An Archaeological Inventory Survey of
TMK: (3) 1-5-10:028

Pōpōkī Ahupuaʻa
Puna District
Island of Hawaiʻi

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EXECUTIVE SUMMARY

At the request of Mr. Lincoln King of Native Technologies, Inc., on behalf of the landowner, ASM Affiliates, Inc. conducted an Archaeological Inventory Survey of a 3.5-acre parcel (TMK: (3) 1-5-10:028) located in Pōpōkī Ahupua’a, Puna District, Island of Hawai‘i. This parcel is a portion of a former land grant (Grant 1537) sold to Kapohana in 1855, and is currently situated within the State Conservation District. The landowner plans to develop a single-family residence on the property, which given the Conservation District zoning requires the preparation of an Environmental Assessment (EA) and Conservation District Use Application (CDUA) pursuant to Hawai‘i Revised Statutes (HRS) Chapter 343. The current study is being prepared in support of the EA and CDUA, and was undertaken in accordance with Hawai‘i Administrative Rules (HAR) 13§13-284.

The current study area (TMK:3-1-5-10:28) consists of 3.5 acres located in Pōpōkī Ahupua’a, Puna District, Island of Hawai‘i (see Figures 1 and 2). The parcel is located southeast of the Hawaiian Paradise Park residential subdivision between the old Government Road (the Government Beach Road) and the coast at elevations ranging from 15 to 50 feet above sea level.

As a result of the current inventory survey features of two previously recorded archaeological sites (SIHP Sites 18419 and 18418) were identified within the current study parcel. These sites were originally recorded on the neighboring parcel to the southeast by Charvet-Pond and Rosendahl (1993) and include a core-filled wall (Site 18419 Feature A) and a trail section (a portion of Site 18418 Feature A). The bulk of the study area, with the exceptions of the locations of the two recorded sites and a small area in the parcel’s western corner had been previously bulldozed. There were no archaeological features observed on the unmodified pāhoehoe bedrock in the western corner of the study parcel, nor were any resources observed with the bulldozed portion of the parcel.

Both of the archaeological sites recorded during the current inventory survey are considered significant under Criterion D for information they have yielded relative to the past use of the study area. Site 18419 Feature A is a Historic Period (likely post-1903) wall that defined pasture space and was associated with cattle-ranching activities that took place in the general study area during the early and middle twentieth century. Site 18418 Feature A is a segment of an elevated coast trail that was used during the Precontact Period (and likely also during early historic times) by the area’s inhabitants for both distance travel and to access shoreline resources. This site (Site 18418 Feature A) is considered additionally significant under Criterion E for the important traditional cultural value that such sites hold for native Hawaiians of today. DLNR-SHPD previously accepted a “no further work” treatment for Site 18419 Feature A and nothing was found during the current study to recommendation otherwise. Site 18418 Feature A was previously approved for preservation, a treatment that is supported by the current study. A preservation plan for this site, relative to the current study area, should be prepared and submitted to DLNR-SHPD for review and approval.
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1. INTRODUCTION

At the request of Mr. Lincoln King of Native Technologies, Inc., on behalf of the landowner, ASM Affiliates, Inc. conducted an Archaeological Inventory Survey of a 3.5-acre parcel (TMK: (3) 1-5-10:028) located in Pōpōkī Ahupua‘a, Puna District, Island of Hawai‘i (Figures 1 and 2). This parcel is a portion of a former land grant (Grant 1537) sold to Kapohana in 1855, and is currently situated within the State Conservation District. The landowner plans to develop a single-family residence on the property, which given the Conservation District zoning requires the preparation of an Environmental Assessment (EA) and Conservation District Use Application (CDUA) pursuant to Hawai‘i Revised Statutes (HRS) Chapter 343. The current study is being prepared in support of the EA and CDUA, and was undertaken in accordance with Hawai‘i Administrative Rules (HAR) 13§13-284. In order to satisfy the Historic Preservation review process requirements of the Department of Land and Natural Resources -State Historic Preservation Division (DLNR-SHPD) as well as the County of Hawai‘i Planning Department rules and guidelines, the structure and contents of the current report adhere to the Rules Governing Minimal Standards for Archaeological Inventory Surveys and Reports as contained in HAR 13§13-276.

This report contains background information outlining the project area’s physical and cultural contexts, a presentation of previous archaeological work in the vicinity of the parcel, and current survey expectations based on that previous work. Also presented is an explanation of the project’s methods, a detailed description of the archaeological sites encountered, interpretation and evaluation of those resources, and treatment recommendations for the documented sites.

PROJECT AREA DESCRIPTION

The current study area (TMK:3-1-5-10:28) consists of 3.5 acres located in Pōpōkī Ahupua‘a, Puna District, Island of Hawai‘i (see Figures 1 and 2). The parcel is located southeast of the Hawaiian Paradise Park residential subdivision between the old Government Road (the Government Beach Road) and the coast at elevations ranging from 15 to 50 feet above sea level. The parcel is bounded along its makai edge (to the northeast) by sea cliffs (Figure 3), to the south-southeast by a privately owned, developed residential parcel (Parcel 29), to the north-northwest by a privately owned, undeveloped residential parcel (Parcel 27), and along its mauka edge by the old Government Road (Figure 4). A core-filled wall is present along the mauka and southeastern boundaries of the study parcel. Access to the parcel is through a gated driveway along the makai edge of the old Government Road (Figure 5). The driveway extends through a bulldozed gap in the wall across the southeastern portion of the project area towards the coast (Figure 6). Two modern concrete slabs are present in the makai portion of the study parcel; one near the southeastern boundary at the termination of the driveway (Figure 7), and another (once the location of a wooden structure that was recently torn down) near the northwestern boundary (Figure 8). A wire fence line extends from the coast at the study parcel’s northern corner to the wall at the old Government Road (Figure 9), but does not follow the project area boundary, which was recently marked with lathe and flagging tape by surveyors. Other fences enclose an area between the driveway and the fence line near the northwestern boundary, inland of the two concrete slabs (Figure 10).

Terrain within the project area slopes gently to the northeast and consists of mixed ‘a‘ā and pāhoehoe lava flows (primarily pāhoehoe) that originated from Kilauea Volcano 450 to 700 years ago (Wolfe and Morris 1996). Soils in this area are classified as Opihikao extremely rocky muck (Sato et al. 1973). This soil typically consists of a thin layer of very dark brown muck about three inches thick that is generally underlain by pāhoehoe lava bedrock, and is strongly acidic. The muck is rapidly permeable, and the lava is very slowly permeable, but water moves rapidly through the cracks. Runoff is slow, and the erosion hazard is slight. Roots are matted over the pāhoehoe lava, but they can penetrate the cracks to a depth of two feet (Sato et al. 1973). This area typically receives 60 to 100 inches of rain per year (Jurvik and Jurvik 1998:57).
1. Introduction

Figure 1. Project area location map.

AIS TMK: (3) 1-5-10:028 Pōpōkī, Puna, Hawai’i
Figure 2. Tax Map Key (TMK):3-1-5-10 showing the current study parcel (Parcel 028) shaded red.

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1. Introduction

Figure 3. *Makai* boundary of the current study parcel at the coast, view to the northwest.

Figure 4. Old Government Road along the *mauka* edge of the current study parcel, view to the southeast.
1. Introduction

Figure 5. Access road to the current study parcel extending *makai* from the old Government Road, view to the west.

