DRAFT–Archaeological Monitoring Plan for Construction of an A-Side Remote Block Change Antenna at Kaena Point Satellite Tracking Station, Kaʻena Ahupua‘a, Waialua District and Keawaʻula Ahupua‘a, Wai‘anae District, Island of Oʻahu, Hawaiʻi

TMK: (1) 6-9-003:005

Prepared For:
Honeywell Technology Solutions Inc.

Prepared By:
Windy Keala McElroy, PhD
Keala Pono Archaeological Consulting, LLC

27 January 2011
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Keala Pono Archaeological Consulting, LLC • 53-412 Kamehameha Hwy., Hauula, HI 96717 • Phone 808.381.2361
ARCHAEOLOGICAL MONITORING

Archaeological monitoring will be conducted for ground disturbing activity associated with construction of a Hawaii Tracking Station A-Side Remote Block Change Antenna on TMK: (1) 6-9-003:005 at Kaena Point Satellite Tracking Station, Ka‘ena Ahupua‘a, Waialua District and Keawa‘ula Ahupua‘a, Wai‘anae District, on the island of O‘ahu, Hawai‘i. This monitoring plan is designed to identify and appropriately treat archaeological resources that might be encountered during construction. No surface archaeological remains occur in the project area and there is a low probability of encountering subsurface archaeological resources there. Full time archaeological monitoring will be carried out for the onset of the project, and this may be reduced to spot-check monitoring as warranted, in consultation with the State Historic Preservation Division.
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INTRODUCTION

At the request of Honeywell Technology Solutions Inc., Keala Pono Archaeological Consulting, LLC has prepared an archaeological monitoring plan for construction of a Hawaii Tracking Station (HTS) A-Side Remote Block Change (RBC) antenna on TMK: (1) 6-9-003:005 at Kaena Point Satellite Tracking Station (KPSTS), Kaʻena Ahupuaʻa, Waialua District and Keawaʻula Ahupuaʻa, Waiʻanae District, on the island of Oʻahu, Hawaiʻi. This monitoring plan is designed to identify historic properties that might be exposed during construction, and to treat them properly, in accordance with the State Historic Preservation Division (SHPD) Rules Governing Standards for Archaeological Monitoring Studies and Reports (§ 13-279-4). The plan includes background information on the project area and an outline of field methods and post-field actions proposed for the archaeological monitoring. Hawaiian words and flora and fauna taxa are defined in the glossary at the end of the document.

NATURE AND LOCATION OF THE UNDERTAKING

KPSTS is located on the western tip of Oʻahu Island, on Kuaokalā Ridge, overlooking Kaʻena Point (Figures 1 and 2). The installation straddles Kaʻena Ahupuaʻa in Waialua and Keawaʻula Ahupuaʻa in Waiʻanae. Rainfall averages approximately 30–40 inches per year at KPSTS (Juvik and Juvik 1998). Soils are of the Rock Land-Stony Steep Land Association (Foote et al. 1972). Vegetation at KPSTS typically consists of grasses and landscaped trees along roadways, with pockets of wooded areas dominated by koa haole and Christmas berry.

A new HTS A-side RBC antenna is proposed for KPSTS, the construction of which includes demolition of an existing helipad, an adjacent parking lot near Building 10, and a legacy antenna facility (Figure 3). The proposed antenna will be located at the current helipad site. A new cable trough between Building 10 and the new antenna is also required.

The helipad is slated for relocation approximately 230 ft northwest of the proposed antenna. This relocation will involve clearing and grubbing of all vegetation at the new helipad site, re-grading, soil compaction, and repaving. Two short road realignments next to the proposed antenna and new helipad are also required. The clearing, grubbing and excavation for the realignments will largely occur in previously disturbed or currently paved areas.

Once the new A-Side antenna is operational, one of the existing legacy Automated Remote Tracking Station (ARTS) radomes will be demolished. Demolition may involve partial or complete removal of the existing antenna, radome, pedestal, and foundation. Two alternative facilities are proposed for demolition (see Figure 3):

• Alternative 1 – Demolition of the legacy ARTS Side-A (60-ft dish) antenna, Building 39005
• Alternative 2 – Demolition of the legacy ARTS Side-B (46-ft dish) antenna, Building 39006
Figure 1. Location of the project area on the west end of O‘ahu Island.
Figure 2. Location of the project area on a USGS topographic map.
Figure 3. Proposed RBC Antenna construction site and two alternative radome demolition sites.
CULTURAL CONTEXT

This section includes information on mo'olelo and traditional and historic land use of Ka'ena and Keawa'ula Ahupua'a. A summary of previous archaeological research that took place on KPSTS is presented as well.

