $10,000 and a $40,000 loan that was intended to refinance Kalākaua’s higher-interest debts (Adler 1966:39-41).

Spreckels land deals were similarly suspect. He did execute a straightforward purchase an undivided half-interest in 16,000 acres from Henry Cornwell for land in Waikapū, which Cornwell bought from the government in 1875. But he managed to convert his lease of 24,000 acres of Crown Lands into fee simple ownership through a scheme that involved the *ali‘i* Ruth Ke‘elikōlani, a Kamehameha descendant, and her claim of an interest in the all of the Crown Lands. Ke‘elikōlani asserted that as a Kamehameha descendant, she had inherited a half-interest in the entire inventory of Crown Lands, which a Spreckels biographer named Jacob Adler estimated to be worth $750,000 (Adler 1966:53). In 1880, Spreckels paid her just $10,000 for a quitclaim deed that transferred her claim to Spreckels, a claim that Van Dyke concludes, “did not appear to have had any legal value whatsoever” (Van Dyke 2008:102). Spreckels used a perceived threat of litigation as leverage to force the passage of a bill by Hawai‘i’s legislative body that conveyed the 24,000 acres of Crown Land in Wailuku, which included the the lands that comprise the project area, in exchange for a quitclaim in which Spreckels relinquished any future claims in the Crown Lands (Adler 1966:64).

By this time, Spreckels was deeply invested in his plantation. His first ditch, the Haiku Ditch, cost $500,000 and was completed within a year, in 1879. It drew water from East Maui, starting at Honomanu stream, and carried it across a span of 30 miles towards Kīhei (Adler 1966:49). In 1882, Spreckels built a second ditch, known as the Waihe‘e Ditch, that tapped the waters of West Maui, from Waihe‘e, Wai‘ehu, and Wailuku streams (Adler 1966:49).

The sugar plantation was known as Spreckelsville, and it was controlled by Hawaiian Commercial and Sugar Company (HC&S Co.), a California corporation that Spreckels formed in 1882 (Adler

1966:69-70). Spreckels' deep reserve of resources and expertise translated into Spreckelsville's rapid success, and the plantation was an early adopter of various innovations that quickly made it one of the largest plantations in Hawai'i (Figure 3-3). Its growth, in turn, fueled the development of the region more generally, including Kahului and its port, which had only just become a port of entry in 1878 (Adler 1966:72). Adler writes that in 1892, "the plantation was called 'the largest plantation in the world'" (Adler 1966:72).

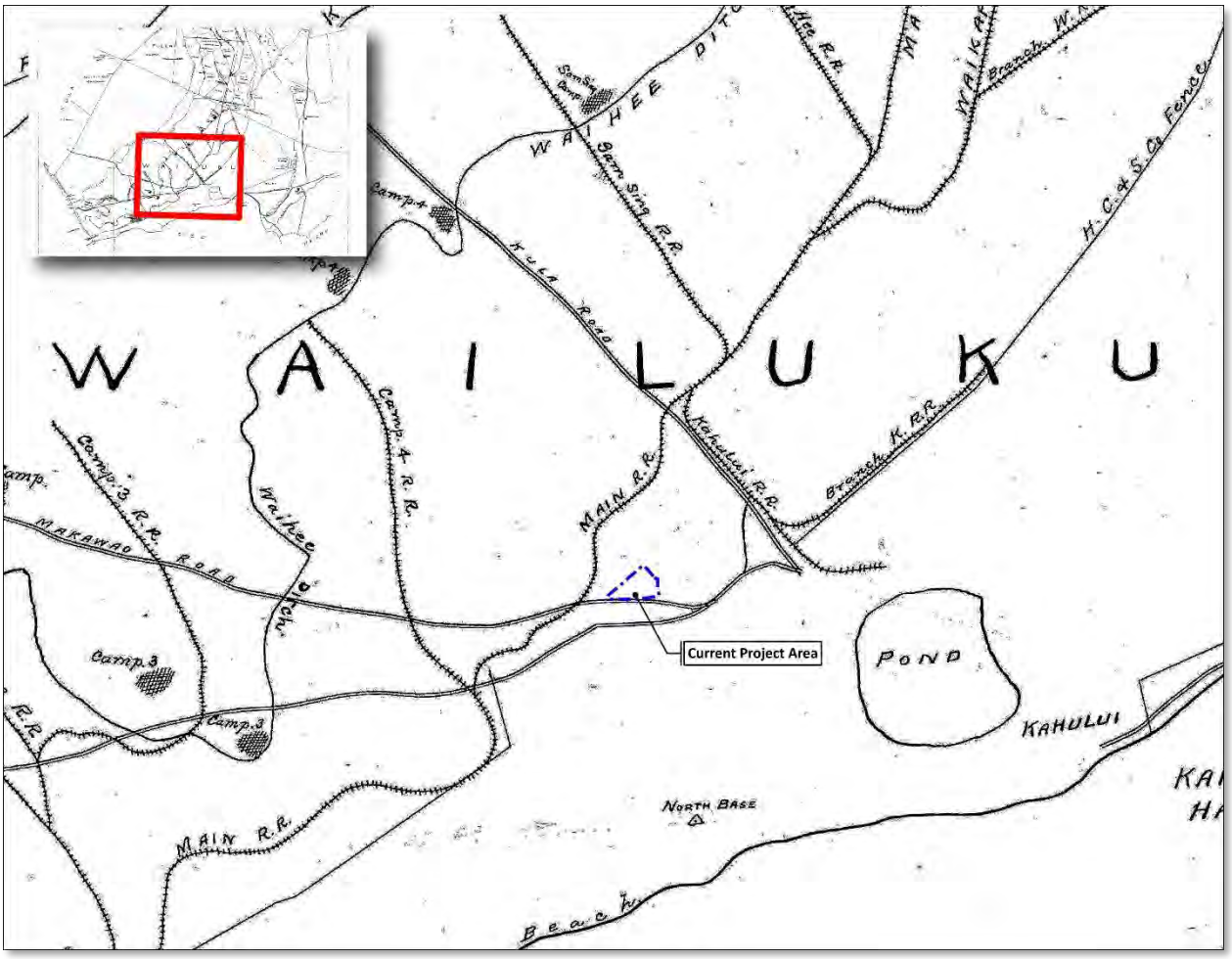

Figure 3-3. A portion of the 1893 map showing the nearest plantation camps and infrastructure of Clause Spreckels' HC&S Co. to the current project area (outlined In blue) (reference).

Through a complex series of disputes and transactions, Claus Spreckels lost control of HC&S Co. to his son Gus Spreckels in 1894, and then in 1898, a *hui* of Hawai'i's own local sugar magnates managed to wrest control from Gus Spreckels and his brother Rudolph (Adler 1966:83). HC&S Co.'s new owners included brothers James and William Castle along with Henry Baldwin and Samuel Alexander.

3.4 WAILUKU AHUPUAʻA AND THE VICINITY OF THE CURRENT PROJECT AREA IN THE 20TH CENTURY

As parts of the ancient *kalo*-growing region of Wailuku, Waiʻehu, and Waiheʻe underwent a conversion into sugarcane production, there remained large swaths of land in Wailuku where the Hawaiian planters had not traditionally farmed. These areas were developed throughout the 20th century and now serves as the epicenter for Maui resdients.

3.4.1 Kahului Harbor

Located to the northwest of the current project area, Kahului Harbor is one of ten harbors that the Hawaii Department of Transportation owns. As Maui's primary commercial hub, Kahului is the third busiest of the ten properties, following only Honolulu Harbor and Kalaeloa Barbers Point Harbor (State of Hawaii Department of Transportation). Modern development of harbor began in 1900, following the destruction of Kahului's Chinatown, which was burned down after the Bubonic Plague was reported in the area. There had been growth in Kahului Bay prior; the surrounding reef had offered some protection for anchoring ships, which had entered through a gap in the coral caused by freshwater flow from the Waikapu River. A beachfront warehouse had been built in 1863, and a landing in 1879. However, the bay's progression into a busy commercial harbor only began after Kahului was rebuilt following the fire at the turn of the century (State of Hawaii Department of Transportation Harbors Division 2006).

In 1900, under the leadership of Henry Baldwin, the Kahului Railroad Company -- then a subsidiary of HC&S -- built a rubble-mound east breakwater that established the harbor complex. The Army Corps of Engineers extended the breakwater to 400 feet in 1913, and in 1919, the 1,950-feet west breakwater was constructed. Both were extended in 1931 and remain at the same lengths today. Additional construction, as well as harbor dredging, were completed in the early 1900s to combat Kahului Bay's natural shallow depth and strong surges. Moorings, buoys, piers, and a wharf accommodating 1000 ton vessels were also installed (State of Hawaii Department of Transportation Harbors Division 2006). When the HC&S Puunene sugar mill was built in 1901, the Kahului Railroad transported sugar from the factory to the harbor; sugar had been traveling via the Kahului Railroad to Kahului Harbor since 1876, and its commercial success was largely responsible for the harbor's extensive growth. The railroad itself had been established for the quick transportation of sugar and supplies between mills and the harbor, allowing for efficient exportation. The harbor's initial development fit the same purpose ("The History of Hawaiian Commercial & Sugar Co." 2016) and as the capacity of the harbor expanded, so did the acreage under cultivation and supporting infrastructure of HC&S (Figure 3-4).

Since the 1980s, Kahului Harbor has been modified to accommodate cruise, fuel, and cargo ships, and the harbor basin has been dredged several times to increase width and depth (State of Hawaii Department of Transportation Harbors Division 2006). The State of Hawaiʻi imports approximatly 80% of its consumer goods, and receives and processes 98% of its goods at its commercial ports (State of Hawaii Department of Transportation). Top imports include crude petroleum oils, light petroleum oils, and large aircraft, at 41.5%, 7.6%, and 4.3% of the state's

imports, respectively; the state is heavily dependent on its commercial harbors -- particularly larger ports like Kahului -- for receiving these products (LLC 2007).

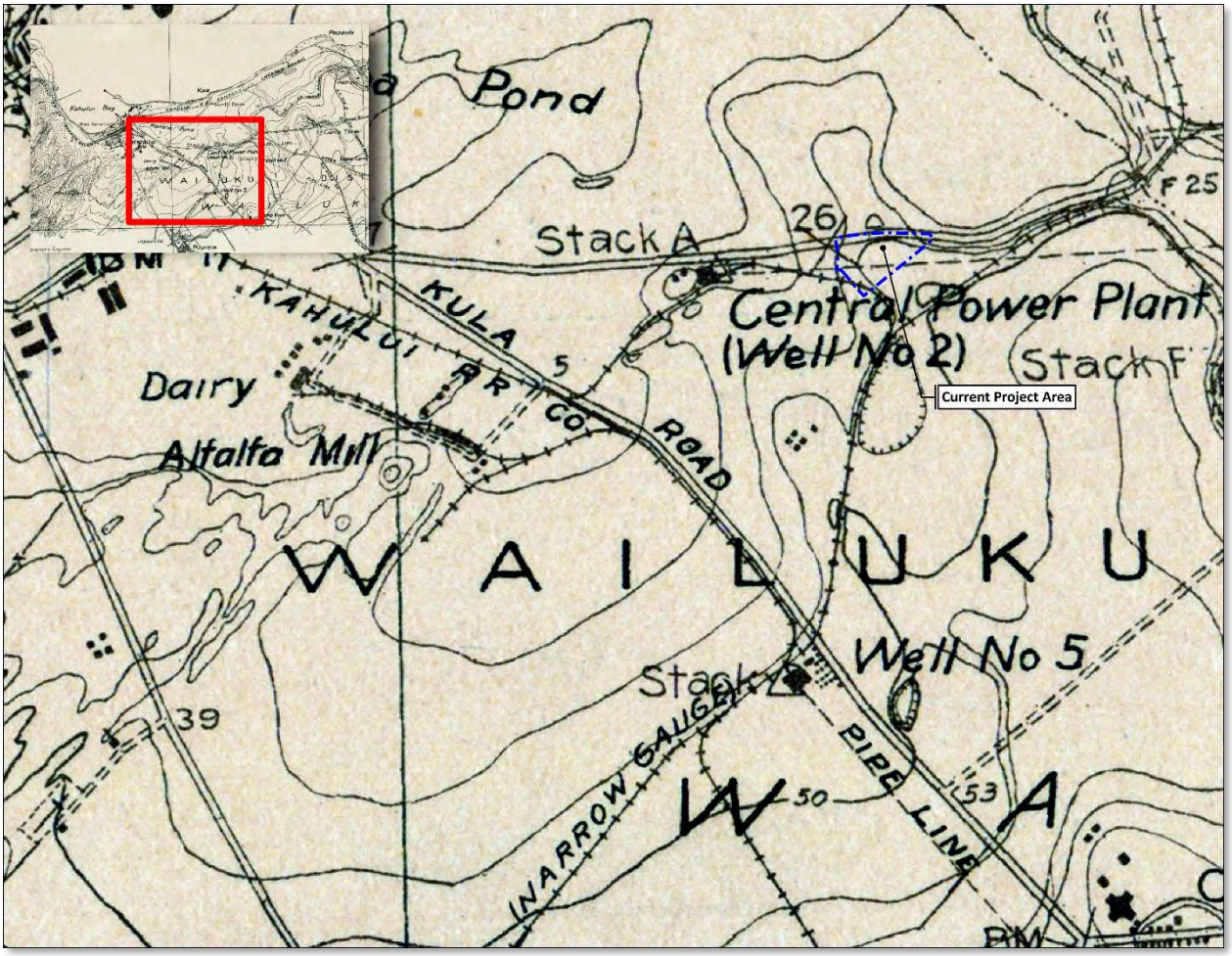

Figure 3-4. A portion of the 1924 USGS topographic map, Paia Quadrangle, showing plantation related infrastructure and the development of the central isthmus in relation to the current project area (outlined in blue).