Figure 6. Driveway extending across the southeastern portion of the study parcel, view to the west.
1. Introduction

Figure 7. Concrete slab foundation near the southeast boundary of the study parcel, view to the north.

Figure 8. Concrete slab located near the northwestern boundary of the study parcel, view to the north.
1. Introduction

Figure 9. Fence line that extends between the coast and the wall at the old Government Road near the northwestern boundary of the study parcel, view to the southwest.

Figure 10. Fence line crossing the central portion of the study parcel, view to the northwest.
1. Introduction

Nearly the entire study parcel, with the exception of a small area in the west corner, has been previously bulldozed, and was once mowed lawn and pasture (Figure 11). Owing to this bulldozing, vegetation across much of the project area consists of a secondary growth of tall molasses grass (*Melinis minutiflora*), with stands of ironwood trees (*Casuarina equisetifolia*), *hala* (*Pandanus odoratissimus*), coconut palms (*Cocos nucifera*), guava (*Psidium guajava*), and autograph trees (*Clusia rosea*), along with various other non-native grasses, vines, weeds, and ferns, also present. The graded ground surface across the bulldozed portion of the project area consists of cobbles and thin soil, but in the western corner of the parcel, where a thick over story of vegetation shades out the ground cover, undisturbed pāheohe bedrock is present. Some *naupaka* (*Scaevola sericea*), *hala*, and coconut palms are also growing near the sea cliffs.

Figure 11. Aerial photograph (from Google Earth) showing the current study parcel (outlined in red).
2. BACKGROUND

In order to generate a set of expectations regarding the nature of archaeological resources that might be encountered on the study parcel, and to establish an environment within which to assess the significance of any such resources, previous archaeological studies relative to the project area and a general historical context for the region are presented. It should be noted that Pōpōkī Ahupua‘a is a small ahupua‘a sandwiched between the larger ahupua‘a of Maku‘u to the northwest, and the small ahupua‘a of Hālona to the southeast. The boundaries between these three ahupua‘a are not depicted on any of the cartographic resources reviewed for this study, and in the literature all three are often referenced together as a single unit (Maku‘u is often the general term used to mean the entire area; Charvet-Pond and Rosendahl 1993:C-1). The placement of the current project area within Pōpōkī Ahupua‘a was determined through a reckoning of the parcel’s location within the ahupua‘a, combined with a review of information contained in the records for former Grant 1537, which includes the current project area. Based on this information, it is very likely that the current study parcel is located within Pōpōkī Ahupua‘a near its boundary with Hālona Ahupua‘a.

PREVIOUS ARCHAEOLOGICAL RESEARCH

Several previous archaeological studies have been conducted within Maku‘u, Pōpōkī, and Hālona ahupua‘a (Table 1 and Figure 12), and the current project area was previously the subject of an archaeological field inspection conducted by Rosendahl (1989). Nine other studies were conducted in the coastal portions of the ahupua‘a in the immediate vicinity of the current project area (Barrera and Lerer 1990; Chaffee and Spear 1993; Chavert-Pond and Rosendahl 1993; Ewart and Luscomb 1974; Hudson 1932; Komori and Peterson 1987; Rosendahl 1989; Spear et al. 1995, Clark et al. 2008). A brief discussion of the findings of each of these previous studies, arranged in chronological order, follows below.

Table 1. Previous archaeological studies in Maku‘u, Pōpōkī, and Hālona ahupua‘a

<table>
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<th>Author/Date</th>
<th>Type of Study</th>
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<td>Barrera and Lerer 1990</td>
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<td>Charvet-Pond and Rosendahl 1993</td>
<td>Inventory Survey</td>
<td>Maku‘u, Hālona, Pōpōkī</td>
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<td>Conte et al. 1994</td>
<td>Inventory Survey</td>
<td>Maku‘u, Hālona, Pōpōkī</td>
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<td>Desilets and Rechtman 2004</td>
<td>Inventory Survey</td>
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<td>Clark et al. 2007</td>
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<tr>
<td>Hudson 1932</td>
<td>Archaeological Survey</td>
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<tr>
<td>Ewart and Luscomb 1974</td>
<td>Reconnaissance Survey</td>
<td>Various</td>
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<tr>
<td>Komori and Peterson 1987</td>
<td>Cultural and Biological Resource Survey</td>
<td>Various</td>
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<tr>
<td>McEldowney and Stone 1991</td>
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<td>Various</td>
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<td>Yent 1983</td>
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<td>Rosendahl 1989</td>
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In addition to the coastal studies, seven other studies have been conducted at more inland locations within the ahupua‘a (Bordner 1977; Conte et al. 1994; Desilets and Rechtman 2004; McEldowney and Stone 1991; Rechtman 2003; Yent 1983, Clark et al. 2007) (see Table 1). These studies are not discussed in detail below, but are briefly discussed and referenced because of what they tell us about land use and subsistence within the ahupua‘a as a whole. McEldowney and Stone (1991) and Yent (1983) documented extensive lava tube systems containing cultural material related to Precontact habitation and burial in the extreme upland portions of the ahupua‘a. As a result of the remaining four upland studies, which included over 2,000 acres of total survey area, only three other features were recorded. One of these features was a cairn (Bordner 1977), another was a small terrace interpreted as a possible agricultural planting area (Desilets and Rechtman 2004), and the third was a complex of surface features that included a large enclosure, a constructed mound, a wall, and a platform that was interpreted as the location of...
2. Background

unspecified Native Hawaiian ceremonial activities (Desilets and Rechtman 2004). The relative lack of archaeological features in the upland area of the *ahupua’a* is understandable considering that most of the area consists of relatively young lava flows covered by dense (primarily native) vegetation.

The earliest coastal survey of archaeological resources in the vicinity of the current project area was conducted by Hudson (1932). Hudson attempted to inventory the sites of East Hawai’i Island from Waipio Valley to the Ka’ū District for the B. P. Bishop Museum. He recorded a wide range of archaeological features including *heiau*, burials, caves, habitations, trails, and agricultural features during his survey. The route of the survey took him through the coastal portion of Maku’u, Pōpōkī, and Hālona *ahupua’a*. It does not appear, however, that Hudson (1932) recorded any features in the immediate vicinity of the current project area. Hudson noted that it was difficult to obtain information about sites in Puna because “most of them are located along the coast between Keaau and Kopoho where no one now lives, and it is difficult to locate descendants of the former Hawaiian population of the area who might be able to shed light on the nature and function of certain sites”, and that, “back from the sea the land is under cultivation in cane, used for pasture, or covered with dense vegetation which can be penetrated only with difficulty” (1932:304).

Forty-two years later, Ewart and Luscomb (1974) of the B. P. Bishop Museum conducted a six-mile long archaeological reconnaissance survey of a proposed Kapoho-Keaukaha Highway route through the District of Puna from Waiakahiula *ahupua’a* to Kea’au *ahupua’a*. The survey area consisted of a 2,000-foot wide corridor that generally followed the route of the old Government Road that passes mauka of the current project area (see Figure 12). Ewart and Luscomb (1974) recorded numerous archaeological features and feature complexes in the vicinity of the current project area including walls, mounds, petroglyphs, trails, platforms, enclosures, and modified depressions. These features were variously interpreted as being associated with habitation, burial, agriculture, and ranching.