MO'OLELO AND TRADITIONAL LAND USE

Ka'ena and Keawa'ula Ahupua'a have a rich traditional history. They were storied places visited by the renowned mythical fisherman, Maui, as well as Hi'iaka, sister of Pele, and Pele herself. Leina a ka 'uhane were located here, where souls of the dead would make their final leap to the netherworld. A place where the soul could be restored to its body also was located in the area. It is important to note, however, that most of the mo'olelo presented here took place in the setting of coastal Ka'ena and Keawa'ula, while the project area sits atop the ridge overlooking the coast. While the mo'olelo are relevant to the project site, they did not directly take place there, unless otherwise noted.

Ka'ena Ahupua'a, Waialua District

Place names often shed light on traditional views of an area and can provide important contextual information. Several conflicting accounts inform on the naming of Waialua District. Thrum (in Sterling and Summers 1978:88) states that Waialua translates to “two waters,” thus many believe that the name derived from Waialua’s two streams. However, Thrum believed that the district was named after a taro patch, and a common saying was that if you traveled to Waialua and did not see this taro patch, then you did not really see Waialua. Pukui (in Sterling and Summers 1978:88) asserted that the district was named for the cruel chief Waia, grandson of Wakea. Waia carried out his evil deeds at Waialua, and there was so much suffering there that the district was named Waialua, or “doubly disgraceful.” Another source attributed the name to Waialua Pool at Kemo'o (Awai in Sterling and Summers 1978:88).

Ka'ena literally means “the heat” (Pukui et al. 1974:61). Ka'ena Ahupua’a is said to have been named after a relative of Pele who came to Hawai‘i with her from Kahiki (Pukui et al. 1974:61). Handy and Handy described Ka'ena as “probably the poorest ahupua’a in land resources on Oahu,” although the area was known for its rich deep sea fishing grounds (1991:467). Sweet potato was grown on the western slopes of the Wai‘anae mountains and small amounts of taro were cultivated in Uluhulu Gulch, watered from a spring to the west (Handy and Handy 1991:467).

Pu'u Pueo, or “owl hill,” overlooks Ka'ena Point (Pukui et al. 1974:205). The pu'u was a leina a ka 'uhane, or jumping off point where spirits took their final leap into the netherworld (Emerson 2005:100). A heiau Kukuianiani, or “flickering light” once stood on the hill (Pukui et al. 1974:205).

Another leina a ka 'uhane was located on the coastal flat of Ka'ena. Known as Leina Kauhane, the site was marked by terracing with pavements of black pebbles (Sterling and Summers 1978:94). Leina Kauhane is described in a 1933 newspaper article:

Among Hawaiians it was a belief that as soon as the soul left the body, it traveled west. “Travels west” is a euphemistic term for dying among many other peoples. Kaena Point is the western extremity of Oahu. As the newly released soul
approached the point, it was met by the souls of ancestors or friends who had preceded it. They might send it back to the body if death were not real. On the other hand, if the disintegration were to be final, they conducted it to Leinakauhane, whence the soul would make its plunge into the sea on its way to eternity (Honolulu Advertiser in Sterling and Summers 1978:94).

‘Ālau Gulch runs down the center of KPSTS. This translates as “many rocks” (Pukui et al. 1974:10). To the east is Manini Gulch, which was named for a reef fish (Pukui et al. 1974:145). It was here that a manini fish was offered to Hi‘iaka here in exchange for answering a riddle she posed (Pukui et al. 1974:145).

Kuaokalā is a land division, ridgeline, and name of a heiau in KPSTS. This translates to “back of the sun” (Pukui et al. 1974:119). A moʻolelo recounts the tale of Ka‘aniau, the ghost of a dead woman who lived on the ridge (Sterling and Summers 1978:98). Pele and Hiʻiaka arrived in the area, looked up to Kuaokalā, and saw Ka‘aniau. Through prayer they brought Ka‘aniau back to life and asked her for a canoe so they could travel to Kaua‘i. Ka‘aniau showed them where an old deteriorated canoe lay abandoned and they restored it in one day’s time and departed for Kaua‘i.