3.4.2 World War II

In 1943, at the height of the United States involvement in World War II, the United States Navy completed the construction of Naval Air Station Kahului (NASKA), which includes the modern footprint of Kahului Airport and the immediately surrounding area. In 1942, the U.S. Navy leased land from a commercial sugar company to also build facilities at NASKA and construction was completed in March of the following year (United States Naval Air Station 1945).

As a result, the modern-day footprint of Kahului Airport and the immediately surrounding area was once by the U.S. Navy to support this wartime effort. This includes, but is not limited to: shoreline bunkers, stone groynes, a small group of arms magazines, and a pavilion. An inland

bunker, artillery placements, and the wreckage of a fighter plane have also been reported. The shoreline bunkers are composed of concrete, with both structures located in the water, ten meters beyond the existing shoreline due to natural shoreline erosion and disruptive sand mining; the stone groynes lie further out, extending out from the beach for up to twenty meters (E. Fredericksen 2003). The arms magazines consisted of four small inland buildings paralleling Alahao Street; and the shoreline pavilion, called "Helani," was built in 1945 for enlisted men (Hiyakumoto + Higuchi Architects 2004). Throughout the way, thousands of pilots disembarked from aircraft carriers on their way to Oʻahu and trained at NASKA facilities.

After the war, NASKA was decommisioned by the Navy and the Territorial Legislature and shortly thereafter, the Hawaii Aeronautics Commission (HAC) assumed control of the land. Surplus buildings and land were given to the State Department of Public Works, Hawaii Housing Authority, Maui County, and the Board of Agriculture and Forestry. In 1951, HAC transferred all airline operations from Puʻunēnē to Kahului, and the facility underwent extensive reconstruction and modernization to suit commercial purposes. Full commercial airline operations at the site began in 1952 and the facility became known as the Kahului Airport. A master plan for further development was approved shortly after in 1957 and completed in 1969. Since then commercial growth –expansion of the airport, the addition of new facilities, the introduction of new flight routes and airlines, and rental car infrastructure – has continued into the 21st Century. Today, Kahului Airport is the largest and busiest airport on the island of Maui and the second busiest airport in the State of Hawaii (Department of Transportation 2020).

3.4.3 Kanahā Pond State Wildlife Sactuary

In 1951, the Board of Agriculture and Forestry designated Kanahā Pond as a Waterfowl Sanctuary, and in 1971, the National Park Service deemed it a National Natural Landmark, noting the rarity of brackish water ecosystems. The Pond continues to face a number of natural threats, including rats, mongooses, and feral cats that prey on native and migratory birds. In 2011, a tsunami lowered the water levels in the Pond and damaged native plants. The Department of Transportation and the Federal Aviation Administration have also discouraged restorative efforts, fearing that an increase in bird populations near the Kahului Airport may increase the risk of airstrikes. Despite this, management of the Pond continues to occur, including cleanups, limitations for the public during nesting season, and the removal of invasive kiawe in 2015.

As of 2020, Kanahā Pond State Wildlife Sanctuary is home to the ae'o (Hawaiian stilt), the *ʻalae* (Hawaiian coot) and the *koloa* (Hawaiian duck), three endemic and endangered species. Eighty-six other species of birds have also been observed at the pond; *Hawaii Place Names* notes that species include herons, geese, ducks, owls, plovers, sandpipers, tattlers, coots, pheasants, and doves.

3.4.4 Hale Nanea

Hale Nanea is a Hawaiian Cultural Center located near the shoreline at Kahului Harbor. The center was established by the Royal Order of Kamehameha I, Maui Chapter in the early 2000s and

remains under the management of its founder. The Royal Order itself was formed in 1865 by Kamehameha V to defend the sovereignty of the Hawaiian Kingdom and honor Kamehameha V's grandfather, Kamehameha I. It currently serves to "guard, maintain, and preserve the rituals and the memory of the ruling Chiefs of Hawaii," and states several purposes, including "to preserve and perpetuate the ancient culture, customs, and traditions of Hawai'i" and "uplift the Hawaiian people."

Hale Nanea has served as a gathering place for local groups and communities to engage in traditional Hawaiian practices. Various *hula hālau* (hula school) meet at Hale Nanea for *oli* (chant) and *hula* (dance) classes. The facility is also used as a *Hale Mua,* gathering place for men, when groups of men study and plan out traditional Hawaiian activities. This includes the practice of *lua* (Hawaiian martial art) and the use of Hawaiian weapons. Other activities include Hawaiian language, fishing and *holona* (sailing).

3.4.5 Kanahā Beach Park

Kanahā Beach Park, located north of the current project area, is a popular location for a variety of recreational activities. Windsurfing is especially favored on the eastern end of the beach, and its popularity is in part due to the valley between the west Maui mountains and Haleakala. Tradewinds from the northeast are channeled through this zone, becoming compressed along Maui's northern shore and Kahului Bay; resulting winds at Kahana Beach are particularly strong. Additionally, the offshore reef allows waves to be fairly gentle. As such, various other water activities, including kiteboarding, paddle boarding, windsurfing, kayaking, swimming, surfing, and diving, are common at Kanahā. Kiteboarding, widespread on the western end of the beach, began in sections known as Naish Beach, or "NASKA," and The Keyhole; there are designated launch points and riding areas for kiteboarders, as well as canoeing, swimming, and windsurfing.

Non-water sport recreation, including fishing and camping, are also prevalent at Kanahā. Overnight camping is common at the eastern end of the beach and is allowed with a permit, contrary to the majority of state beaches. Kaʻa Point, close to the center of Kanahā, is a popular fishing spot with easy access. Pole fishing is typical here, and *amaʻama* (striped mullet) are caught frequently.

3.5 PREVIOUS ARCHAEOLOGY

Several studies related to the development of Kahului Airport and updates to the Kahului Master Plan, Kahului Harbor improvements, and Kanahā Beach Park improvements have been completed within the vicinity of the current project area. The following section summarizes previous archaeological studies completed within a one-mile radius of the current project area is graphically presented in Figure 3-12 and followed by with brief summaries presented in Table 3-2. Where archaeological finds were present within a given project area, a detailed and summary of the study and findings is additionally provided.

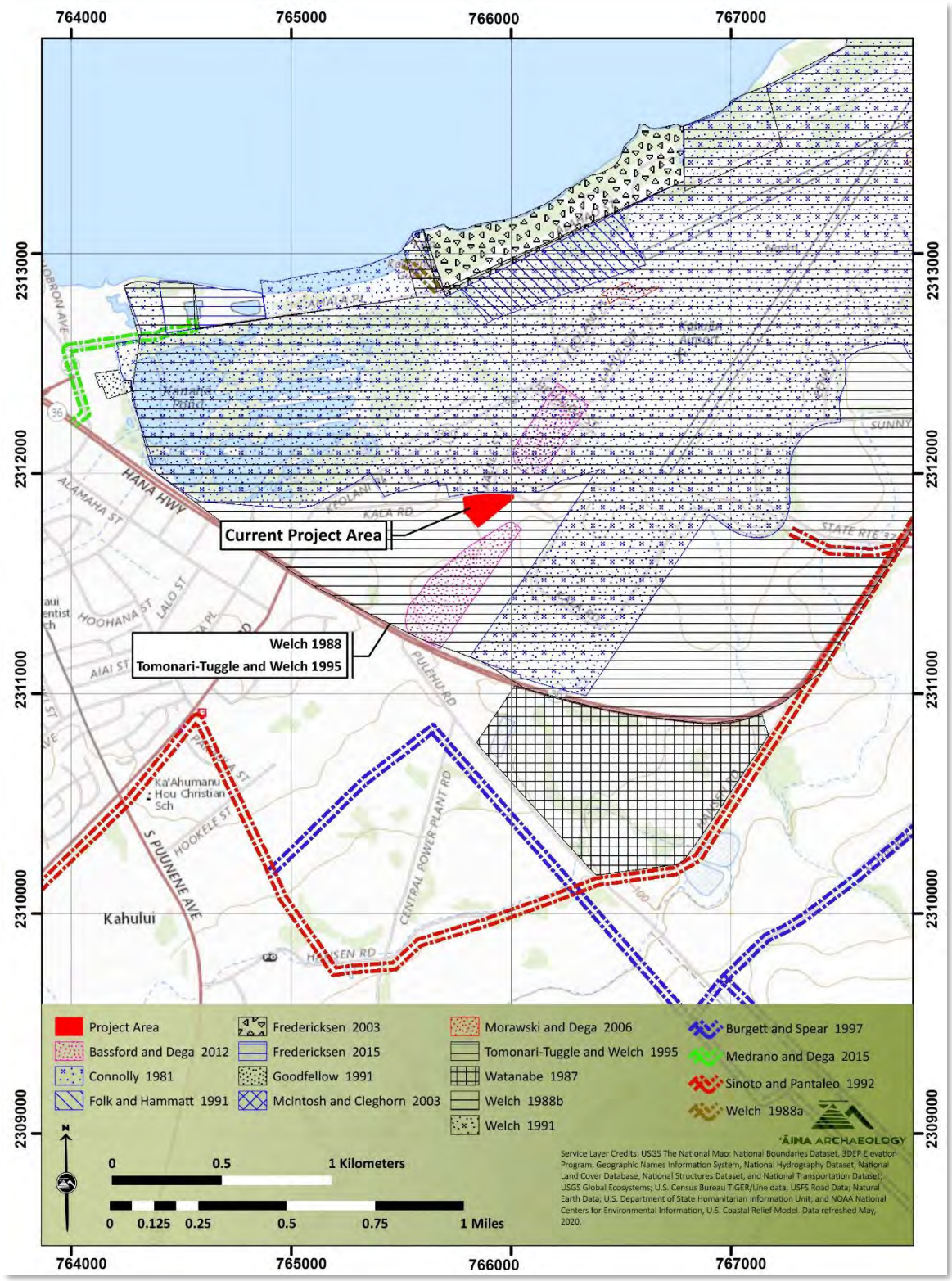

Figure 3-5. A portion of the USGS National Map (2019) showing the approximate location of the Kanahā Hotel at Kahului Airport in relation to previous archaeological studies completed within a one-mile radius.

Table 3-1. Summary of Previous Archaeological Studies in the Vicinity of the Current Project Area

Reference	Type of Study and Summary of Findings
Connolly 1981	**Reconnaissance**: Pedestrian survey of the Kahului Airport Master Plan Study Area; identified two historic properties consisting of an unknown number of human burials (Site 1, SIHP # 50-50-09-1798) and one pre-Contact house site or habitation (Site 2, SIHP # 50-50-09-1799)
Welch 1988a	**Subsurface Survey**: Excavation of 25 auger cores and 2 shovel test pits. Identified beach deposits comprised almost a continuous buildup of medium and coarse sands. Some banding, resulting from variations in the size of the sand particles, were noted in the cores and walls of the test pits, but the variation was slight. No historically significant cultural deposits were identified in subsurface contexts.
Welch 1988b	**Pedestrian Survey**: Follow up systematic pedestrian survey to the reconnaissance completed by Connolly in 1981. Re-identified historic properties initially recorded by Connolly (1981) and assigned SIHP numbers with significance assessments (SIHP -1798 [Site 1] and -1799 [Site 2]). Completed a reconnaissance of the area west of the previously identified sites and an access road corridor. Heavy modern disturbance noted thus resulting in no new historically significant or culturally sensitive finds on the surface. Sand was noted within the reconnaissance area thus resulting in a recommendation for archaeological monitoring.
Folk and Hammatt 1991	**Subsurface Survey**: Survey of four areas within Kahului Airport that included a pedestrian survey and excavation of 16 backhoe trenches ranging from 10-20 ft. long. Testing showed that behind the beach berm, the substrate is composed of beach sand at or below the ground water table throughout the west side of the study area while at the east end of the study area the basal C-Horizon is basalt bedrock. Dune activity in the study area is ongoing with wind deposited sand constituting the strata directly overlying the basal C-horizon behind the beach berm. The uppermost of the two dune units was comprised of calcareous sand interbedded with very thin discontinuous lenses of reddish brown silt and is the predominant eolian layer in the test trenches. The lower layer possibly being contemporaneous with sugar cane cultivation with widespread clearing of fields providing the source for the fine silt inclusions. No historically significant or cultural sensitive sites are features were identified.
Goodfellow 1991	**Subsurface Testing**: recorded the soil stratigraphy of 24 backhoe test units. No cultural deposits observed in a four-acre parcel. Undisturbed black sand beach deposits observed in some of the test units resulted in the recommendation for monitoring during future construction excavation
Welch 1991	**Subsurface Testing**: Subsurface testing for then proposed Kanahā Beach Park addition and Airport Transient Apron; total of 82 backhoe trenches excavated along with additional documentation of Site 1799; though majority of backhoe trenches did not encounter historically significant cultural deposits, remnants of railroad track in a secondary context and evidence of wall construction interpreted as possible boundaries of a pond or loʻi were identified.