Komori and Peterson (1987) conducted a pedestrian survey of a proposed Pohoiki-Keaau transmission line corridor that passed roughly 1.5 miles inland (southwest) of the current project area (see Figure 12). Komori and Peterson recorded five agricultural site complexes, habitation and burial platforms, burial and refuge caves, and petroglyphs. According to Komori and Peterson (1987), the agricultural complexes were all located on or adjacent to ‘a’ā lava flows or ash deposits that were more than 1,500 years old. Feature types observed at these agricultural complexes included walls, terraces, clearings, ditches, and modified outcrops. The other sites recorded by Komori and Peterson (1987) were all located on pāhoehoe lava flows that originated from Kīlauea Volcano between 300 and 500 years ago. Komori Peterson (1987) suggests that the construction and use of these sites likely dates to between A.D. 1450 and the present, and that the development of the inland agricultural complexes likely followed the establishment of permanent settlements at the coast sometime after A.D. 1450.

Rosendahl (1989) conducted a field inspection of the current study parcel (see Figure 12). With the exception of a stone wall along the south and east boundaries of the parcel, no surface structural or portable remains of any kind were identified on the property. Rosendahl (1989) relates that the lack of findings was due to widespread bulldozing that had occurred on the parcel at some point prior to the field inspection. Rosendahl concludes:
Figure 12. Location of previous archaeological studies conducted in the vicinity of the current study parcel.
2. Background

As a result of the negative findings of the field inspection, no further archaeological field work is necessary within the present project area. The evaluation and recommendation presented within this report are made solely on the basis of the field inspection survey work. There is always the possibility, however remote, that potentially significant, unidentified subsurface cultural remains and/or surface structural features will be encountered in the course of future archaeological investigations or subsequent development activities. In such situations, archaeological consultation should be sought immediately. (1989:2)

Beginning in 1990, three phases of archaeological study were conducted at TMK:3-1-5-10:33, a 14-acre parcel located along the coast to the northwest of the current project area (see Figure 12). Barrera and Lerer (1990) first conducted an Archaeological Inventory Survey of the parcel. As a result of that study, six archaeological site complexes, each with multiple features, were recorded on the parcel (SIHP Sites 14675, 14981, 14982, 14983, 14984, and 14985). These sites included a wide range of feature types such as modified outcrops, depressions, and lava blisters, walls, mounds, platforms, enclosures, and terraces, which were interpreted as being used for habitation, agriculture, and possible burial during Precontact and Historic times. Only two of the sites, Sites 14675 and 14985, were recommended for further study.

Chaffee and Spear (1993) followed up on Barrera and Lerer’s (1990) work by conducting burial testing at Feature J of Site 14675 (a mound) and Features C, L, and M of Site 14985 (two platforms and a mound). Three of these features (Features J, L, and M) were found to contain subsurface vaults interpreted as burial chambers. Two of the vaults (at Features L and M of Site 14985, a mound and a platform) contained human skeletal remains, while Feature J of Site 14675 lacked human skeletal remains, but was interpreted as a burial feature anyway based on its formal attributes. The lack of human skeletal remains at Feature J was explained by the presence of a wetter micro-environment at that feature, as compared to the other two, which had accelerated the rate of decomposition of the skeletal material (Chaffee and Spear 1993:20). Two of the features (Features J and M) contained associated grave goods that dated to the Historic Period, suggesting a post-contact time frame for the interment of those individuals. With a surface pavement of 'ili'ili and lacking a subsurface vault, Feature C was dissimilar in construction technique to the other three features; and based on the results of the Chaffee and Spear (1993) burial testing, Feature C of Site 14985 was determined to be a habitation platform.

Spear et al. (1995) conducted additional data recovery excavations at some of the remaining features of Sites 14675 and 14985 located northwest of the current project area (see Figure 12). Five features—Feature B (an enclosure), Feature C (a terrace), Feature R (a sealed lava blister), Feature Y (a faced mound), and Feature AP (an enclosure)—were tested at Site 14675, and Feature J (a terrace) of Site 14985 was also tested. Artifacts recovered during the excavations were limited to two types of material; (1) basalt (flakes, manuports, an abrader, and a hammerstone/anvil), and (2) volcanic glass (flakes, debitage, and cores). Most of this material was recovered from Feature J of Site 14985. That feature also yielded a radiocarbon date with a 2 sigma calibrated result of A.D. 1660 to 1950. Based on the data recovery findings Spear et al. (1995) conclude that the large size of most of the tested features suggested that they were used for permanent habitation purposes during the late Precontact Period until perhaps the late nineteenth century. One feature (Feature Y of Site 14675), based on its construction and lack of cultural debris, was interpreted as being used for agricultural purposes.

Charvet-Pond and Rosendahl (1993) conducted an Archaeological Inventory Survey of TMK:3-1-5-10:29, a 3.6-acre coastal parcel located adjacent to the southeast edge of the current study parcel (see Figure 12). As a result of the survey five archaeological sites consisting of twelve features were recorded on the subject parcel. The sites included a Precontact coastal trail (Site 18418 Feature A), two Historic cattle walls (Site 18419), a coastal terrace complex interpreted as a possible agricultural shrine or heiau (Site 18420), two “bait cups” located within the coastal basalt bench (Site 18421), and an agricultural complex containing twenty-six individual features (Site 18422). One of the Site 18419 cattle walls extends along the southeastern boundary of the current study parcel, and Feature A of Site 18418, a coastal trail, extends in the general direction of the current project area, but stops at the Site 18419 cattle wall. The features of Site 18422 included modified outcrops, modified depressions, terraces, walls, and mounds. Nine of these agricultural features were subject to subsurface testing, which yielded fifty-nine volcanic glass cores and flakes. Subsurface testing was also conducted at Sites 18418, 18420, and 18421, which revealed a complete lack of cultural material at those sites. Based on the predominance of agricultural features and relative lack of cultural debris within their project area, Charvet-Pond and Rosendahl (1993) suggest that many of the activities formerly conducted there were likely related to Precontact agricultural pursuits. It is for this reason that they interpreted Site 18420, a five-feature complex, as a possible agricultural shrine or heiau. Three of the terraces of the complex were located on an adjacent parcel to the southeast (TMK:3-1-5-10:30), and were therefore not tested, but Charvet-Pond and Rosendahl (1993) suspect that based on their formal attributes, it is possible that one or all of them...
them may also contain burials. The main feature of Site 18420 is a 1.0+ meter high, two-tiered terrace with a water-
worn cobble surface. Although several possible functional interpretations are discussed for this feature (e.g. fishing 
shrine, burial, Precontact or Historic habitation), all are discarded in favor of the agricultural heiāu interpretation. 
This interpretation was arrived at based on the feature's formal attributes, the lack of cultural debris, and its 
proximity to the agricultural features of Site 18422.

In 1995, former State Historic Preservation Division (SHPD) staff archaeologist Marc Smith conducted a site 
inspection of TMKs:3-1-5-10:8, 22, and 23, located to the southwest of the current project area, mauka of the old 
Government Road (see Figure 12) at the request of a Mr. Tom Brennen (Don Hibbard letter dated August 14, 1995; 
on file at DLNR-SHPD). Don Hibbard, former SHPD administrator, describes the archaeological features that were 
observed during that visit:

Stone structures were observed in Parcel 23. These consisted of a single platform, stacked stone 
walls, mounds, and modified outcrops. It appears that these structures may be associated with 
young agricultural practices and may be significant as they reflect past land use patterns, and for 
their information content. Also on historic maps a mauka-makai trail cuts across all three parcels. 
Where this trail was visible in the field it appears as a jeep road, with very few modifications. It is 
unclear who owns the trail easement, but it may be significant in that it reflects past land use 
practices. Because of the proximity to historic Maku'u, unmarked grave sites could be expected, 
however, during this site inspection no burials were observed.