It is unclear whether Kuaokalā Heiau is also known as Mokaena Heiau, or these were two separate structures. At 1,200 ft. elevation, McAllister described Mokaena Heiau as the highest heiau on O‘ahu. It is located on the Wai‘anae side of the ridge above Ka‘ena Point and is composed of an adjoining series of two platforms and an enclosure. McAllister described the heiau as “surprisingly inconspicuous” (1933:127), and Sterling could not relocate it in the 1970s, but suspected it had been destroyed by military activity (Sterling and Summers 1978:97).

McAllister stated that the heiau was said to have been built by settlers from Kaua‘i (1933:127). However, Fornander (1917) related that menehune constructed Kuaokalā Heiau, and they were commissioned by a man named Kahano-a-Newa. When the sun disappeared and darkness fell, Kahano-a-Newa made the sun return again (Fornander 1917). McAllister noted a legend that involved menehune (1933:127). When Maui was fishing at Ka‘ena, he caught a huge red kūmū and dragged it up to the heiau so that a trail was left from Pōhaku o Kaua‘i to Kuaokalā Heiau. Maui left the fish on the heiau and the menehune cut it into small pieces. When the ocean rose, the pieces were consumed by the tide and now the kūmū are small.

Another account asserted that the heiau at Kuaokalā was one of two temples on O‘ahu that were used for sun worship (Nakuina in Sterling and Summers 1978:98). The other O‘ahu sun heiau was located where Kapiʻolani Park now stands, and both were only used by a select few.

Rasmussen (2007:21) stated that “The presence of two heiau is suggested by the descriptions of the visual orientation of Kuaokalā Heiau toward Kaʻena Point in contrast to Mokaena Heiau, which is oriented toward the north…”

Kaʻena is mentioned in several moʻolelo. It is said that Maui tried to unite Oʻahu and Kauaʻi Islands at Kaʻena Point (Emerson 2005:104). Maui cast his magic fishing hook into the sea and snared Kauaʻi Island. The hook only caught a piece of the island, however, and a large boulder was flung into the sky. The boulder landed on Kaʻena Point and is now known as Pōhaku o Kauaʻi.
Pele made a stop at Pōhaku o Kaua‘i as she followed the call of music to where hula was being performed at Hā‘ena, Kaua‘i (Emerson 2005:3–4). At first she thought that it was Pōhaku o Kaua‘i that was tricking her with the music. The pōhaku greeted her when she arrived, but Pele answered that she was going to kill him because he had deceived her with his music. The pōhaku replied that it was not him, and that the song was coming from across the sea. Pele realized that the sound resonated from Kaua‘i and continued on.

Hi‘iaka later petitioned Pōhaku o Kaua‘i for help in obtaining a canoe (Emerson 2005:105–106, 156–157). The pōhaku responded that he had no canoe, for his vessel was destroyed in a storm while he was fishing. Hi‘iaka asked for a plank instead, and Pōhaku o Kaua‘i acceded to her request. She then asked for an ama, or outrigger, and the pōhaku replied that he had none. He gave her a block of wiliwili instead, and with these materials, Hi‘iaka fashioned a makeshift canoe and sailed away in search of her lover, Lohiau. Once the two were reunited, they returned to O‘ahu, where Hi‘iaka immediately paid her respects to Pōhaku o Kaua‘i.

Another mo‘olelo recounted the tale of Kawelo, a warrior from Kaua‘i who aspired to conquer the men of ‘Aikanaka (Pukui 1994:100–107). He traveled to O‘ahu where he had heard of a powerful sacred fish known as the Traveling Uhu that was occasionally seen in the waters off Ka‘ena Point. Kawelo set out to catch the feared uhu and its arrival was marked by a storm. Kawelo netted the giant uhu and it dragged the canoe out to sea but Kawelo would not cut the net. Kawelo killed the uhu with powerful prayers, left a piece on a heiau in Wai‘anae, and set out to defeat the ‘Aikanaka men.