Sinoto and Pantaleo 1992	**Inventory Survey**: Pedestrian survey of an approximate 26 mile corridor for a new waterline. No significant historic properties identified.
Tomonari-Tuggle and Welch 1995	**Inventory Survey**: Limited field survey resulting in the identification of World War II military structures and structural remnants with documentary research indicating the possibility of encountering plantation village remnants inland of the eastern end fo the runways, as well as railroad remnants
Burgett and Spear 1997	**Inventory Survey**: Windshield survey of an approximate 67 acre area, in addition to approximately 10-miles of proposed transmission line routes from Puunene Mill to Paia Mill. At the time of the study, commercial sugar agriculture was still in production which rendered systematic sweeps of the 67-acre area impassable due to the presence of mature sugar cane. During the survey of the proposed transmission line routes, Haiku Ditch was noted but not formally recorded as there were no anticipated construction impacts due to the fact that the ditch was still in use.
McIntosh and Cleghorn 2003	**Monitoring**: Monitoring for drill rig excavation to install a 72 foot high mono-pole cellular tower. Associated with the tower is a utility shed. Two trenches were excavated for the equipment shed (one for electrical utilities and another for the shed footing). Determined that the project area consisted of underlying silty clay loam, overlaid with Aeolian dune sand. No historically significant or culturally sensitive sites are features were identified. Due to the sensitivity of dune sands monitoring was recommended for any future project at and within the vicinity of the project site.
E.M. Fredericksen 2003	**Reconnaissance**: Pedestrian survey of an approximately 75-acre coastal parcel. One previously unrecorded archaeological site consisting of several features associated with World War II era activities was noted within the project area.
Morawski and Dega 2006	**Inventory Survey**: Inventory survey of approximately 4.23 acres at the Kahului Airport. A systematic pedestrian survey and mechanical testing of Areas "A" and "D" of the Kahului Airport Master Plan resulted in no new significant historic properties identified.
Bassford and Dega 2012	**Inventory Survey:** Systematic pedestrian survey of approximately 41 acres and excavation of 36 trenches led to the identification of two historic properties: an historic-era concrete flume (SIHP 50-50-04-7347) and a small generator building likely associated with former Navy use of the lands (SIHP 50-50-04-7348). No historically significant sites or features were identified within subsurface contexts.
Fredericksen 2015	**Monitoring**: Monitoring of excavations that varied in depth from 3.2 to 4.1 m with groundwater typically reached at 2.4-2.8 m below surface. Two sand layers were identified below the fill soils. While no historically significant sites or features were identified on the surface or within subsurface contexts during the course of the study, due to the sensitivity of dune and beach sands continued monitoring was recommended for any future project at the project site.

3.6 SUMMARY OF BACKGROUND RESEARCH AND PROJECT AREA EXPECTATIONS

Based on traditional knowledge, along with the documented presence of Kanahā and Mauoni Fishponds, we know that the coastal reaches were used for traditional marine resource gathering and long-term habitation as well as an area for traditional burial internment. While the traditional landscape of this region has been thoroughly altered by commercial sugar production from the 1850s through the modern era, pre-Contact features within the current study area may have mirrored that of similar environments just back from the coastal areas and within the lower reaches of the agricultural soils on the central Maui Isthmus. These site types may have included dispersed, low-intensity, dryland agricultural features such as mounds, small terraces, and alignments, as well as temporary habitation terraces. While surface indications of such features may exist as either a scatter or ruin, intact subsurface deposits indicative of low intensity habitation may be possible.

Based on the historic literature and the development of the sugar industry, as well as, military use associated with the development of NASKA in this portion of Wailuku Ahupuaʻa, historic properties associated with historic era plantation agriculture and infrastructure (e.g., clearing mounds, water control features, concrete foundations, and transportation features), historic habitation (e.g., historic cultural material scatters representative of former plantation villages), and military use (e.g. remnant building foundations) in the immediate vicinity of the study area may be possible.

4.0 RESEARCH DESIGN AND ARCHAEOLOGICAL METHODS

The following research design and methods were developed with adherence to HAR 13-276, Rules Governing Standards for Archaeological Inventory Surveys and Reports. The following section outlines that research design and field methods that were utilized for this Archaeological Assessment.

4.1 DOCUMENTARY RESEARCH METHODS

Documentary research for this supplemental study included a review of published historical accounts, academic volumes, land survey notes and reports, as well as, historic maps and photographs in public and private collections pertaining to *Wailuku Ahupuaʻa*. English language historical documents, maps, anthropological compilations, and archaeological studies were researched at the library of the Hawaiʻi State Historic Preservation Division (SHPD) on Maui, the Survey Office of the Department of Accounting and General Services (DAGS), along with the print and digital resources of ʻĀina Archaeology (ʻĀina); as well as, eVols, the digital institutional repository for the University of Hawaii and other online resources. Land Commission Award Claims were studied using both historic and TMK maps and cross referenced with the Papakilo Database (Office of Hawaiian Affairs 2011) and Kīpuka Geographic Database (Office of Hawaiian Affairs 2014). Hawaiian language newspaper resources and other Hawaiian language documents were researched using both Ulukau: The Hawaiian Electronic Library (www.ulukau.org) and the Papakilo Database.

4.2 GIS DATA MAPPING

Site location maps, historic maps, and AutoCAD files were georeferenced in relation to the Maui Island TMK shapefile (County of Maui 2009), portions of the Paia Quadrangle 7.5- minute USGS topographic map using known points, and post-processed GPS data. All site location maps presented herein were created using ArcGIS Desktop 10.8. Figures showing the project area boundary overlain on historic maps and orthophotos in relation to identified historic property locations should be considered approximate and used for informational purposes only.

4.3 FIELD METHODS

The purpose of this study was to provide additional information to determine if the Kanahā Hotel at the Kahului Airport project would adversely affect historic properties, specifically regarding areas of deep excavation. The following subsections outline the specific field methods that were utilized during the pedestrian survey and subsurface testing.

4.3.1 Pedestrian Survey

The pedestrian survey was conducted using transect lines oriented north-south that were spaced approximately 5 m apart. Transect lines were recorded with a handheld Garmin GPS to ensure

that the entire project area was covered. Any potential cultural material was flagged, photographed, and its coordinates were taken with a handheld Garmin GPS and/or a Trimble Juno 3B GPS with an R2 antenna.

4.3.2 Subsurface Testing

Nine mechanically assisted test units (BTs) were excavated and recorded (BT-1 through BT-9) within the project area. The BT locations were determined based on the proposed project conceptual design indicating the areas of deepest ground disturbance. These areas include a swimming pool, a manhole for sewage services, a fire pump room, underground chambers for storm water quality control, and two elevator pits. Trench size varied between 2 m by 1 m, 5 m by 1 m, and 10 m by 1 m, and was determined by the relative size of the individual areas of construction. Minimum depth of excavation was based on the expected depth of disturbance that would be reached during construction.

Two BTs (BT-2 and BT-3), each measuring 10 m in length and 1 m in width, were placed within the location of the swimming pool. One 2 m BT (BT-1) was also placed within the proposed area for the fire water tank and fire pump room. The trench lengths for BT-1, BT-2, and BT-3 reflect the approximate size of the swimming pool and fire water tank/pump room. The remaining test units (BT-4 through BT-9) measured 5 m in length and 1 m in width and were placed in the specified areas of deepest ground disturbance.

Excavations for the sewage manhole and underground chambers for storm water quality control are expected to reach a maximum depth of 3 m (10-12 ft.) The remaining areas of excavation are anticipated to range between 1.8 to 2.4 m (6 to 8 ft.) in maximum depth. BT-4, BT-8, and BT-9 were placed in areas where the sewage manhole and underground chambers for storm water quality control will be located. As such, they had a minimum excavation depth of 10 feet. All other units had a minimum depth of 6 to 8 ft. Excavation ceased if C horizon or R horizon (bedrock) was reached prior to the planned minimum depths. Upon reaching C Horizon, excavation ceased if a minimum of two feet of sterile soil was reached. This provided adequate information to characterize the upper 0.61 m (2 ft.) of the overall project area stratigraphy, as well as, identify the presence or absence of historically significant subsurface cultural deposits within the construction footprint of the proposed project.

BTs were excavated and documented in the following manner:

1. BT locations were located using a Trimble Juno 3B GPS device. The extents of the BTs were then marked with wooden stakes and labeled according to their given BT number.
2. BTs were excavated with a mechanical excavator utilizing a 1 ft and 3 ft sized excavator bucket with teeth.
3. Excavation was observed by archaeologists at all times in case any subsurface cultural material or features were present.

4. Excavation continued until either the maximum depth requirement for the BT was reached or a minimum of 2 feet of sterile C horizon soil, decomposing bedrock, or bedrock was reached prior to anticipated construction excavation depth.
5. Soil stratigraphy was photographed, and scale drawings were made of at least one profile wall per BT. A soil description for each profile was also recorded using standard USDA Soil terminology.
6. Upon completion of documentation, a mechanical excavator was used to backfill each BT.

5.0 RESULTS OF FIELDWORK

The archaeological pedestrian survey and additional subsurface testing was completed by Archaeological Field Director Amanda Ruberti, M.A. and Archaeological Field Technician Daniel Moore, B.A. The pedestrian survey was completed between December 15th and December 16th, 2020 followed by subsurface testing that took place between December 21st and December 23rd, 2020.

The current project area is a 5.17 acre vacant lot that is located in a heavily developed area. The lot itself currently contains no construction apart from a sidewalk and waterlines that run along its western edge. It is bound by Lau'o Loop to the west, Haleakalā Highway to the north, a large wall that separates it from Kahului Airport Access road to the east, and another vacant lot to the south. The lot is relatively flat and barren except for some ankle high buffel grasses (*Cenchrus ciliaris*) and small kiawe trees (*Prosopis pallida*) (less than 1 foot in height). As such, the visibility within the project area is excellent (Figure 5-1 through Figure 5-2).

Figure 5-1 Overview of project area, showing vacant lot, roads labeled, kiawe tree sapling in foreground

Figure 5-2 Overview of project area, vacant lot, developed areas visible in background, roads labeled, small kiawe trees to the west

The topsoil is primarily comprised of imported fill from previous construction activities and is believed to have originated from areas of irrigation ditches and reservoirs associated with plantation water control systems in central Maui (see Section 5.1 Surface Survey Results). The lot also contains debris from previous construction activities including some cement slabs and geotechnical boring holes (Figure 5-3). Modern trash was also observed across the project area (Figure 5-4).

Figure 5-3 AA2009, example of construction material left on site, concrete slab

Figure 5-4 AA2009, example of modern trash

5.1 SURFACE SURVEY RESULTS

The pedestrian survey revealed no visible archaeological features, historic properties, or formal artifacts. A low density of cultural material was identified including three false brain coral fragments, two unidentifiable marine shell fragments, and three possible historic ceramic fragments (porcelain) (Figure 5-5 and Figure 5-8). However, the surface of the project area consists of imported fill containing clam shells commonly found in soils taken from areas of irrigation ditches and reservoirs associated with plantation water control systems in central Maui (Eldredge 1994:39). This suggests that the cultural material found is not contextually related to the project area. Additionally, the two identified marine shells were visible for only a portion of the day until strong winds blew them away. The marine shells were unable to be relocated, further suggesting that cultural material identified during the pedestrian survey are secondary deposits and are not related to any surface or potentially subsurface historic properties and/or cultural deposits.

Figure 5-5 AA2009, plan view of three false brain coral fragments located near BT-7

Figure 5-6 Plan view of an unidentified marine shell fragment found during pedestrian survey, likely a secondary deposit

Figure 5-7 Plan view of a potential piece of historic pottery found during pedestrian survey, likely a secondary deposit

Figure 5-8 Plan view of a potential piece of historic pottery found during pedestrian survey, likely a secondary deposit

5.2 SUBSURFACE SURVEY RESULTS

Nine (9) mechanically assisted test excavation units (BTs) were placed in locations that will sustain the greatest amount of ground disturbance during construction including a swimming pool, a manhole for sewage services, a fire pump room, underground chambers for storm water quality control, and two elevator pits (Figure 5-9). This section provides a brief summary of each BT including photographs, profile maps, and stratigraphy descriptions.