Hibbard goes on to recommend that the features be recorded prior to any modifications to the parcel, and that 
the information should be submitted to DLNR-SHPD for their review and comment. Also, that if any significant 
historic sites are encountered, that as part of any permit action, a mitigation plan detailing a data recovery and/or 
preservation commitment should also be submitted.

Clark et al. (2007) conducted an Archaeological Inventory Survey of a 38-acre parcel (TMK:3-1-5-10:23; one 
of the parcels inspected by Marc Smith in 1995) located to the southwest of the current project area, mauka of the 
old Government Road (see Figure 12). As a result of that study, five archaeological sites were recorded, including a 
Precontact agricultural shrine or small heiāu (Site 26165), a Historic trail/roadway (Site 26166), a habitation 
complex (Site 26167), and two agricultural complexes (Sites 26168 and 26169). These sites were interpreted as 
being variously related to Precontact and continued early Historic Hawaiian use of the area for habitation, 
ceremonial, and agricultural purposes. Primary habitation occurred at Site 26167, an enclosed complex where a 
subsurface deposit of marine shell, fish bone, and pig bone found within a terrace indicated that the nearby coastal 
marine resources and terrestrial resources were exploited for subsistence purposes. Agriculture was practiced at Sites 
26168 and 26169 where soil-filled depressions in a pāhoehoe lava flow could have been mulched and planted in 
diverse crops. The shrine recorded by Clark et al. (2007) (Site 26165) occupied a prominent location on an ‘a‘ā 
slope overlooking a low-lying pāhoehoe area that contained numerous agricultural features of Site 26169. The 
shrine consisted of a terrace constructed in three levels, that had a ramped entrance paved with water-worn cobbles 
leading to a square, water-worn cobble paving on the second level, and a slab lined pit on the third level. Clark et al. 
(2007) suggest that the cobble paving may have been intended as a spot for leaving offerings, and the slab lined pit 
could have supported a wooden ki‘i (idol). A Historic trail/roadway dating to the early part of the 20th century was 
also recorded. The roadway formerly ran from the old Government Road inland to Maku‘u Station along the old 
railroad line.

Clark et al. (2008) conducted an Archaeological Inventory Survey of a 5.586-acre parcel (TMK:3-1-5-10:32) 
located northwest of the current project area, between the old Government Road and the coast (see Figure 12). As a 
result of that study, nine archaeological sites containing a total of 67 features were recorded within their project area. 
The sites included a core-filled wall along the old Government Road (Site 26658), an enclosure/pavement used for 
Historic habitation purposes (Site 26659), a Historic habitation complex (Site 26660), a modified bedrock hole used 
for water collection and storage (Site 26661), three concealed bedrock overhangs interpreted as Historic burial 
features (Sites 26662, 26663, and 26664), a platform interpreted as a Precontact burial feature (Site 26665), and a 
large agricultural complex (Site 26666) containing 55 features that spanned the entire project area. Six test units 
were excavated at five of the recorded sites. In addition to the recorded archaeological sites, the presence of a 
petroglyph field was noted on the coastal shelf makai of their project area.
2. Background

CULTURE-HISTORICAL CONTEXT

The current project area is located within Pōpōkī Ahupua’a, a land unit of the District of Puna, one of six major districts on the island of Hawai‘i. No specific Hawaiian traditions or legendary accounts concerning Pōpōkī Ahupua’a were located while conducting research for this report, but Barrère (1959) summarizes the Precontact geopolitics of the Puna District as follows:

Puna, as a political unit, played an insignificant part in shaping the course of history of Hawaii Island. Unlike the other districts of Hawaii, no great family arose upon whose support one or another of the chiefs seeking power had to depend for his success. Puna lands were desirable, and were eagerly sought, but their control did not rest upon conquering Puna itself, but rather upon control of the adjacent districts, Kau and Hilo. (Barrère 1959:15)

Despite its perceived lack of importance with respect to the emerging political history of Hawaiian leadership, Puna was a region famed in legendary history for its associations with the goddess Pele and god Kāne (Maly 1998). Because of the relatively young geological history and persistent volcanic activity the region’s association with Pele has been a strong one. However, the association with Kāne is perhaps more ancient. Kāne, ancestor to both chiefs and commoners, is the god of sunlight, fresh water, verdant growth, and forests (Pukui 1983). It is said that before Pele migrated to Hawai‘i from Kahiki, there was “no place in the islands . . . more beautiful than Puna” (Pukui 1983:11). Contributing to that beauty were the groves of fragrant hala and forests of ʻōhiʻa lehua for which Puna was famous:

\[
\text{Puna pāia ʻala i ka hala (Puna, with walls fragrant with pandanus blossoms)}
\]

Puna, Hawai‘i, is a place of hala and lehua forests. In olden days the people would stick the bracts of hala into the thatching of their houses to bring some of the fragrance indoors. (Pukui 1983:301)

The inhabitants of Puna were likewise famous for their expertise and skill in lauhala weaving. “To this day, Puna is known for its growth of hala, and the floors and furniture of some of the old households are still covered with fine woven mats and cushions. Weaving remains an important occupation of many native families of Puna” (Maly 1998:6).

Following the death of Kamehameha I in 1819, the Hawaiian religious and political systems underwent a radical transformation; Ka‘ahumanu proclaimed herself “Kuhina nui” (Prime Minister), and within six months the ancient kapu system was overthrown. Within a year, Protestant missionaries arrived from America (Fornander 1973; I‘i 1959; Kamakau 1961). In 1823, British missionary William Ellis and members of the American Board of Commissioners for Foreign Missions (ABCFM) toured the island of Hawai‘i seeking out communities in which to establish church centers for the growing Calvinist mission. Ellis recorded observations made during this tour in a journal (Ellis 1963). His writings contain descriptions of residences and practices that are applicable to the general study area:

The population in this part of Puna, though somewhat numerous, did not appear to possess the means of subsistence in any great variety or abundance; and we have often been surprised to find desolate coasts more thickly inhabited than some of the fertile tracts in the interior; a circumstance we can only account for, by supposing that the facilities which the former afford for fishing, induce the natives to prefer them as places of abode; for they find that where the coast is low, the adjacent water is usually shallow.

We saw several fowls and a few hogs here, but a tolerable number of dogs, and quantities of dried salt fish, principally albacores and bonitos. This latter article, with their poi [po'] and sweet potatoes, constitutes nearly the entire support of the inhabitants, not only in this vicinity, but on the sea coasts of the north and south parts of the island.

Besides what is reserved for their own subsistence, they cure large quantities as an article of commerce, which they exchange for the vegetable productions of Hilo and Mamakaua [Hāmākua], or the mamake and other tapas of Ora [‘Ōla‘a] and the more fertile districts of Hawaii. (Ellis 1963:190-191)

One year after Ellis’ tour, the ABCFM established a base church in Hilo. From that church (Hāili), the missionaries traveled to the more remote areas of the Hilo and Puna Districts. David Lyman who came to Hawai‘i in 1832, and Titus Coan who arrived in 1835 were two of the most influential Congregational missionaries in Puna and Hilo. As part of their duties they compiled census data for the areas within their missions. In 1835, 4,800 individuals
are recorded as residing in the district of Puna (Schmitt 1973); the smallest total district Population on the island of Hawai‘i. In 1841, Titus Coan recorded that most of the 4,371 recorded residents of Puna, lived near the shore, though there were hundreds of individuals who lived inland (Holmes 1985). One of the coastal settlement areas was Maku‘u in the immediate vicinity of the current project area (the, U.S.G.S. 7.5 min series quadrangle of Pahoa North, HI shows the approximate location of the village, labeled as MAKUU Site; see Figure 1).