Keawa‘ula Ahupua‘a, Wai‘anae District

The name of the Wai‘anae District translates to “mullet water” (Pukui et al. 1974:220), referring to the area’s richness in mullet, a prized eating fish. Keawa‘ula literally means “the red harbor” (Pukui et al. 1974:105). It is thought to have been named for the red cuttlefish, or mūhe‘e, that frequent the seas there, making the ocean appear red. The ahupua‘a was known for rich fishing grounds for ‘ahi and aku (I‘i 1959:98).

Ka-ho‘iho‘ina-Wākea, or “Wākea’s turning back place”, was an area where spirits of a person who had just died would travel to (Pukui et al. 1974:105). If the person’s aumakua did not deem the individual ready to die, then the spirit would be returned back to the body.

It is said that a woman named Kaihukoa moved to Wai‘anae and married Kaena, an ali‘i of Wai‘anae (Fornander in Sterling and Summers 1978:87). Kaihukoa transformed herself into the fishing grounds off of Ka‘ena Point and brought the ulua, kahala, and mahimahi there.

There is a cave in Keawa‘ula known as Poha Cave, where fresh water would flow into the ocean (McAllister 1933:124). Fishermen would collect drinking water by diving down to the flow with an upturned calabash and filling it with fresh water before returning to the surface.

HISTORIC LAND USE

Perhaps the earliest historic reference to Keawa‘ula was made in 1826 by the missionary Levi Chamberlain (Chamberlain 1826:490). He mentioned in his journal the presence of a school:

About 12 o’clock we arrived at Keavaula, an indifferent village, but the place of a school, containing 24 scholars nearly all destitute of books and but five acquainted with the letters.
During the 1848 Māhele, 210 acres of Keawa‘ula were awarded to La‘amaikahiki, and the remainder was listed as government land. Two Land Commission Awards (LCAs) were found for Keawa‘ula. LCA 5557 was made to Kaio for 10 acres at Kikiolo (Indices 1929:274). LCA 5999 of 10.9 acres was awarded to Lonoahilei at Kopiliole (Indices 1929:293). Both parcels, under the requirements for *kuleana* land, are assumed to have been used for cultivation of crops. Given the climate conditions of the area, it is likely that dryland crops were cultivated. Ka‘ena Ahupua‘a was claimed by Victoria Kamāmalu, but the *ahupua‘a* became government lands when she exchanged the property to pay debts on other land holdings.

Ranching was prevalent in Keawa‘ula between the 1860s and 1930s. In 1864 the government portion of land was leased to Joseph and John Booth for 25 years for ranching until their deaths in 1873. At that time the lease was transferred to Samuel Andrews. In 1889, he received an additional 21 years on the lease; however, it appears that he transferred the lease to L.L. McCandless around 1901. McCandless extended the lease until 1920 and continued to lease the lands until 1925 on a “tenancy at will” basis. The land was put out to bid by the State in 1925 and McCandless was outbid by James Frank Woods from Kohala on the island of Hawai‘i. After two years, Woods signed the lease over to McCandless who then retained the lease until his death in 1940.

In 1898, the Oahu Railway and Land Company completed a railway that extended from Kahuku around Ka‘ena Point to the Ewa Plantation in Wai‘anae. The railway was built to serve the sugar plantations in Wai‘anae. Many Japanese workers were brought in for the construction and maintenance of the railway. These workers gave Keawa‘ula Beach its common name of “Yokohama Beach” (Hammatt et al. 1993:15). In addition to the sugar plantations, the railway was also utilized by the livestock industry, commercial vegetable growers, and for movement into and out of the area generally. Between 1942 and 1946 the railroad company and the City and County of Honolulu had an agreement to transport refuse to Keawa‘ula from Kapālama. In 1946 a tsunami destroyed the railway leaving only remnants behind.

The US military began acquiring land in nearby Māku‘a valley in 1929. Maneuvers were conducted as early as 1932. In 1941, with the onset of World War II, the military acquired all of Keawa‘ula, Kahanahāiki, and Māku‘a valleys under martial law. These areas were used for extensive training maneuvers. KPSTS was initially constructed between 1958 and 1959, additional buildings were added through the mid-1960s, and new antenna systems were built in the 1970s.

In 1921, under the Governor’s Executive Order 105, a 12-acre area was created as a beach park fronting the government portion of Keawa‘ula. In the 1970s, the State of Hawai‘i turned the area into the Ka‘ena Point State Park and constructed the Ka‘ena Point access road.