Figure 5-9. Proposed supplemental testing locations (in green) in relation to the revised proposed project conceptual design (plan provided courtesy of R.D. Olson Development)

5.2.1 Mechanically Assisted Test Unit 1 (BT-1)

BT-1 is in the northern most section of the project area where the fire pump room will be constructed (Figure 5-10). BT-1 measures 2 m in length and 1 m in width. The 2 m length of this unit reflects the proposed size of excavation for the fire pump room. For this reason, it was not necessary to excavate a full 5 m by 1 m unit in this location. Ground disturbance from construction is expected to reach a maximum depth of 6 to 8 ft. As such, BT-1 had a proposed maximum excavation depth of 6 to 8 ft (1.83 m to 2.44 m). However, bedrock (R horizon) was reached at approximately 65 to 100 cm and the unit was unable to be excavated further (Figure 5-11 and Figure 5-12). Most of the unit was comprised of decomposing bedrock (Stratum II, R horizon) and contained only 8 to 23 cm of a silt loam soil identified as the Developing A horizon mixed with modern fill (Figure 5-11 and Figure 5-12). No cultural material or cultural layers were present within BT-1.

Figure 5-10 AA2009, BT-1, Overview and closing photo of BT-1 after it was backfilled

Figure 5-11 AA2009, BT-1, north profile wall, labels indicate locations of soil color variation and bedrock on the eastern corner of the unit

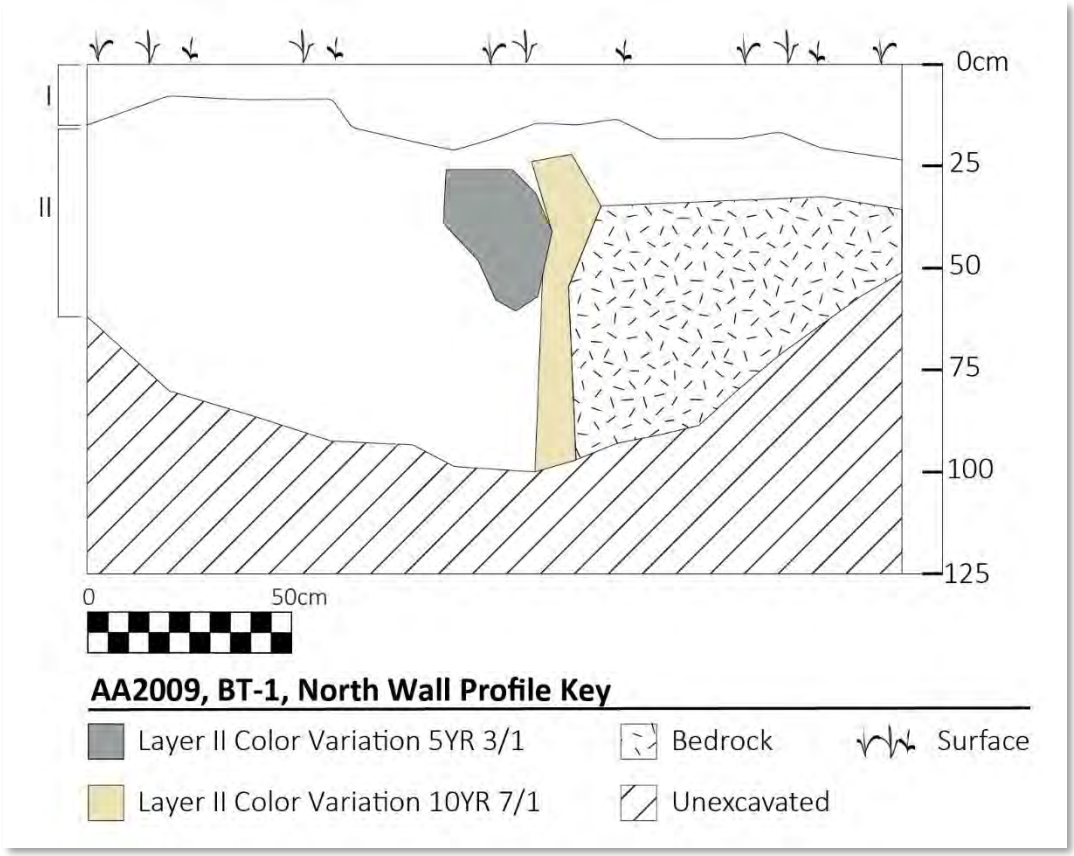

Figure 5-12 AA2009, BT-1, north wall profile map

AA2009, Unit No. BT-1, North Wall Stratigraphy Description (See Figure 5-11 and Figure 5-12)

Stratum I *Horizon: Developing A/Fill* *Upper Boundary Depth Range* *0-0 cmbs* *Lower Boundary Depth Range* *7-23 cmbs*	5YR 3/4 dark reddish brown; Silt loam, structureless, single grain, medium, structure; Dry, Loose consistency; Non-plastic with no cementation; Roots are common and fine to medium in size; Lower boundary is abrupt and wavy. Cultural Material Observed: None observed. General Observations: Stratum is the Developing A horizon mixed with modern fill.
Stratum II *Horizon: R* *Upper Boundary Depth Range* *7-23 cmbs* *Lower Boundary Depth Range* *63-100 cmbs*	5YR 4/2 dark reddish gray; Gravel, decomposing bedrock; Roots are very few and very fine in size; Lower boundary is not visible. Cultural Material Observed: None observed. General Observations: Stratum II is comprised entirely of decomposing bedrock. Two soil variations, 5YR 3/1 (very dark gray) and a 5YR 7/1 (light gray) are mixed throughout the stratum. The color variations are the most pronounced on the eastern portion of the profile wall where there is a large piece of bedrock that abuts of the 5YR 7/1 color variation. Color variations may be the result of the bulldozer repeatedly hitting the bedrock in that area or could indicate a different phase of decomposition and/or reflect mineral content of the basalt.

5.2.2 Mechanically Assisted Test Unit 2 (BT-2)

BT-2 is located in the middle of the project area where the swimming pool will be constructed (Figure 5-13). BT-2 measures 10 m in length and 1 m in width. The 10 m length of this unit reflects the proposed size of excavation for the widest section of the swimming pool that runs north to south. Ground disturbance from construction is expected to reach a maximum depth of 6 ft (1.83 m). As such, BT-2 had a proposed maximum excavation depth of 6 ft. However, bedrock (R horizon) was reached between approximately 22 to 72 cm and the unit was unable to be excavated further (Figure 5-14). Most of the unit was comprised of decomposing bedrock (Stratum II, R horizon) and contained only 10 to 34 cm of a silt loam soil identified as the Developing A horizon mixed with modern fill (Figure 5-20 through Figure 5-22). No cultural material or cultural layers were present within BT-2.

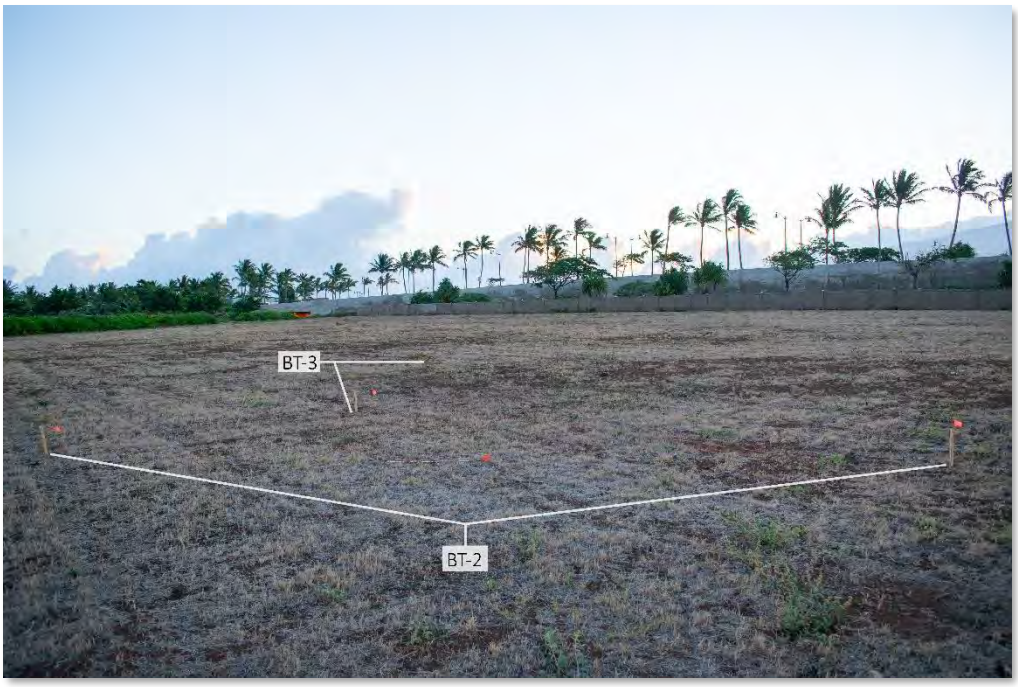

Figure 5-13 AA2009,BT-2 and BT-3, overview of location

Figure 5-14 AA2009, BT-2, close-up of mid-excavation showing high density of decomposing bedrock being removed early on in excavation

Figure 5-15 AA2009, BT-2, overview of excavated trench showing large piece of bedrock in center of unit

Figure 5-16 AA2009, BT-2, close-up of a section (south) of the east profile wall

Figure 5-17 AA2009, BT-2, oblique overview of a section of the east profile wall (south), labels indicate location of strata and bedrock

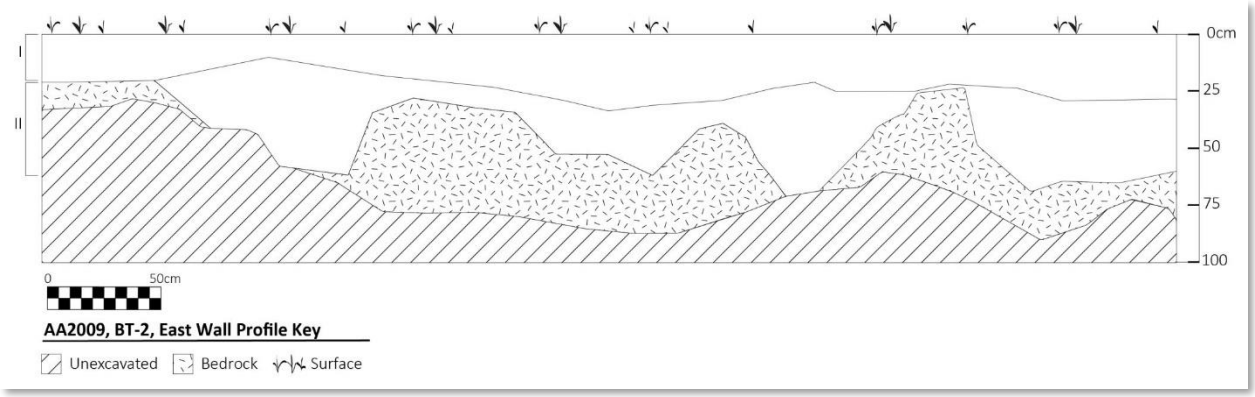

Figure 5-18 AA2009, BT-2, east wall profile map

AA2009, Unit No. BT-2, East Wall Stratigraphy Description (See Figure 5-16 through Figure 5-18)

Stratum I *Horizon: Developing A/Fill* *Upper Boundary Depth Range* *0-0 cmbs* *Lower Boundary Depth Range* *10-34 cmbs*	5YR 3/4 dark reddish brown; Silt loam, weak, medium, crumb and blocky structure; Dry, hard consistency; Non-plastic with no cementation; Roots are common and very fine to fine in size; Lower boundary is abrupt and wavy. Cultural Material Observed: None observed. General Observations: Stratum represents the developing A horizon mixed with a modern fill. Stratum contained a high density of basalt cobbles and imported gravel material.
Stratum II *Horizon: R* *Upper Boundary Depth Range* *10-34 cmbs* *Lower Boundary Depth Range* *23-72 cmbs*	10YR 6/2 light brownish gray; Gravel, decomposing bedrock; Roots are very few and very fine in size; Lower boundary is not visible. Cultural Material Observed: None observed. General Observations: Stratum consists entirly of decomposing bedrock. Some portions of profile wall are missing bedrock that was likely removed by the bulldozer. These sections contain Stratum II decomposing bedrock with no soil present.