In 1846, Chester S. Lyman, “a sometime professor” at Yale University visited Hilo, Hawai‘i, and stayed with Titus Coan (Maly 1998). Traveling the almost 100 mile long stretch of the “Diocese” of Mr. Coan, Lyman reported that the district of Puna had somewhere between 3000-4000 inhabitants (Maly 1998). Entering Puna from Hilo, and traveling southeast along the coast, Lyman described Maku‘u as a small scattered village, and offered the following observations of the Puna coast:

…The groves of Pandanus were very beautiful, and are the principal tree of the region. There is some grass and ferns, and many shrubs; but the soil is very scanty. Potatoes are almost the only vegetable that can be raised, and these seem to flourish well amid heaps of stone where scarcely a particle of soil could be discovered. The natives pick out the stones to the depth often of from 2 to 4 feet, and in the bottom plant the potato—how it can expand in such a place is a wonder.

Nearly all Puna is like this. The people are necessarily poor—a bare subsistence is all they can obtain, and scarcely that. Probably there are not $10 in money in all Puna, and it is thought that not over one in five hundred has a single cent. The sight of some of these potatoe patches would make a discontented N.E. farmer satisfied with his lot. Yet, I have nowhere seen the people apparently more contented & happy. (Maly 1998:35)

By the middle of the nineteenth century the ever-growing population of Westerners forced socioeconomic and demographic changes that promoted the establishment of a Euro-American style of land ownership in Hawai‘i, and the Māhele became the vehicle for determining ownership of native lands. During the Māhele, land interests of the King (Kamehameha III), the high-ranking chiefs, and the low-ranking chiefs, the konohiki, were defined. The chiefs and konohiki were required to present their claims to the Land Commission to receive awards for lands provided to them by Kamehameha III. They were also required to provide commutations to the government in order to receive royal patents on their awards. The lands were identified by name only, with the understanding that the ancient boundaries would prevail until the land could be surveyed. This process expedited the work of the Land Commission (Chinen 1961:13).

During the Māhele all lands were placed in one of three categories: Crown Lands (for the occupant of the throne), Government Lands, and Konohiki Lands. All three types of land were subject to the rights of the native tenants therein. In 1862, the Commission of Boundaries (Boundary Commission) was established in the Kingdom of Hawai‘i to legally set the boundaries of all the ahupua’a that had been awarded as a part of the Māhele. Subsequently, in 1874, the Commissioners of Boundaries were authorized to certify the boundaries for lands brought before them. The primary informants for the boundary descriptions were old native residents of the lands, many of which had also been claimants for kuleana during the Māhele. This information was collected primarily between A.D. 1873 and 1885 and was usually given in Hawaiian and transcribed in English as they occurred. Boundary descriptions were not collected for all ahupua’a. The boundaries of Pōpōkī were never certified, which is why it is so often grouped with Maku‘u and Hālona ahupua’a.

As a result of the Māhele of 1848, the ahupua’a of Maku‘u, Pōpōkī, and Hālona were retained as Government Lands, and no kuleana parcels were awarded in the ahupua’a (Charvet-Pond and Rosendahl 1993:C-2). Between 1852 and 1855 portions of all three ahupua’a were divided and sold as fee simple Land Grants. The Land Grants were sold to Native tenants who were interested in acquiring the land upon which they lived, or land that they felt they could cultivate (Maly 1999:64). Three Land Grants were sold in the coastal portion of Maku‘u, Pōpōkī, and Hālona ahupua’a; Grant No. 1013 to Maiau in 1852, Grant No. 1014 to Kea in 1852, and Grant No. 1537 to Kapohano(a) in 1855 (Figure 13). The current project area is a portion of Grant No. 1537 to Kapohano (sometimes spelled Kapohana). Kepā Maly translates the boundary description of Grant No. 1537 as follows:

This parcel begins at the shore on the Northern corner of this lot, adjoining the land of Kea, and proceeding along this land South 39 1/2 West 24.48 chains to a coconut tree, then proceeding along this land South 37 West 9.30 chains to a breadfruit tree; then proceeding South 41 1/4 East 32.24 chains to a stone cairn; then North 56 1/2 East 35.29 chains to the government road; then North 37 1/2 East 20.00 chains to the shore; then proceeding along the shore to the place of commencement. There are 171 acres within this lot. (1999: 67; Appendix A)
2. Background

Register Map No. 2258 shows a single house within the boundaries of Grant No. 1537 (see Figure 13). The house is located near the coast (to the northeast of the current study area) next to what appears to be a small hill and survey station labeled Opunaha. The small bay located directly makai of the current study area is labeled Kula. The map also shows the old Government Road alignment, a trail that runs mauka from the edge of the Government Road to the west of the current project area, and another trail the runs inland from the coast to the east of the current project area. A grove of coconuts is depicted south of the current project area. Ewart and Luscomb (1974) include, in their report, notes of a July 4, 1956 interview conducted by Mrs. Violet Hansen with Mrs. Mary Ann Kamahele (age 70), who was described as being of a Hawaiian family that were the only residents of Maku'u at that time (living on Grant No. 1013; see Figure 13). Mrs. Kamahele related that Opunaha was a canoe landing spot, and that Kula was a ko‘a (a fishing ground) where āholehole were caught (Ewart and Luscomb 1974:50).

During the latter part of the nineteenth century and into the twentieth century land use within the District of Puna began to change. The native agricultural system was largely abandoned as the population declined (Yent and Ota 1982), and ranching, sugar cane, coffee, and lumber became the dominant industries. The Kea‘au Ranch began grazing cattle on nearby lands as early as the 1850s (Maly 1999:42), and the Olaa and Puna Sugar Companies operated in Puna from 1900 until the 1980s (Dorrance and Morgan 2000). Beginning in 1900, railroad tracks for hauling the unprocessed cane and passenger travel were laid by the Hawai‘i Railway Company from the sugarcane fields in lower Puna to the mills in Pahoa and Kea‘au, and then continuing on to Hilo (Clark et al. 2001). The railroad ceased operations in 1946. When operating, the railroad passed through Maku‘u, Holana, and Pōpōkī ahupua‘a mauka of the current project area, where the Maku‘u Station house was located.