**PREVIOUS ARCHAEOLOGY**

KPSTS has been well studied archaeologically (Table 1). The following is a summary of archaeological publications that report on work carried out at KPSTS. Project summaries are presented chronologically.

Archaeological reconnaissance was completed for the entire KPSTS installation (Hammatt and Borthwick 1987). Pedestrian survey identified nine archaeological sites, although only one (Mokaena Heiau), was determined to be clearly pre-Contact. The other sites were possibly pre-Contact features that were later disturbed, a World War II site, and a ranching site.
An archaeological inventory survey was conducted for a fiber optic corridor that ran from Mokulē‘ia to KPSTS (Hammatt et al. 1993). No new sites were recorded within the installation.

An archaeological assessment was carried out for an upgrade of the water distribution system at KPSTS (Jourdane and Dye 2006). A rock alignment was found in the vicinity of Building 41 but it was thought to be a modern construction.

An archaeological assessment was conducted to collect data for an updated Integrated Cultural Resources Management Plan (Rasmussen 2007). All archaeological sites within KPSTS were assessed. Two new sites were found: Temporary Site 1 is the rock alignment identified by Jourdane and Dye (2006). This was now interpreted as a possibly pre-Contact habitation site or retaining wall. Temporary Site 2 is a World War II gun emplacement that overlooks Keawa‘ula.

Two studies were conducted in anticipation of the current project. An archaeological assessment and impact analysis was carried out for the areas proposed for construction (McElroy 2010a). This included a surface inspection of the Area of Potential Effect (APE), in which no new archaeological sites were found. Known Cold War era resources included a metal cable tray and two radome buildings, all of which are less than 50 years old. At the request of SHPD, the cable tray was documented with maps and photographs (McElroy 2010b). SHPD determined that the project will have no adverse effect on historic properties (Aiu 2010).

Table 1. Previous Archaeology at KPSTS

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<thead>
<tr>
<th>Author and Year</th>
<th>Work Completed</th>
<th>Findings</th>
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<tr>
<td>Hammatt and Borthwick 1987</td>
<td>Reconnaissance</td>
<td>nine new sites</td>
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<tr>
<td>Hammatt et al. 1993</td>
<td>Archaeological Inventory Survey</td>
<td>no new sites</td>
</tr>
<tr>
<td>Jourdane and Dye 2006</td>
<td>Archaeological Assessment</td>
<td>no new sites</td>
</tr>
<tr>
<td>Rasmussen 2007</td>
<td>Archaeological Assessment</td>
<td>two new sites</td>
</tr>
<tr>
<td>McElroy 2010a</td>
<td>Archaeological Assessment</td>
<td>no new sites</td>
</tr>
<tr>
<td>McElroy 2010b</td>
<td>Documentation of Cold War-Era Cable Tray</td>
<td>no new sites</td>
</tr>
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CULTURAL AND ARCHAEOLOGICAL SITES IN THE PROJECT VICINITY

Previous surveys of KPSTS have identified several archaeological sites, most of which are post-Contact in origin or possibly pre-Contact but disturbed. The most noteworthy site is Mokaena Heiau on the Wai‘anae side of the ridge above Ka‘ena Point. This important heiau is approximately 500 m southeast of Demolition Alternative Site 2 (Figure 4). Also in the vicinity of Demolition Alternative Site 2 is Site -3708, which consists of earthen terraces and retaining walls (Tomonari-Tuggle 2008:34). This site is located roughly 500 m northwest of Demolition Alternative Site 2.
Two traditional Hawaiian archaeological sites have been identified near Demolition Alternative Site 1 and the proposed RBC Construction Site. Archaeological Site -3718 is located ca. 180 m northeast of the Proposed RBC Construction Site. This site was recorded by Hammatt and Borthwick (1987:44) and is described as a series of discontinuous rock alignments and concentrations, generally 6 to 8 feet long and covering a 30 x 50 ft area. An adze was observed in the southern portion of the site. Site -3720, also recorded by Hammatt and Borthwick (1987:42), consists of a 30 ft.-long discontinuous boulder alignment situated roughly 180 m northwest of Demolition Alternative Site 1. Although both sites are considered possible traditional Hawaiian sites and potentially eligible for National Register of Historic Places (NRHP) listing under Criterion D, neither of them are within the three proposed project areas.