5.2.3 Mechanically Assisted Test Unit 3 (BT-3)

BT-3 is located in the middle of the project area where the swimming pool will be constructed (Figure 5-13). BT-3 measures 10 m in length and 1 m in width. The 10 m length of this unit reflects the proposed size of excavation for the longest section of the swimming pool that runs east to west. Ground disturbance from construction is expected to reach a maximum depth of 6 ft (1.83 m). As such, BT-3 had a proposed maximum excavation depth of 6 ft. The eastern portion of BT-3 reached a maximum depth of 2.13 m (6.98 ft). However, the western portion of the unit did not reach 6 ft in depth because bedrock (R horizon) was reached at 0.58 to 1.10 m below surface (Figure 5-19). BT-3 consisted primarily of decomposing bedrock (Figure 5-20 and Figure 5-22). The decomposing bedrock was mapped as two separate strata (Strata I and II) due to a soil color variation (Figure 5-20). The color variation is likely due to Stratum III being moist and therefore darker. Another possibility is that the layers represent different rate of decomposition or contain different mineral contents. BT-3 contained 8 to 23 cm of a silt loam soil that was identified as the Developing A horizon mixed with modern fill (Figure 5-20 and Figure 5-22). No cultural material or cultural layers were present within BT-3.

Figure 5-19 AA2009, BT-3, overview of trench showing western section that is shallower due to presence of bedrock

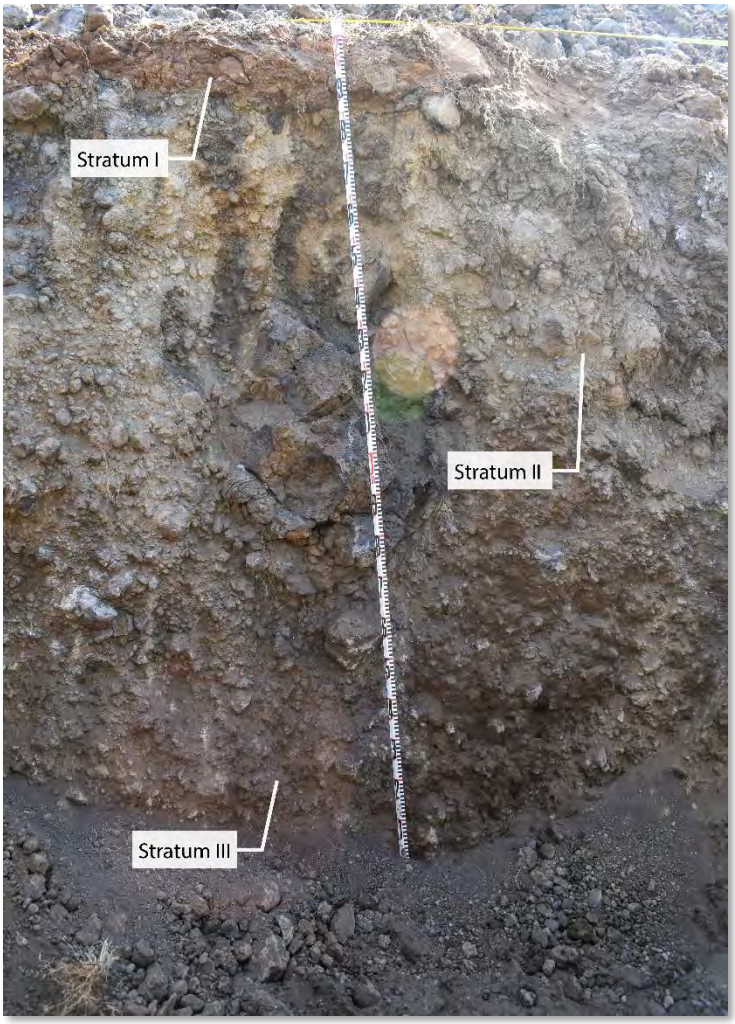

Figure 5-20 AA2009, BT-3, close-up of south profile wall with each stratum labeled

Figure 5-21 AA2009, BT-3, overview of south profile wall

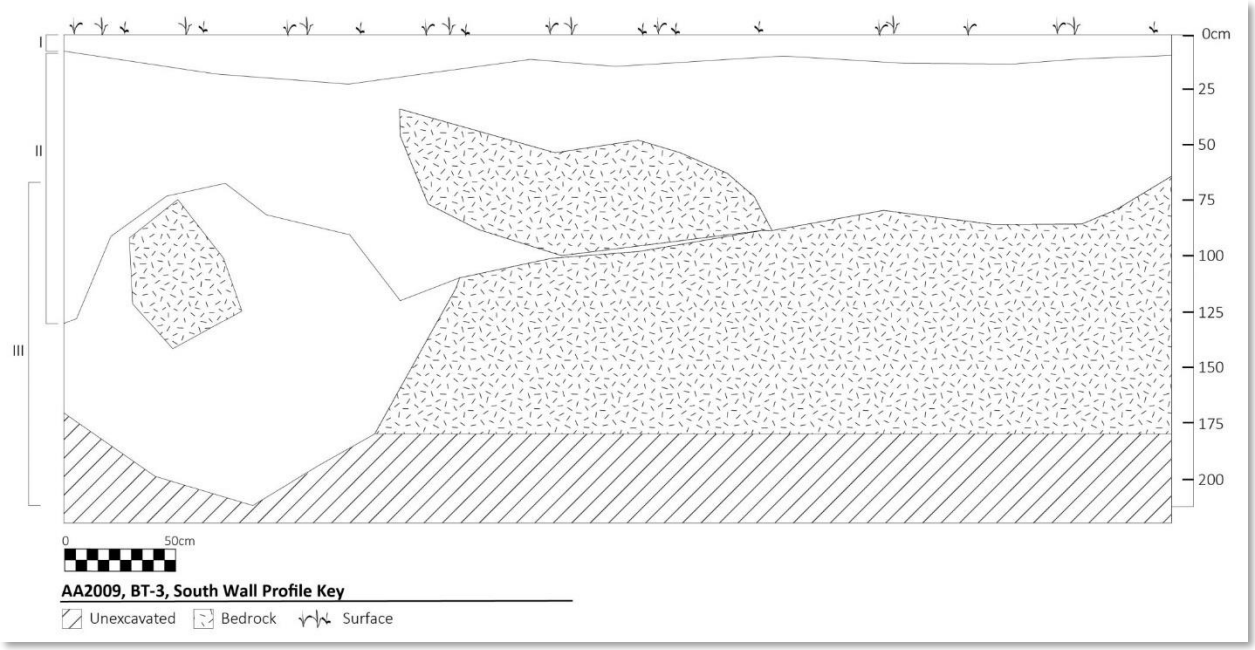

Figure 5-22 AA2009, BT-3, map of south profile wall

AA2009, Unit No. BT-3, South Wall Stratigraphy Description (See Figure 5-20 through Figure 5-22)

Stratum I *Horizon: Developing A/Fill* *Upper Boundary Depth Range* *0-0 cmbs* *Lower Boundary Depth Range* *8-23 cmbs*	5YR 3/4 dark reddish brown; Silt loam, weak, medium, crumb and granular structure; Dry, hard consistency Non-Plastic with no cementation; Roots are common and very fine to fine in size; Lower boundary is abrupt and wavy. Cultural Material Observed: None observed. General Observations: Stratum is the Developing A horizonmixed with modern fill.
Stratum II *Horizon: R* *Upper Boundary Depth Range* *8-23 cmbs* *Lower Boundary Depth Range* *68-128 cmbs*	10YR 6/2 light brownish red; Gravel, decomposing bedrock; Dry; No roots present; Lower boundary is diffuse and broken. Cultural Material Observed: None observed. General Observations: Stratum consists of decomposing bedrock and contains no soil Stratum lies directly ontop of bedrock and another layer of decomposing bedrock (Stratum III) that was mapped seperatly due to it being moist and a different color.
Stratum III *Horizon: R* *Upper Boundary Depth Range* *78-129 cmbs* *Lower Boundary Depth Range* *180-213 cmbs*	10YR 3/2; Gravel, decomposing bedrock; Moist; No roots present; Lower boundary is abrubt and broken. Cultural Material Observed: None observed. General Observations: Stratum is comprised entirely of decomposing bedrock and contains no soil. The variation in color from Stratum I may be the result of the stratum being moist and located adjacent to a large piece of non decomposing bedrock.

5.2.4 Mechanically Assisted Test Unit 4 (BT-4)

BT-4 is in the western portion of the project area and was originally placed where the sewer manhole is to be constructed (Figure 5-23). However, due to its proximity to marked utility lines the unit was moved 1 ft (30 cm) to the east. BT-4 measures 5 m in length and 1 m in width. Ground disturbance from construction is expected to reach a maximum depth of 10 ft (3.05 m). As such, BT-2 had a proposed maximum excavation depth of 10 to 12 ft (3.05 to 3.65 m). However, a large piece of bedrock located in the middle of the unit was reached between 18 to 92 cm (Figure 5-24). Additionally, a layer of compact decomposing bedrock (Stratum II) was reached between 8 to 15 cm making it difficult to continue with the excavation (Figure 5-25 through Figure 5-27). As such, excavation ceased upon reaching R horizon and bedrock. Stratum II contained two distinct soil color variations that were mapped in profile (Figure 5-27). The color variations may be the result of the excavator repeatedly hitting bedrock in that area or could represent different stages of bedrock decomposition. The unit only contained 5 to 15 cm of a silt loam soil identified as the Developing A horizon mixed with modern fill (Figure 5-25 through Figure 5-27). No cultural material or cultural layers were present within BT-4.

Figure 5-23 AA2009, BT-4, overview of the original planned location of BT-4, utilities in view to the left

Figure 5-24 AA2009, BT-4, overview of excavated trench with large area of bedrock visible in center

Figure 5-25 AA2009, BT-4, close-up of southern section of west wall profile

Figure 5-26 AA2009, BT-4, close-up of middle section of west wall profile where large bedrock is located in surface of the unit, strata and soil color variations labeled

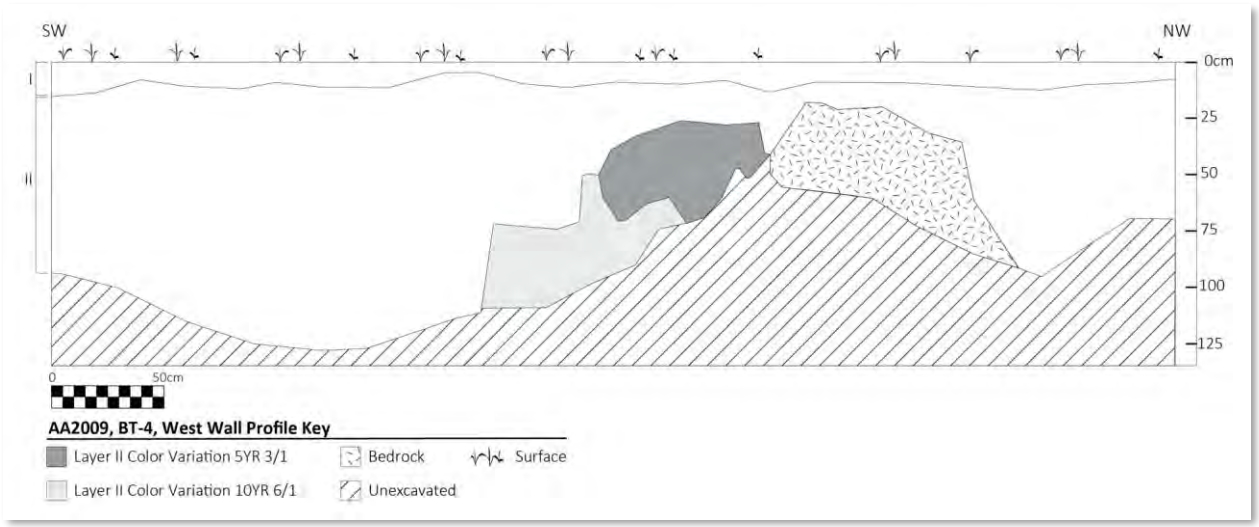

Figure 5-27 AA2009, BT-4, map of west wall profile

AA2009, Unit No. BT-4, West Wall Stratigraphy Description (See Figure 5-25 through Figure 5-27)

Stratum I *Horizon: Developing A/Fill* *Upper Boundary Depth Range* *0-0 cmbs* *Lower Boundary Depth Range* *8-15 cmbs*	5YR 4/6 yellowish red; Silt loam, weak, fine, medium, granular and crumb structure; Dry, weakly coherent, loose consistency; Non-plastic with no cementation; Roots are few and fine to medium in size; Lower boundary is clear and irregular. Cultural Material Observed: None observed. General Observations: Stratum is a mix of the Developing A horizon and modern fill. The color of the soil in this stratum is a more vibrant yellowish red than other Developing A horizons recorded in the project area. The soil is close in color to the decomposing bedrock layer (Stratum II) that is located below it.
Stratum II *Horizon: R* *Upper Boundary Depth Range* *8-15 cmbs* *Lower Boundary Depth Range* *27-128 cmbs*	5YR 3/4 dark reddish brown; Gravel, decomposing bedrock; Roots are very few and fine to very fine in size; Lower boundary is not visible. Cultural Material Observed: None observed. General Observations: Stratum is a reddish brown layer of decomposing bedrock. The stratum contains two different soil color variations, 5YR 3/1 (very dark gray) and 10YR 6/1 (gray). The color variations are likely due to the excavator repeatedly hitting bedrock located next to it or may represent a different stage of bedrock decomposition and/or mineral content of the basalt.