Aerial photographs from 1954 and 1977 show that the current project area was covered with low vegetation during the middle to late twentieth century (rather than hala forest) and was likely used as pasture land (Figures 14 and 15). Rosendahl (1989) indicates that the study parcel had been cleared with a bulldozer prior to the late 1980s. According to the neighbor living on the adjoining residential parcel to the southeast (Parcel 29) of the study parcel, a former owner of TMK:3-1-5-10:28 poured the two concrete slabs currently extant on the property, but passed away before building a house. At one point the entire parcel was mowed lawn. A 2012 aerial photograph shows the roof of the structure that was recently removed from the slab near the northwestern boundary of the study parcel and a mowed area surrounding it (Figure 16).
2. Background

Figure 13. Portion of Register map No. 2258 (prepared by J. H. Morgane in 1903) showing land grant parcels and the historic trail (current project area in red).
2. Background

Figure 14. 1954 aerial photograph showing the current study parcel outlined in red.
2. Background

Figure 15. 1977 aerial photograph showing the current study parcel outlined in red.
3. AHUPUA‘A SETTLEMENT PATTERNS AND CURRENT SURVEY EXPECTATIONS

A general model of Precontact settlement patterns for the Puna coastline includes both habitation sites and agricultural complexes along with ceremonial and burial areas, all associated with a fairly dense population. Inland areas were exploited for agricultural purposes and the collection of forest resources, but not generally for habitation. Maku‘u was likely a regional population center during Precontact times. By early Historic times, as drastic population reduction occurred throughout Hawai‘i and traditional sites were abandoned, Maku‘u became a small scattered village (Maly 1998). The later Historic Period saw a minor expansion of settlement in this area of both transplanted Hawaiians and non-Hawaiians alike. This was primarily due to Government grant programs. Grantees often modified their lands obscuring if not obliterating prior residential and agricultural sites. The influx of people during this period waned by the early twentieth century as a result of commercial economic failures, and the population once again dipped.

Keeping in mind the above discussed settlement patterns, but based on the results of the prior archaeological study (Rosendahl 1989) conducted on the current study parcel and the archaeological studies conducted on properties adjacent (Charvet-Pond and Rosendahl 1993) and across from (Clark et al 2007) the current study parcel, a project area specific set of expectations can be devised. It is expected that as the bulk of the parcel has been previously bulldozed any evidence of Precontact or early Historic use of the project area would have been removed. Such evidence likely in the form of agricultural features (modified depressions, modified outcrops, alignments, and/or mounds) intermixed with scattered habitation features (platforms, terraces, pavements, walls, and/or enclosures) might be present in the unmodified western corner of the parcel. The prior studies also indicate that dry-stacked core-filled rock walls may exist along at least two of the parcel boundaries. Lastly, it is possible that physical evidence of the former coastal trail (SIHP Site 18418 Feature A known to exist on the adjacent parcel) survived the earlier bulldozing and this site may be present in the makai portion of the current study parcel.
4. FIELDWORK

Fieldwork for the current project was conducted on November 6, 2013 and December 13, 2013 by J. David Nelson, B.A., Matthew R. Clark, B.A., and Ashton Dircks Ah Sam, B.A., under the direction of Robert B. Rechtman, Ph. D.

METHODS

During the intensive inventory survey of the study area the entire parcel was subject to southeast/northwest pedestrian transects with fieldworkers spaced at 10-meter intervals. When archaeological features (or landforms, fence lines, disturbances, etc.) were encountered, they were plotted on a map of the study parcel using a Garmin Vista Hcx handheld GPS device (set to the WGS 84 datum). Features were then cleared of vegetation, mapped in detail using tape and compass, photographed, and described using standardized site record forms. No subsurface testing was conducted during the inventory survey fieldwork.

FINDINGS

As a result of the current inventory survey features of two previously recorded archaeological sites (SIHP Sites 18419 and 18418) were identified within the current study parcel (Table 2). The two sites, both of which were originally recorded by PHRI in 1993 on the neighboring parcel to the southeast (Charvet-Pond and Rosendahl 1993), include a core-filled wall (Site 18419 Feature A) that extends along the southeast and mauka edges of the current study parcel and a trail section (a portion of Site 18418 Feature A) that extends parallel to the coast in the makai portion of the study parcel. Across the rest of the study area, with the exceptions of the locations of the two recorded sites and a small area in the western corner of the parcel, the remaining acreage had been previously bulldozed (sometime prior to 1989). No additional features were observed on the unmodified pāhoehoe bedrock in the western corner of the study parcel, but a rectangular stone and concrete feature (1.3 meters long by 1.0 meter wide and 35 centimeters tall), built of stacked small to medium cobbles held together with concrete, was noted adjacent to the northwest edge of the existing driveway within a previously bulldozed area (Figure 17). According to a neighbor (the owner of Parcel 29), this feature was built at the request of the former landowner as the base for a BBQ (the same landowner that poured the concrete house slab near the southeastern boundary of the study parcel), but was never completed. The stone and concrete BBQ foundation, which is located adjacent to two large ironwood trees in an area where push material was deposited during the grubbing and grading of the property, was created as the rocks from the push pile were moved and the area was landscaped.

Table 2. Sites identified during the current study

<table>
<thead>
<tr>
<th>SIHP Site No.</th>
<th>Formal Type</th>
<th>Functional Type</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>18418A</td>
<td>Elevated trail remnant</td>
<td>Transportation</td>
<td>Precontact</td>
</tr>
<tr>
<td>18419A</td>
<td>Core-filled rock wall</td>
<td>Ranching/Boundary</td>
<td>Historic</td>
</tr>
</tbody>
</table>

Descriptions of the two previously recorded sites within the current study area (Site 18418 Feature A and Site 18419 Feature A) are presented below, and their locations relative to one another, the BBQ foundation, the existing fence lines, concrete slabs, coastline, and the parcel boundaries are shown in Figure 18.

SIHP Site 18418 Feature A

Site 18418 Feature A is a trail remnant located in the makai portion of the study parcel that parallels the coast (see Figure 18). This trail was first recorded by Charvet-Pond and Rosendahl (1993) on Parcel 29, which is adjacent to the current study parcel. On Parcel 29 they identified an elevated trail alignment that “paralleled the coastline and extended across the property onto the neighboring parcels on both sides.” (Charvet-Pond and Rosendahl 1993:15). They describe the feature as “a linear mound of variable construction.” (ibid.). Charvet-Pond and Rosendahl further describe that:

The elevated trail varies in construction materials, styles and techniques. In some sections the primary building material is subangular basalt cobbles, while in other segments area largely waterworn cobbles. On one eastern segment, two parallel alignments of flat waterworn basalt boulders have been placed on the surface at about one meter intervals near the edges, these appear
to be steppingstones. There are occasional small rounded basalt pebbles (‘ili’ili) between them, suggesting that the interstices between the steppingstones were at one time rock-filled. The trail is moderately elevated, and is generally lower (0.3 m) on the mauka side and higher (0.6 m) on the makai side; in width it ranges from one to two meters. (Charvet-Pond and Rosendahl 1993:A-1)

Figure 17. Modern stone and concrete BBQ foundation located in in the southeast portion of the current study parcel, view to the southwest.

They go on to suggest that “this feature is very similar to inferred prehistoric coastal-trail segments in the vicinity described by Hudson (1932) and Ewart and Luscomb (1974).” (Charvet-Pond and Rosendahl 1993:15).