ARCHAEOLOGICAL IMPLICATIONS AND ANTICIPATED ARCHAEOLOGICAL REMAINS

Historical and archaeological data have several implications for the potential of archaeological remains in the area that might be affected by construction:

1. Ka'ena Point has a rich history passed down through generations by *mo'olelo* and other oral tradition. Most of the *mo'olelo* involve the flats below the project site, which is far removed from the ridge top where construction will take place.

2. Surface archaeological sites on the ridge top include a *heiau*, earthen terraces, walls, and rock alignments. The closest of these to the APE is a complex of alignments that lie 180 m away. No surface archaeological sites occur within the APE.

3. Aside from surface architecture, other evidence of traditional Hawaiian use of the area might include isolated artifacts or buried cultural deposits. Given the absence of surface architecture in the APE, the great distance to the nearest known archaeological site, and previous disturbance to the area, the probability of encountering artifacts or buried cultural deposits is low.

4. Cold War-era structures occur in the APE but they are less than 50 years old. A metal cable tray was documented in full (McElroy 2010b). SHPD determined that the project will have no adverse effect on historic properties (Aiu 2010).
Figure 4. Archaeological sites (blue dots) in the vicinity of APEs (red squares).
PROJECT DESIGN

Initially, archaeological monitoring will be conducted for all subsurface excavation. If cultural materials indicating the presence of undisturbed deposits are discovered, then archaeological subsurface test excavations may be conducted as an optional task in consultation with SHPD. If no archaeological remains are encountered, monitoring efforts will be reduced to once a week spot checks, with written approval of SHPD.

PROJECTPersonnel

A senior archaeologist, qualified under §13-281, HAR, will serve as principal investigator for the project. The principal investigator will be responsible for overall project organization and management, will ensure high standards for field sampling and laboratory analyses, may conduct field visits and direct supervision of field personnel as appropriate, and will review the content of the monitoring report. The archaeological monitor will have fieldwork experience in Hawai‘i and have a BA degree or have completed sufficient college-level coursework in Anthropology and Hawaiian Archaeology. If archaeological remains are identified, the monitor has the authority to halt ground disturbing activities in the immediate area of the find.

FIELDWORK

Prior to fieldwork, the archaeological monitor will meet with the construction team to discuss the monitoring plan. The archaeological monitor will ensure that the construction team understands the purpose of the monitoring and that the monitor has the authority to halt construction activity.

Field recording and sampling may include, but are not limited to, the drawing of stratigraphic profiles, photography, and controlled excavation of exposed features. Accurate map locations of test units, stratigraphic profiles, and archaeological features, deposits, and artifacts will be maintained. Field recording and sampling are intended to mitigate any potentially adverse effects to historic properties. Standards of documentation, recording, and analysis shall accord with the Secretary of the Interior’s Standards and Guidelines for Archaeological Documentation.

If human remains are discovered during monitoring, work in the vicinity of the remains will cease and the archaeological monitor will protect any exposed bones, secure the area, and notify the proper authorities. No further work will take place in the immediate vicinity, although work in other areas of the project site may continue. Since the project is being conducted on federal lands, human remains encountered during monitoring will fall under the Native American Graves Protection and Repatriation Act (NAGPRA).

Post-Field Actions

The nature and scope of post-field actions will vary according to the results of the fieldwork. At minimum, if no archaeological remains are discovered, a report documenting the negative findings will be produced and submitted to SHPD. If archaeological remains are discovered, appropriate analyses will be conducted and reported.

Laboratory analyses of cultural materials and sediments will be conducted in accordance with the Secretary of the Interior’s Standards and Guidelines for Archaeological Documentation and will follow the SHPD Rules Governing Standards for Archaeological Monitoring Studies and Reports (§ 13-279-4). The specific procedures employed in laboratory analysis will vary according to the kinds of remains that are recovered. For example, artifacts will be measured, weighed, sketched or
photographed and identified as appropriate. Faunal material will be weighed, counted, and taxonomically identified to the highest level of detail possible. Research documents, field notes, and maps will be curated at Keala Pono Archaeological Consulting facilities. Archaeological materials, such as sediment samples and artifacts, will be temporarily curated at Keala Pono facilities and turned over to Honeywell Technology Solutions, Inc. once laboratory analyses are complete.