5.2.5 Mechanically Assisted Test Unit 5 (BT-5)

BT-5 is in the southwestern portion of the project area and is located where the south elevator pit will be constructed (Figure 5-28). BT-5 measures 5 m in length and 1 m in width. Ground disturbance from construction is expected to reach a maximum depth of 6to 8 ft (1.8 to 2.4 m). As such, BT-5 had a proposed maximum excavation depth of 6 to 8 ft (1.8 to 2.4 m). However, a layer of compact decomposing bedrock (Stratum II) containing large pieces of intact bedrock was reached at 3 to 11 cm making it difficult to excavate past 89 cm (Figure 5-29 through Figure 5-31). During the excavation process the excavator bucket lost two teeth while attempting to dig through R horizon (Stratum II). As such, excavation ceased upon excavating 87 cm into the R horizon (Stratum II). The unit contained 3 to 11 cm of silt loam soil identified as Developing A horizon mixed with modern fill (see Figure 5-30 through Figure 5-32). No cultural material or cultural layers were present within BT-5.

Figure 5-28 AA2009, BT-4, overview of BT-5 before excavation

Figure 5-29 AA2009, BT-5, overview of excavator removing bedrock from the trench

Figure 5-30 AA2009, BT-5, oblique northeast view of the east profile wall, labels indicate location of strata

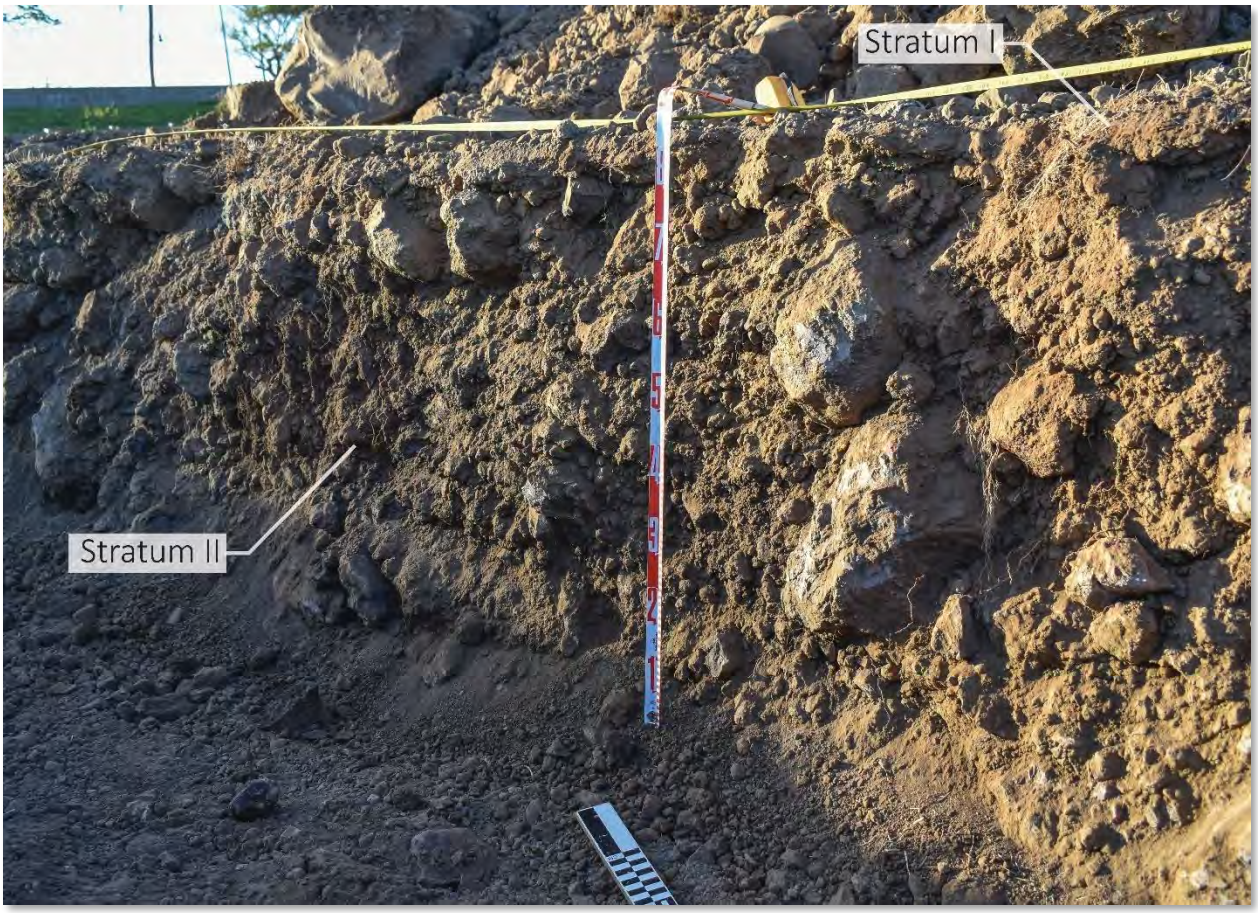

Figure 5-31 AA2009, BT-5, oblique southeast view of the east profile wall, labels indicate location of strata

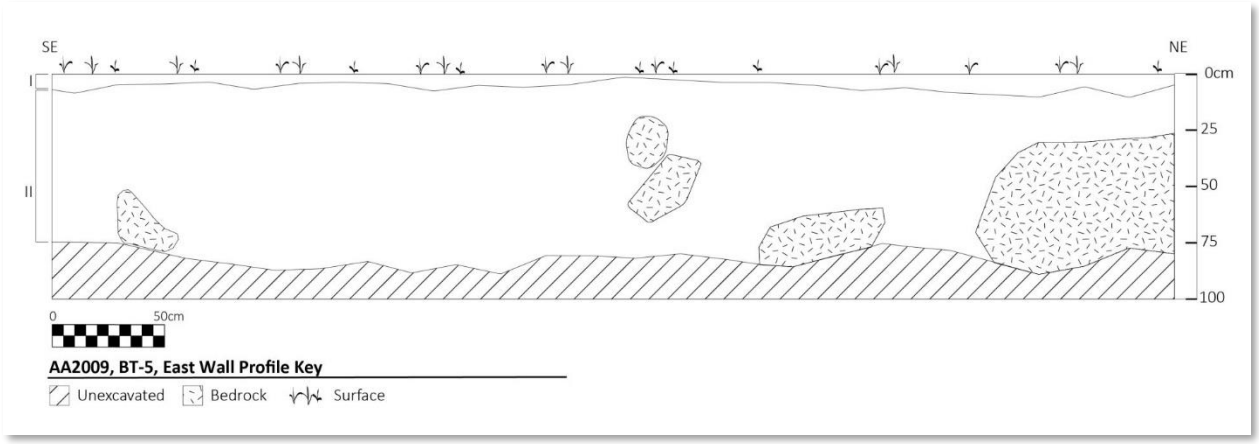

Figure 5-32 AA2009, BT-5, profile map of east wall

AA2009, Unit No. BT-5, East Wall Stratigraphy Description (See Figure 5-30 *through* Figure 5-32 *)*

Stratum I *Horizon: Developing A/Fill* *Upper Boundary Depth Range* *0-0 cmbs* *Lower Boundary Depth Range* *3-11 cmbs*	5YR 4/3 reddish brown; Silt Loam, structureless, single grain, fine,medium; Dry, loose consistency; Non-plastic with no cementation; Roots are common and very fine to fine in size; Lower boundary is clear and smooth. Cultural Material Observed: None observed. General Observations: Stratum is an A horizon that has developed in an upper fill layer. It contains a high density of bedrock pebbles and small cobbles. Much of the top soil has mixed with soil from excavation of the trench.
Stratum II *Horizon: R* *Upper Boundary Depth Range* *3-11 cmbs* *Lower Boundary Depth Range* *27-89 cmbs*	10YR 5/3 brown; Gravel, decomposing bedrock; Dry; Roots are very few and medium to fine in size; Lower boundary is not visible. Cultural Material Observed: None observed. General Observations: Stratum is composed entirely of decomposing bedrock that is extremly compact. Large pieces of bedrock are also found directly below and within the layer . While digging the trench two excavator teeth were removed from the excavator bucket due to the hardness of the bedrock and decomposing bedrock.

5.2.6 Mechanically Assisted Test Unit 6 (BT-6)

BT-6 is in the northern portion of the project area and is located where the north elevator pit will be constructed (Figure 5-33). BT-6 measures 5 m in length and 1 m in width. Ground disturbance from construction is expected to reach a maximum depth of 6 to 8 ft (1.8 to 2.4 m). As such, BT-6 had a proposed maximum excavation depth of 6 to 8 ft (1.8 to 2.4 m). However, a layer of decomposing bedrock (Stratum II) was reached at 5 to 28cm below surface and bedrock was reached at 10 cm below surface (Figure 5-34 and Figure 5-35). Excavation ceased upon excavating 67 cm into the R horizon (Stratum II) and 16 to 80 cm in depth. The unit contained 5 to 28 cm of silt loam identified as the Developing A horizon mixed with modern fill (Stratum I) (see Figure 5-34 and Figure 5-35). No cultural material or cultural layers were present within BT-6.

Figure 5-33 AA2009, BT-6, overview of trench location prior to excavation

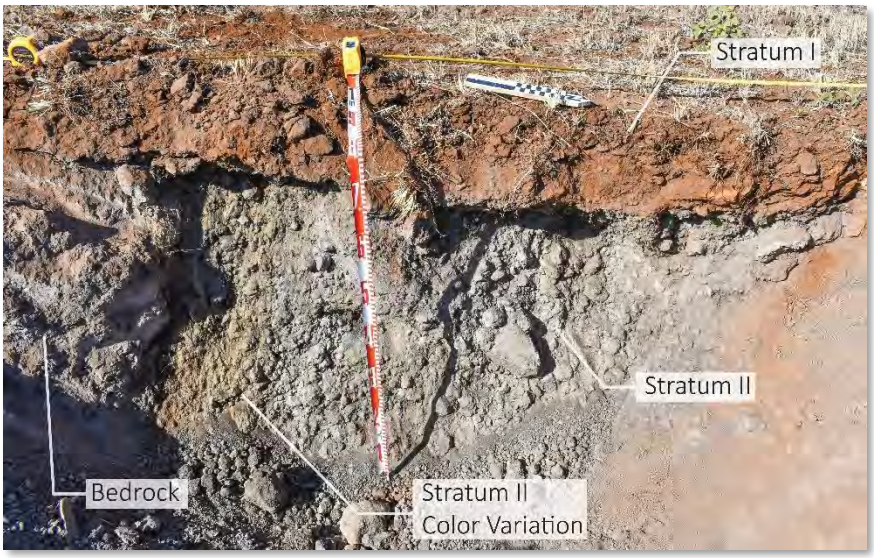

Figure 5-34 AA2009, BT-6, close-up of middle section of west profile wall, labels indicate location of strata and Stratum II and soil color variation.

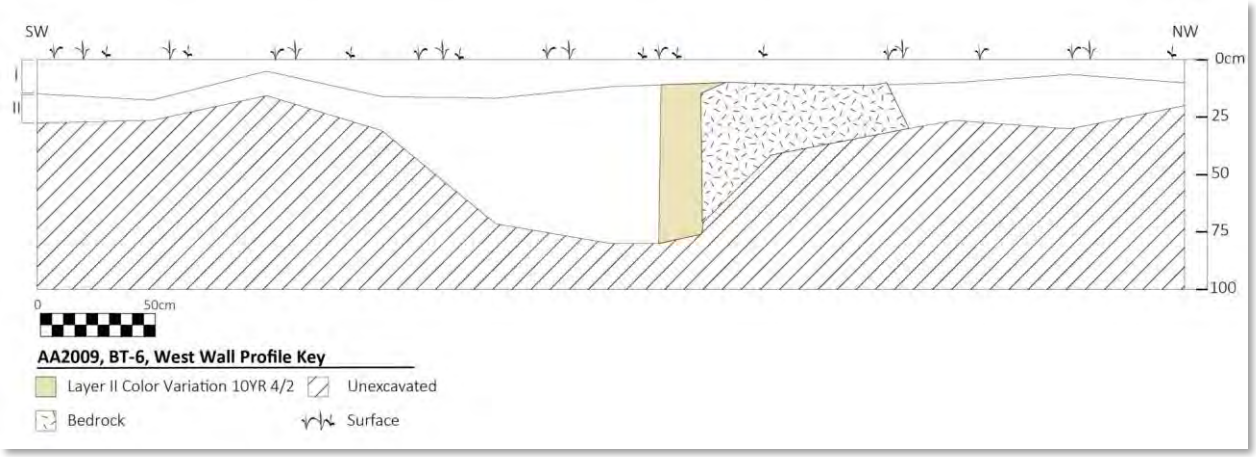

Figure 5-35 AA2009, BT-6, profile map of west wall

AA2009, Unit No. BT-6, West Wall Stratigraphy Description (See Figure 5-34 *and* Figure 5-35*)*

Stratum I *Horizon: Developing A/Fill* *Upper Boundary Depth Range* *0-0 cmbs* *Lower Boundary Depth Range* *5-28 cmbs*	5YR 4/3 reddish brown; Silt loam, structureless, single grain, fine,medium; Dry, oose consistency; Non-plastic with no cementation; Roots are many and fine to medium in size; Lower boundary is clear and wavy. Cultural Material Observed: None observed. General Observations: Stratum is a thin layer of Developing A horizon mixed with fill. Stratum lies directly on top of bedrock and decomposing bedrock (Stratum II). Dead grass and root clusters were common throughout.
Stratum II *Horizon: R* *Upper Boundary Depth Range* *5-28 cmbs* *Lower Boundary Depth Range* *16-80 cmbs*	7.5YR 4/1 dark greyish brown; Gravel, structureless, massive; Dry; Roots are very few and very fine in size; Lower boundary is not visible. Cultural Material Observed: None observed. General Observations: Stratum is decomposing bedrock that appears to be in different stages of decomposition. There was a noticeable variation in color of the bedrock that was mapped. The color variation is a 10 YR 4/2 brown.Some roots were present within the area of color variation. Stratum lies within areas of intact bedrock that are near the surface on the south and north ends of the trench. Bedrock is nearly protruding above ground at the north east end of the unit. Indicating that the stratum does not contain soil and is made up entirely of decomposing bedrock.