Within the current study parcel, a slightly elevated earthen alignment with placed water-worn boulders and cobbles was observed approximately 20 meters mauka of the sea cliffs; at roughly the same distance inland that Site 18418 Feature A was recorded on the adjacent parcel. This alignment is interpreted to be a segment of this same trail. Within the current project area the trail alignment is traceable for only a 10 meter distance in the southeast portion of the parcel (see Figure 18), the remainder either having previously bulldozed away or covered and obscured by soil and vegetation. The trail remnant within the study parcel was first visually identified as a humped area covered with a dense growth of grasses and vines. The vegetation was then removed exposing a 10 meter long section of the elevated trail (Figure 19). This feature consists of an approximately 1.8 meters wide level surface with 60 centimeter sloped margins (Figure 20). On its upslope edge, the trail rises 12 centimeters above the surrounding ground surface and on its downslope edge it is 32 centimeters above the surrounding ground surface. Several water-worn basalt boulders and cobbles have been placed along the edge of the level surface (Figure 21) while others have been embedded within the surface (Figure 22); the former rocks seem to define the trail alignment and the latter appear to have been used as steppingstone. A large pāhoehoe slab sits on the slope adjacent to the trail’s mauka edge (Figure 23), likely indicating the extent of former bulldozing in this area.
Figure 18. Project area plan view.
Figure 19. SIHP Site 18418 Feature A, showing the elevated nature of the trail alignment, view to the southeast.

Figure 20. SIHP Site 18418 Feature A plan view.
4. Fieldwork

Figure 21. SIHP Site 18418 Feature A water-worn boulders and cobbles along edge of trail, view to the northwest.

Figure 22. SIHP Site 18418 Feature A, showing embedded steppingstones in trail surface, view to the northwest.
SIHP Site 18419 Feature A

Site 18419 is a core-filled wall located along the southeastern and mauka boundaries of the current study parcel (see Figure 18). The portion of the wall along the southeastern boundary of the study parcel was originally recorded and assigned its SIHP number by Charvet-Pond and Rosendahl (1993). Their description of Feature A of Site 18419 is as follows:

This feature is a double-faced core-filled rock wall with approximately seven courses of stacked subangular basalt cobbles, small boulders, and occasional waterworn basalt cobbles; the height and thickness of the wall are variable. The sides are vertical, but the rocks are not tightly fitted or smoothly faced, and the top of the wall is eroded and somewhat irregular. The wall runs from a boundary-line fencepost near the Government/Beach Road to the seaward cliff-face, and forms the west boundary of the property (Charvet-Pond and Rosendahl 1993:A-2).

Site 18419 Feature A has been re-documented as part of the current study. The previously recorded portion of Site 18419 begins at the coast near the sea cliffs (Figure 24) and extends along the boundary between the current study parcel and Parcel 29 nearly to the old Government Road. At intact sections the wall stands 4 to 7 cobbles tall (up to 148 centimeters) averaging 1 meter in width. The wall follows the meandering southeastern boundary of the current study parcel for 185 meters toward its southern corner near the makai edge of the old Government Road (Figures 25 and 26). The wall then turns ninety degrees and continues in a northwesterly direction adjacent to the mauka boundary of the study parcel, paralleling the old Government Road for 24 meters to a bulldozed break where a driveway from the old Government Road enters the property. This section of wall appears recently restacked, but its dimensions are similar to those previously recorded by Charvet-Pond and Rosendahl (1993) along the southeastern property boundary. At the bulldozed break, where the wall terminates along the southeastern edge of the driveway, a large slab has been recently set on edge (Figure 27). A 5.5 inch diameter pipe protrudes up from the wall’s surface at this location. A chain, used to block access to the parcel, extends from the pipe to a fence line on the opposite side of the driveway. From the pipe, extending northwest, the wall is absent for a distance of 17 meters. On the northwestern side of the break, the wall continues the 27 meters to the western corner of the study parcel.
4. Fieldwork

(Figure 28) and beyond for an undetermined distance outside of the current study area in a northwesterly direction paralleling the old Government Road.

SUMMARY

Features of two previously identified archaeological sites were documented during the current inventory survey. SIHP Site 18418 Feature A is a remnant portion of a coastal trail. This trail likely extended along this entire portion of coastal Puna, and various segments of it have been described in several archaeological studies (see Charvet-Pond and Rosendahl 1993). Given the physical characteristics of this site (elevated with water-worn steppingstones) it appears to have been originally built and used during Precontact times, and may have seen continued local use into the early Historic Period during which time most distance travelers used the Government/Beach Road (Maly 1999) that is situated along the mauka side of the current study parcel.

SIHP Site 18419 Feature A is a rock wall that may have functioned as a pasture boundary wall to control the movement of cattle. Throughout the late nineteenth and early twentieth centuries this general area was used as pasture lands by the local ranches. The wall’s core-filled construction technique indicates that it was constructed during the historic era, and an inspection of Hawai‘i Registered Map No. 2258 (see Figure 13) suggests that perhaps the wall was not present in 1903, but rather was built subsequent to that date.

Figure 24. SIHP Site 18419 Feature A makai end of wall near the sea cliffs, view to the east.
Figure 25. SIHP Site 18419 Feature A intact section along boundary with Parcel 29, view to the south.

Figure 26. SHIP Site 18419 Feature A near the parcel’s south corner at the old Government Road, view to the east.
4. Fieldwork

Figure 27. SIHP Site 18419, large slab set on edge at the end of the wall near the access, view to the east.

Figure 28. SIHP Site 18419, portion of the wall extending northwest beyond the current study parcel, view to the southwest.
The above-described archaeological sites are assessed for their significance based on criteria established and promoted by the DLNR-SHPD and contained in the Hawai‘i Administrative Rules 13§13-284-6. This significance evaluation should be considered as preliminary until DLNR-SHPD provides concurrence. For a resource to be considered significant it must possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of the following criteria:

A  Be associated with events that have made an important contribution to the broad patterns of our history;

B  Be associated with the lives of persons important in our past;

C  Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;

D  Have yielded, or is likely to yield, information important for research on prehistory or history;

E  Have an important traditional cultural value to the native Hawaiian people or to another ethnic group of the state due to associations with traditional cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group’s history and cultural identity.

Table 3 presents a summary of the significance and treatment for the two recorded sites, the descriptions of which are found below.

Table 3. Site significance and treatment recommendations

<table>
<thead>
<tr>
<th>SIHP Site No.</th>
<th>Function</th>
<th>Age</th>
<th>Significance</th>
<th>Recommended Treatment*</th>
</tr>
</thead>
<tbody>
<tr>
<td>18419A</td>
<td>Boundary wall</td>
<td>Historic</td>
<td>D</td>
<td>No further work</td>
</tr>
<tr>
<td>18418A</td>
<td>Trail</td>
<td>Precontact</td>
<td>D,E</td>
<td>Preservation</td>
</tr>
</tbody>
</table>

*Treatment recommendations for these sites were approved by SHPD as a result of the Charvet-Pond and Rosendahl (1993) study.

Both of the archaeological sites recorded during the current inventory survey are considered significant under Criterion D for information they have yielded relative to the past use of the study area. Site 18419 Feature A is a Historic Period (likely post-1903) wall that defined pasture space and was associated with cattle-ranching activities that took place in the general study area during the early and middle twentieth century. Site 18418 Feature A is a segment of an elevated coast trail that was used during the Precontact Period (and likely also during early historic times) by the area’s inhabitants for both distance travel and to access shoreline resources. This site (Site 18418 Feature A) is considered additionally significant under Criterion E for the important traditional cultural value that such sites hold for native Hawaiians of today. DLNR-SHPD previously accepted a “no further work” treatment for Site 18419 Feature A and nothing was found during the current study to recommendation otherwise. Site 18418 Feature A was previously approved for preservation, a treatment that is supported by the current study. A preservation plan for this site, relative to the current study area, should be prepared and submitted to DLNR-SHPD for review and approval.
REFERENCES CITED

Barrera, W., Jr., and Lerer, B.

Barrère, D.

Bordner, R.