Preparation of a final report shall conform to the Secretary of the Interior’s *Standards and Guidelines for Archaeological Documentation*. Photographs of excavations will be included in the monitoring report even if no historically-significant sites are documented. A draft monitoring report shall be prepared and submitted to SHPD in a timely manner, within four months following the end of fieldwork. A revised final report will be submitted within one month following receipt of review comments on the draft report. Should burials and/or human remains be identified, other letters, memos, and/or reports may be required.
SUMMARY AND CONCLUSION

In summary, archaeological monitoring will be conducted for ground disturbing activity associated with construction of a HTS RBC on TMK: (1) 6-9-003:005 at KPSTS on O’ahu. No surface archaeological remains occur within the APE and there is a low probability of encountering subsurface archaeological resources there. The nearest known archaeological site lies 180 m away from the APE. Full time archaeological monitoring will be carried out for the onset of the project, and this may be reduced to weekly spot-check monitoring as warranted, in consultation with SHPD.
###GLOSSARY

<table>
<thead>
<tr>
<th>‘ahi</th>
<th>Tuna fish, such as <em>Thunnus albacares</em>, the yellowfin tuna, an important food item.</th>
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<tbody>
<tr>
<td>ahupua‘a</td>
<td>Traditional Hawaiian land division usually extending from the uplands to the sea.</td>
</tr>
<tr>
<td>aku</td>
<td>The bonito or skipjack, <em>Katsuwonus pelamis</em>, a prized eating fish.</td>
</tr>
<tr>
<td>ali‘i</td>
<td>Chief, chiefess, monarch.</td>
</tr>
<tr>
<td>ama</td>
<td>Outrigger.</td>
</tr>
<tr>
<td>‘aumakua</td>
<td>Family or personal gods. The plural form of the word is ‘aumākua.</td>
</tr>
<tr>
<td>Christmas berry</td>
<td>The ornamental tree <em>Schinus terebinthifolius</em> known for its bright red berry-like fruits.</td>
</tr>
<tr>
<td>heiau</td>
<td>Place of worship and ritual in traditional Hawai‘i.</td>
</tr>
<tr>
<td>kahala</td>
<td>The amberjack or yellowtail fish, <em>Seriola dumerilii</em>.</td>
</tr>
<tr>
<td>koa haole</td>
<td>An historically introduced small tree, <em>Leucaena glauca</em>.</td>
</tr>
<tr>
<td>kuleana</td>
<td>Right, title, property, portion, responsibility, jurisdiction, authority, interest, claim, ownership.</td>
</tr>
<tr>
<td>kūmū</td>
<td>The goatfish <em>Parupeneus porphyreus</em>.</td>
</tr>
<tr>
<td>leina a ka ‘uhane</td>
<td>A place where spirits leaped into the netherworld.</td>
</tr>
<tr>
<td>Māhele</td>
<td>The 1848 division of land.</td>
</tr>
<tr>
<td>mahimahi</td>
<td>The dolphin fish, <em>Coryphaena hippurus</em>, a prized eating fish.</td>
</tr>
<tr>
<td>manini</td>
<td>The common reef fish <em>Acanthurus triostegus</em>, a variety of surgeonfish.</td>
</tr>
<tr>
<td>menehune</td>
<td>Small people of legend who worked at night to build structures such as fishponds, roads, and heiau.</td>
</tr>
<tr>
<td>mo‘olelo</td>
<td>A story, myth, history, tradition, legend, or record.</td>
</tr>
<tr>
<td>mūhe‘e</td>
<td>The cuttlefish <em>Sepioteuthus arcticinnis</em>.</td>
</tr>
<tr>
<td>pōhaku</td>
<td>Rock, stone.</td>
</tr>
<tr>
<td>pu‘u</td>
<td>Hill, peak, cone, mound.</td>
</tr>
<tr>
<td>uhu</td>
<td>Parrot fish, such as <em>Scarus perspicillatus</em>.</td>
</tr>
<tr>
<td>ulua</td>
<td>Certain varieties of crevalle, jack, or pompano, an important food fish in traditional Hawai‘i also used in sacrifices in place of a man.</td>
</tr>
<tr>
<td>wiliwili</td>
<td>The tree <em>Erythrina sandwicensis</em>, found in dry environments. The lightweight wood was traditionally used for surfboards, canoe outriggers, and net floats.</td>
</tr>
</tbody>
</table>
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