5.2.7 Mechanically Assisted Test Unit 7 (BT-7)

BT-7 is in the northwest portion of the project area and is located where the fire pump room will be constructed (Figure 5-36). BT-7 measures 5 m in length and 1 m in width. Ground disturbance from construction is expected to reach a maximum depth of 6 to 8 ft (1.8 to 2.4 m). Before excavation began three fragments of false brain coral were found near the surface of the unit (Figure 5-37). However, due to the topsoil being comprised of Developing A horizon/ modern fill it is highly unlikely that the coral has remained in context or indicates the presence of sub-surface features within the project area.

Figure 5-36 AA2009, BT-7, Overview of location in northwest portion of project area facing west, BT-1 visible to the north

Figure 5-37 AA2009, BT-7, plan view of false brain coral fragments located near trench

BT-7 had a proposed maximum excavation depth of 6 to 8 ft (1.8 to 2.4 m). However, a layer of decomposing bedrock (Stratum II) was reached between 3 to 20 cm below surface and bedrock was reached at 10 cm below surface (Figure 5-38 through Figure 5-40). Excavation ceased upon excavating 48 cm into the R horizon (Stratum II) and 23 to 55 cm in depth. The unit contained 3 to 20 cm of silt loam identified as Developing A horizon mixed with modern fill (Stratum I) (see Figure 5-38 through Figure 5-40). One rusted brake rotor was found during excavation at 60 cm below surface and is believed to be associated with previous construction activities in the area. No cultural material or cultural layers were present within BT-7.

Figure 5-38 AA2009, BT-7, overview of south profile wall with labels indicating location of strata

Figure 5-39 AA2009, BT-7, oblique view facing west of south profile wall

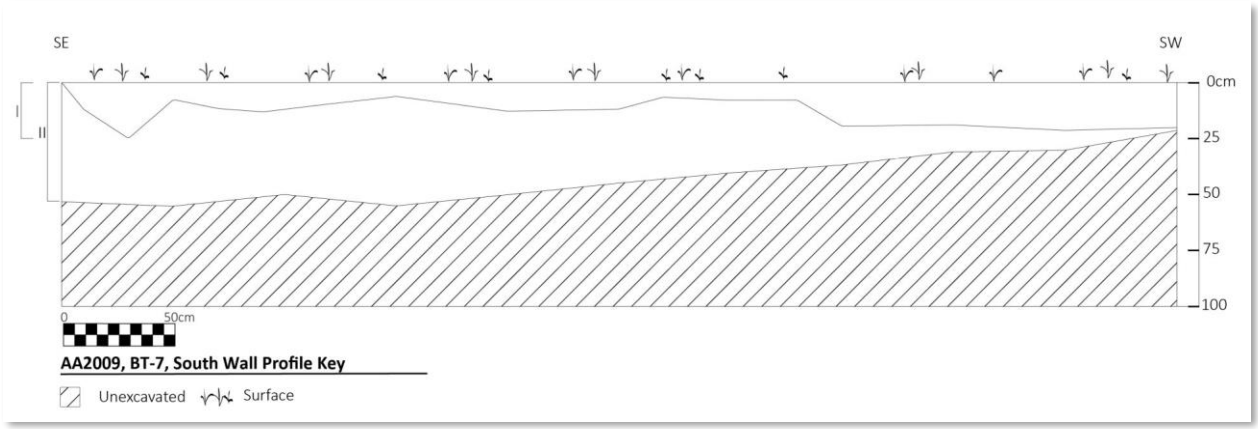

Figure 5-40 AA2009, BT-7, profile map of south wall

AA2009, Unit No. BT-7, South Wall Stratigraphy Description (See Figure 5-38 *and* Figure 5-40*)*

Stratum I *Horizon: Developing A/Fill* *Upper Boundary Depth Range* *0-0 cmbs* *Lower Boundary Depth Range* *3-20 cmbs*	5YR 4/3 reddish brown; Silt loam, structureless, single grain, fine,medium; Dry, weakly coherent consistency; Non-plastic with no cementation; Roots are many and fine to medium in size; Lower boundary is gradual and irregular. Cultural Material Observed: None observed. General Observations: Stratum is the Developing A horizon mixed with modern fill. Inclusions include dead grasses and root clusters. Root penetration measaures 3 to 5 cm in depth.
Stratum II *Horizon: R* *Upper Boundary Depth Range* *3-20 cmbs* *Lower Boundary Depth Range* *23-55 cmbs*	10YR 5/1 gray; Gravel, structureless, massive; Dry; No roots present; Lower boundary is not visible. Cultural Material Observed: One rusted brake rotor was found during excavation at 60 cm but is not believed to be historical and is likely related to previous construction/fill in the area. General Observations: Stratum is comprised entirely of decomposing bedrock and is located on top of intact bedrock.

5.2.8 Mechanically Assisted Test Unit 8 (BT-8)

BT-8 is in the southwest portion of the project area and is located where the underground chamber for storm control will be constructed (Figure 5-41). BT-8 measures 5 m in length and 1 m in width. Ground disturbance from construction is expected to reach a maximum depth of 12ft (3.65 m). As such, BT-8 had a proposed maximum excavation depth of 10ft (3 m). However, a layer of decomposing bedrock (Stratum II/R horizon) was reached between 3 to 38 cm below surface (Figure 5-42 and Figure 5-43). Excavation ceased upon excavating between 85 to 109 cm into the R horizon (Stratum II) and 95 to 136 cm from the surface. The unit contained 3 to 38 cm of silt loam identified as Developing A horizon mixed with modern fill (Stratum I) (see Figure 5-43 and Figure 5-44). No cultural material or cultural layers were present within BT-8.

Figure 5-41 AA2009, BT-8, overview of location of trench facing northeast

Figure 5-42 AA2009, BT-8, close-up of excavator removing a mix of topsoil (Stratum I/ Developing A horizon and modern fill) and decomposing bedrock (Stratum II/R horizon)

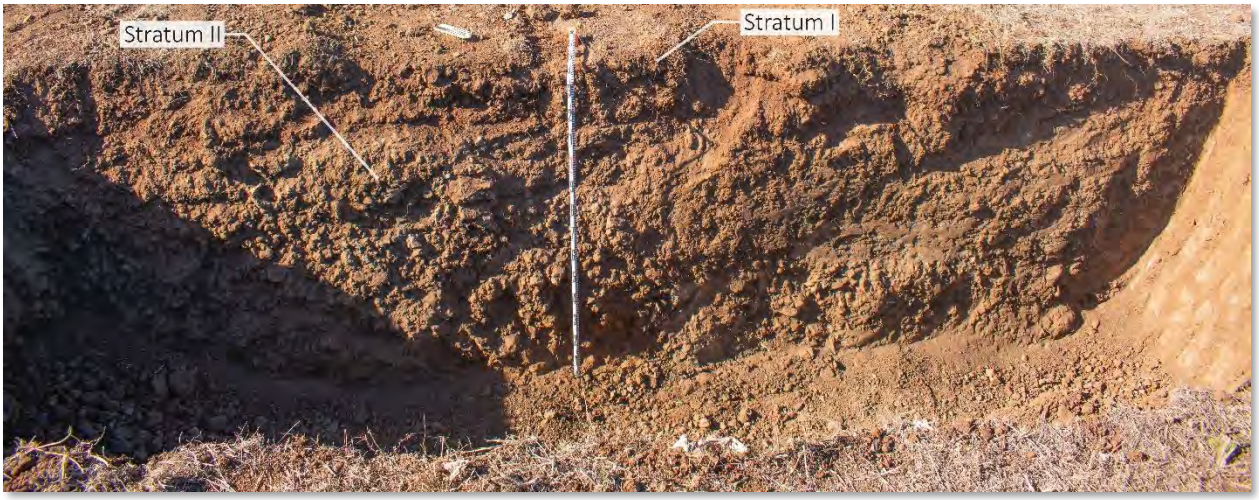

Figure 5-43 AA2009, BT-8, overview of southwest profile wall, labels indicate location of strata

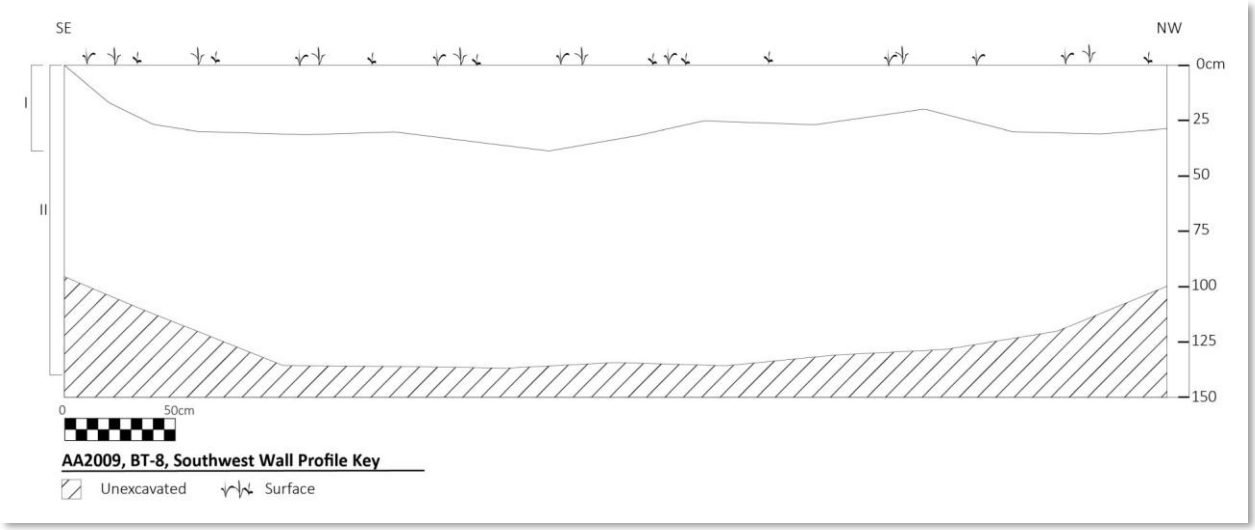

Figure 5-44 AA2009, BT-8, map of southwest profile wall

AA2009, Unit No. BT-8, Southwest Wall Stratigraphy Description (See Figure 5-43 *and* Figure 5-44*)*

Stratum I *Horizon: Developing A/Fill* *Upper Boundary Depth Range* *0-0 cmbs* *Lower Boundary Depth Range* *3-38 cmbs*	5YR 3/4 dark reddish brown; Silt loam, weak, medium, blocky structure; Dry, weakly coherent consistency; Non-plastic with no cementation; roots are common and fine to medium in size; Lower boundary is gradual and irregular. Cultural Material Observed: None observed General Observations: Stratum is the Developing A horizon mixed with modern fill. Sparse amounts of grasses and roots were present within the soil.
Stratum II *Horizon: R* *Upper Boundary Depth Range* *3-38 cmbs* *Lower Boundary Depth Range* *95-136 cmbs*	10YR 4/2 dark grayish brown; Gravel, decomposing bedrock; Dry; No roots present; Lower boundary is not visible. Cultural Material Observed: None observed General Observations: Stratum is comprised entirely of decomposing bedrock. The bedrock can be broken into finer gravels when scraped from the wall but contains no soil.