Chaffee, D., and R. Spear
1993 Archaeological Investigations at Site 50-10-45-41675 and Site 50-10-45-14985, Makuu Aquafarms, Makuu, Puna, Hawai’i Island (TMK:1-5-10:33). Scientific Consultant Services, Inc. Prepared for Dr. Dudley Seto, M.D., Intercontinental Medical Services, Inc.

Charvet-Pond, A., and P. Rosendahl

Chinen, J.

Clark, M., A. Ketner, and R. Rechtman

Clark, M., J. Nelson, and R. Rechtman
2007 An Archaeological Inventory Survey of the Kulia Farm Parcel (TMK:3-1-5-010:023), Pōpōkī Ahupua’a, Puna District, Island of Hawai’i. Rechtman Consulting Report RC-0486. Prepared for Mr. David Bangert and Mrs. Linda Harris, Hau’ula, Hawai’i.

Clark, M., R. Rudolph, and R. Rechtman

Conte, P., M. Kolb, and J. Hayden
1994 Archaeological Inventory Survey of a Portion of Makuu’u, Pōpōkī and Hālona Ahupua’a (TMK:3-1-5-10:4; 1-5-8:3). Puna District, Hawai’i Island. Historic Preservation Division, Department of Land and Natural Resources, State of Hawaii. Prepared for DLNR and DHHL, Hawai’i.

Desilets, M., and R. Rechtman

Dorrance, W. and F. Morgan

AIS TMK: (3) 1-5-10:028 Pōpōkī, Puna, Hawai’i
References Cited

Ellis, W.

Ewart, N., and M. Luscomb

Fornander, A.

Holmes, T.

Hudson, A.
1932 *Archaeology of East Hawaii.* Bernice P. Bishop Museum.

I‘i, J.P.

Jurvik, S., and J. Jurvik (editors)

Kamakau, S. M.

Komori, E., and I. Peterson
1987 Cultural and Biological Resources Survey of the Pohoiki to Puna Substation 69KV Transmission Corridor Kapoho to Kea‘au, Puna, Hawaii Island. Ms. on file in State Historic Preservation Division Office.

Maly, K.

McEldowney, H., and F. Stone

Pukui, M.
Rechtman, R.  
2003 Archaeological and Limited Cultural Assessment for the Proposed DHHL Maku’u Water System (TMK: 3-1-5-08:01), Hālona and Maku’u Ahupua’a, Puna District, Island of Hawai’i. Rechtman Consulting Report RC-0190. Prepared for Ron Terry, PhD., Geometrician, Kea’au, Hawai’i.

Rosendahl, P.  


Schmitt, R.  

Spear, R., D. Chaffee, and A. Dunn  

Wolfe E., and J. Morris.  

Yent, M.  
1983 Survey of a Lava Tube (TMK: 3-1-5-08:1) Pahoa, Puna, Hawaii Island. Prepared for Department of Land and Natural Resources, Division of State Parks (Historic Sites) and Forestry.

Yent M., and J. Ota  
APPENDIX A

Grant No. 1537 to Kapohana(o)
APPENDIX A — Grant No. 1537 to Kapohana(o)

Original
No. 1537, Kapohana, Halona & Popoki Ahupuaa, District of Puna, Island of Hawaii, Vol. 8, pps. 237-238 [LG Reel 3, 00580-00581tif]

Helu 1537
Palapala Sila Nui

Ma keia palapala sila nui ke hoike nei o Kamehameha III, ke Alii nui a ke Akua i kona lokomaikai i hoonoho ai maluna o ko Hawaii Pae Aina, i na kanaka a pau, i keia la, nona iho; a no kona mau hope ali, ua haawi lilo loa aku oia ma ko ano alodio ia Kapohano i kona wahi kanaka i manao pono ia ia i kela apana aina a pau e waiho la, ma Halona a me Popoki, Puna ma ka Mokupuni o Hawaii, a penei hoi ka waiho ana o na Mokuna,

E hoomaka ana keia ma kahakai ma ke kihi Akau o keia e pili ana me ka aina o Kea, a e holo ana ma ia aina
Hema 39 1/2° Komohana 24.48 Kaulahao a hiki ma kahi kumu niu, alaila
Hema 37° Komohana 9.40 Kaulahao a hiki ma kahi kumu ulu, alaila
Hema 41 1/2° Hikina 32.24 Kaulahao a hiki ma kahi ahupohaku, alaila
Akau 56 1/2° Hikina 35.20 Kaulahao a hiki ma ke alanui Aupuni, alaila
Akau 37 1/2° Hikina 20.00 Kaulahao a hiki ma kahakai alaila ma kahakai a hiki ma kahi i hoomaka’i.

A maloko o ia Apana 171.00 eka a oi iki aku, emi iki mai paha.
Eia ke kumu o ka lilo ana; ua haawi mai oia iloko o ka waihona waiwai o ke Aupuni i na dala he $52.75. Aka, ua koe i ke Aupuni na mine minerale a me na mine metala a pau.

No Kapohano, ua aina la i haawiia, nona mau loa aku no, ma ke ano alodio, a me kona mau hooilina, a me kona waihona, ua pili nae ka auhau a ka Poe Ahaolelo e kau like ai ma na aina alodio a pau i kela manawa i keia manawa.

A i mea e Ike’a i ua kau i ko’u inoa, a me ka sila nui o ko Hawaii Pae Aina ma Honolulu i keia la 20 o Ianuali, 1855.

Inoa}
Kamehameha IV
V.K. Kaahumanu
Keoni Ana

[Land Patent Grant No. 1537, Kapohana, Halona & Popoki Ahupuaa, District of Puna, Island of Hawaii, 171 Acres, 1855]
Translation
No. 1537, Kapohano, Hālona & Pōpoki Ahupua’a, District of Puna, Island of Hawai‘i, Vol. 8, pps. 237-238

Number 1537
Great Seal Document

In this Great Seal Document, Kamehameha III, the High Chief of God whose blessings are upon the Hawaiian Island Chain, is showing to all people today, for himself and for his lesser chiefs, that he has given an Alodial title to Kapohano his settlement that he rightly thinks to leave in the land section’s entirety, in Hālona and Pōpoki, Puna on the island of Hawai‘i, and this is how the boundaries are being put down,

It is starting at the shore at the North extremity adjoining the land of Kea, and it is proceeding along this land
South 39 ½ degrees West 24.48 chains to a coconut tree, then
South 37 degrees West 9.40 chains to a breadfruit tree, then
South 41 ½ degrees East 32.24 chains to a rock mound, then
North 56 ½ degrees East 35.20 chains to the government road, then
North 37 ½ degrees East 20.00 chains to the shore and along the shore to the place of commencement.

This land parcel contains 171.00 acres, give or take.
This is the source of its accruement; he gave $52.75 to the Government Treasury, but, in addition, the Government received all the mineral and metal mines.

This land was given to Kapohano, his forever, as an alodium, and to his recipients as well as his savings, and taxes were placed on all Alodial titles by those of the Legislature from that time until now.

And for reasons of presentation I have placed my name as well as the seal of the Hawaiian Island Chain in Honolulu on this day, the 20th of January, 1855.

Name
Kamehameha IV
V.K. Ka‘ahumanu
Keoni Ana

[Land Patent Grant No. 1537, Kapohano, Hālona & Pōpoki Ahupua’a, District of Puna, Island of Hawai‘i, 171 Acres, 1855]
MAP OF GRANT NO. 1537