5.2.9 Mechanically Assisted Test Unit 9 (BT-9)

BT-9 is in the southwest portion of the project area and is located where the underground chamber for storm control will be constructed (Figure 5-45). BT-9 measures 5 m in length and 1 m in width. Ground disturbance from construction is expected to reach a maximum depth of 12 ft (3.65 m). As such, BT-9 had a proposed maximum excavation depth of 10 ft (3 m). However, a layer of decomposing bedrock (Stratum II/R horizon) was reached between 3 to 18 cm below surface (Figure 5-46 through Figure 5-48). Large intact pieces of bedrock were also reached between 14.5 and 38 cm below surface (Figure 5-46 through Figure 5-48). Excavation ceased upon excavating a maximum of 85 cm into the R horizon (Stratum II) and a maximum of 101 cm in depth from the surface. The unit contained 6 to 18 cm of silt loam identified as Developing A horizon mixed with modern fill (Stratum I) (see Figure 5-46 through Figure 5-48). Stratum II consisted entirely of decomposing bedrock and contained one color variation that is likely a result of the decomposition process. Stratum II contained no soil. No cultural material or cultural layers were present within BT-9.

Figure 5-45 AA2009, BT-9, overview of trench location facing east

Figure 5-46 AA2009, BT-9, overview of middle portion of southwest profile wall, labels indicate location of strata and bedrock

Figure 5-47 AA2009, BT-9, oblique view of profile wall, labels indicate location of strata, Stratum II color variation, and bedrock

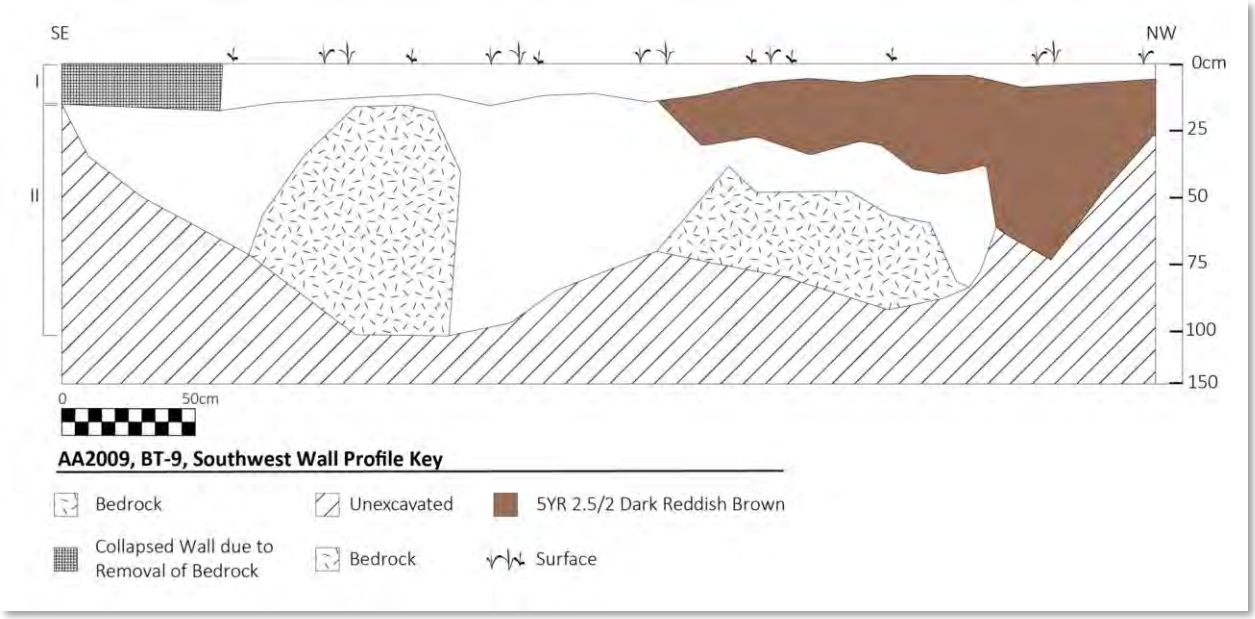

Figure 5-48 AA2009, BT-9, map of southwest profile wall

Figure 5-49 AA2009, BT-9, close-up of decomposing bedrock taken from profile wall showing decomposing bedrock ranging from fine to coarse in size with no soil present

AA2009, Unit No. BT-9, Southwest Wall Stratigraphy Description (See Figure 5-46 *and* Figure 5-48*)*

Stratum I *Horizon: Developing A/Fill* *Upper Boundary Depth Range* *0-0 cmbs* *Lower Boundary Depth Range* *6-18 cmbs*	5YR 3/3 dark reddish brown; Silt loam, structureless, single grain, fine, medium; Dry, loose consistency; Non-plastic with no cementation; Roots are very few and fine to medium in size; Lower boundary is gradual and smooth. Cultural Material Observed: None observed General Observations: Stratum is the Developing A horizon mixed with modern fill. Roots and dry grasses are presen throughout.
Stratum II *Horizon: R* *Upper Boundary Depth Range* *4-17.5 cmbs* *Lower Boundary Depth Range* 18-101	10YR 6/1 gray; Gravel; Dry; No roots present; Lower boundary is not visible. Cultural Material Observed: None observed General Observations: Stratum is comprised entirely of decomposing bedrock. There is one color variation on the northwest corner of the profile wall of 5YR 2.5/2 dark reddish brown. This color variation is likely a result of the decomposition process. The stratum sits on top of and between large intact pieces of bedrock. Gravel is difficult to dislodge from the profile wall and breaks off in small fine particles as well as larger gravel pieces (Figure 5-49).

6.0 SUMMARY AND INTERPRETATION

Nine mechanically assisted test units (BTs) were excavated in the project area (see Section 5.2 Subsurface Survey Results). No subsurface features, cultural deposits, or cultural material was uncovered in any of the BTs. Subsurface testing indicated the presence of two stratigraphic layers including a Developing A horizon mixed with modern fill (Stratum I) and R horizon composed entirely of decomposing bedrock (Stratum II). Stratum I is primarily comprised of imported materials and soil from previous construction activities. However, the upper extremities of the stratum contain a relatively high density of decomposing organic materials, consisting of dry grasses and roots suggesting that A horizon soil has began to develop within the modern fill. Overall, Stratum I is comprised of a silt loam soil that varies between 5YR reddish brown and 5YR yellowish red in color. Stratum I does not extend futher than 38 cm below surface. Because Stratum I is primarily composed of imported fill, it is unlikely that it contains any historically significant subsurface cultural deposits as archaeological testing has showed that the layer is culturally sterile.

Stratum II (R horizon) was found directly below Stratum I (Developing A horizon) in all of the BTs. Stratum II was comprised entirely of decomposing bedrock and contained no soil. The bedrock appeared to be in different stages of decomposition thus resulting in the appearance of stratigraphic change due to visible variation in color and gravel sizes of the bedrock. The color variations were typically seen in areas where decomposing bedrock was moist and/or located next to larger intact pieces of bedrock. It is possible that the color variations represent either a younger, more recent decomposition process, or differences in the mineral content of the basalt. When present, all color variations were represented in the BT profile maps (see 5.2 Subsurface Survey Results). Variations in gravel sizes were present throughout the stratum and had no visible pattern. When applying a soil texture test, the bedrock would typically break off in small to medium sized pieces of gravel mixed with a fine gritty powder that was also interpreted as weathered or decomposed bedrock.

Subsurface testing conducted during the 2018 AIS (Kehajit and Dega 2018:19-38) varies from the findings described above. In the 2018 report all identified layers were described as a silty loam that varied between 5YR reddish brown and yellowish red in color, with one described as a 10YR 3/3 dark brown (Kehajit and Dega 2018:19-38). These descriptions are similar to Stratum I (Developing A horizon) that was identified during the 2020 BT testing. However, the 2018 report identified an additional layer, Stratum II, below Stratum I, that was also recorded as a silty loam (Kehajit and Dega 2018:19-38). Upon comparison of the 2018 and 2020 findings it appears that Stratum II, as well as the lower extremities of Stratum I, are comprised of decomposing bedrock and do not contain silt loam soil. Despite containing some fine gritty powder mixed with the gravels, the decomposing bedrock holds no form and has no characteristics that are representative of a silt loam or soil in general. This is further evidenced by its location between

and on top of large pieces of intact bedrock. Additionally, while excavating Stratum II the excavator bucket lost multiple teeth on several of the BT units due to the hard and compact nature of the decomposing bedrock layer. The removal of teeth while excavating would likely not have occurred if Stratum II was characterized by a silt loam soil.

Due to the presence of a fairly shallow topsoil that is primarily comprised of imported fill and its location on top of a layer of decomposing bedrock, it is highly unlikely that any historically significant subsurface cultural deposits are present within the current project area.

7.0 RECOMMENDATIONS

The pedestrian survey and subsurface testing revealed no evidence of potentially significant historical properties within the project area. Additionally, due to the nature of the soil located within the project area it is highly unlikely that any potentially significant historical properties exist subsurface. As such, no further archaeological work is recommended.

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Appendix 15.2

SHPD Letter dated October 12, 2021

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

October 12, 2021

IN REPLY REFER TO:
Project No.: 2020PR32922
Doc. No.: 2109AM13
Archaeology

Michele Chouteau McLean, Director
County of Maui Planning Department
2200 Main Street
One Main Plaza, Suite 315
Wailuku, HI 96793
c/o tara.furukawa@mauicounty.gov

Dear Michele Chouteau McLean:

SUBJECT: **Chapter 6E-42 Historic Preservation Review –**
County of Maui Permit Applications CPA 2018/0001, CIZ 2018/0001, SM1 2018/0001, and EA 2018/0001
Kanahā Hotel at Kahului Airport Project (Formerly Windward Hotel Project)
Supplemental Archaeological Inventory Survey Report
Wailuku Ahupuaʻa, Pūʻali Komohana District, Island of Maui
TMK: (2) 3-8-079:013, 014 por., 015, 016, 017, and 018

This letter provides the State Historic Preservation Division's (SHPD's) review of the supplemental archaeological inventory survey (SAIS) report titled *Supplemental Archaeological Assessment Report for the Kanahā Hotel at Kahului Airport, Permit Applications CPA 2018/0001, CIZ 2018/0001, SM1 2018/0001, and EA 2018/0001 Wailuku Ahupuaʻa, Pūʻali Komohana Moku, Wailuku Modern Tax District, Island of Maui, TMK: (2) 3-8-079:013, 014 por., 015, and 016, 017, and 018 (Formerly a portion of TMK [2] 3-8-079:013)* (Ruberti et al., September 2021) and associated County of Permit Applications CPA 2018/0001, CIZ 2018/0001, SM1 2018/0001, and EA 2018/0001 for the Kanahā Hotel at Kahului Airport project (Submission Nos. 2020PR32922.001 and 2020PR32922.002). SHPD previously reviewed and accepted an archaeological inventory survey report (Kehajit and Dega, March 2020) for the project and requested an archaeological monitoring plan (AMP) in a letter dated July 20, 2020 (Log No. 2020.00815, Doc. No. 2007AM04). Subsequently, SHPD received the SAIS report on June 14, 2021.

R.D. Olsen Development (project proponent) proposes the construction of Kanahā Hotel at Kahului Airport within a 5.17-acre project area on the subject property. The project includes the development of a 200-unit hotel with associated infrastructure and landscaping, as well as installation of a swimming pool and water storage tanks with a pump room with pipelines.

ʻĀina Archaeology conducted the SAIS in support of the Kanahā Hotel at Kahului Airport project to address the concerns outlined in our previous review letter regarding the adequacy of the original AIS (Kehajit and Dega, March 2020). The current SAIS included re-surveying of the project area with pedestrian transects spaced 5 meters apart and excavation of nine additional backhoe test trenches (BTs) in areas proposed for the most ground disturbance during construction. The SAIS report includes summaries of historic land use, previous archaeological investigations, and the SAIS results. No significant historic properties were identified during the survey and the results section identifies two stratigraphic layers including a developing A horizon mixed with modern fill (Stratum I) and a R horizon composed entirely of decomposing bedrock (Stratum II). Based on the results of the SIAS, Ruberti et al. (September 2021) recommend no further archaeological work for the project.

Based on the information provided in the SAIS (Ruberti et al. April 2021), SHPD's determination is **no historic properties affected** for the current project permits. Pursuant to HAR §13-284-7(e), when the SHPD agrees that the action will not affect any significant historic properties, this is the SHPD's written concurrence, and the historic

preservation review ends. The HRS 6E historic preservation review process is ended. The permit issuance process may proceed.

Please attach to permits: In the unlikely event that subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, native sand deposits, or sink holes are identified during the demolition and/or construction work, cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division, at (808) 652-1510.

Please contact Andrew McCallister, Maui Archaeologist IV, at andrew.mccallister@hawaii.gov for matters regarding archaeological resources or this letter.

Aloha, Alan Downer

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

cc: Trisha Watson, Honua Consulting, watson@honuaconsulting.com
Sharon Ying, RD Olson Development, sharon.ying@rdodevelopment.com
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