
Final
An Archaeological Preservation and Mitigation Plan
Addressing 23 Sites for the
Proposed Queen Ka‘ahumanu Highway Widening Phase 2
Project,
Kalaoa, Kalaoa-‘O‘oma, ‘O‘oma 2, Kohanaiki, Kaloko,
Honokōhau 1-2 and Kealakehe,
North Kona District, Island of Hawai‘i
TMKs: [3] 7-4-008, 7-3-009, and 7-3-043

Prepared for
Department of Transportation
State of Hawai‘i

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April 2014

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April 9, 2014

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Archaeology

**Subject: Chapter 6E-8 and National Historic Preservation Act Section 106 Review -
Archaeological Preservation Plan and Mitigation Plan Addressing 23 Historic Properties
Queen Ka'ahumanu Highway Widening, Phase 2
Kalaoa, O'oma, Kohanaiki, Kaloko, Honokohau 1-2 and Kealakehe Ahupua'a
North Kona District, Island of Hawai'i
TMK: (3) 7-4-008, 7-3-009 & 7-3-043 (portion)**

Thank you for submitting the plan titled *An Archaeological Preservation Plan and Mitigation Plan Addressing 23 Sites for the Proposed Queen Ka'ahumanu Highway Widening, Phase 2 Project Kalaoa, O'oma, Kohanaiki, Kaloko, Honokohau 1-2 and Kealakehe Ahupua'a North Kona District, Island of Hawai'i* TMK: (3) 7-4-008, 7-3-009 & 7-3-043 (portion) (H. Hammatt and D. Shideler), March, 2014. This plan was received by our office on March 28, 2014. The plan outlines amended site specific preservation measures for 23 historic properties located within the Queen Ka'ahumanu Highway corridor. An archaeological inventory survey report for the project area documented a total of 76 historic properties and provided treatment recommendations (Monahan et. al. 2012). This inventory survey and treatment recommendations were approved by SHPD in August 2012 (Log No 2012.1443, Doc No 1208MV01). The mitigation commitments were as follows:

Two sites will be subjected to separate burial treatment plans (Sites 22415 and 29275); 15 sites will be preserved with no additional field work (Sites 10154, 19943, 19950, 19951, 28780, 28781, 28788, 28789, 28790, 28792, 28797, 28799, 28802, 28806, and 28810); one site will receive a combination of no further work and preservation (19945); 11 sites will be avoided during construction and therefore subject to short term protection measures (28794, 28801, 28803, 28804, 28805, 28809, 29337, 29341, 29342, 29343, and 29347); two sites will receive no further work, but impacts will be monitored by an archaeologist (6432 and 29338); two sites will be relocated (19947 and 29346); one site will receive a combination of relocation and preservation (28808); 20 sites will receive data recovery excavation with no additional mitigation (19949, 22417, 28778, 28785, 28786, 28800, 28807, 28811, 28812, 28814, 28815, 29332, 29333, 29334, 29335, 9336, 29339, 29340, 29344, and 29345); 14 sites will be subjected to a combination of archival data recovery and partial preservation (00002, 10714, 15324, 18099, 19946, 19952, 19953, 19954, 22507, 28774, 28782, 28784, 28787, and 28791); one site will be subjected to a combination of archival data recovery, data recovery excavation and partial preservation (29272); one site will be subjected to archival data recovery only (22418); two sites will have data recovery through the collection and curation of portable artifacts (29348 and 29349); and three sites will be subjected to a combination of data recovery excavation and preservation (19948, 28783, and 28813).

Subsequently a mitigation plan was prepared to address the recommended treatments presented in the AIS (Shideler et. al. 2012), and this plan was accepted by SHPD (Log No. 2012.3052, Doc No. 1210MV25). However, the Federal Highways Administration (FHWA) initiated a redesign of the Phase 2 widening project in order to minimize the effects of this undertaking on historic properties. As a result of the redesign, 21 sites that were previously proposed to be directly impacted will now be avoided by construction activities. Nine of these sites are trails that were proposed to be partially destroyed, with mitigation in the form of archival research, and the undisturbed portion of the trail preserved (SIHP Sites 20-10-27-15324, 18099, 19946, 19954, 22418, 22507, 28774, 28782, and 29272). Eleven (11) sites were previously proposed to be all or partially destroyed by the highway widening, with data recovery excavation for 10 sites (SIHP Sites 19947, 19948, 19949, 22417, 28783, 28800, 28811, 29333, 29334, 29336, and 29344); and relocation for one site (SIHP 19947). As a result of the redesign, all 21 of these sites will be avoided by this undertaking. In addition, two sites that were outside of the project area and previously recommended for data recovery (SIHP 29339 and 29340) are now subject to interim protection measures.

The agreement to avoid these sites was established via SHPD correspondence (Log No. 2013.4167, Doc No. 1307MV17). This agreement indicated that the treatment recommendations established in the Monahan et. al. (2012) AIS would be maintained, however the mitigation measures would be changed in order to preserve these 23 sites from any impact during project activities.

SHPD previously reviewed an amended preservation and data recovery plan that dealt with all 76 historic properties identified in the Monahan et. al. (2012) AIS. We requested that that the amended data recovery and preservation plan be abandoned and an addendum preservation/mitigation plan be prepared only for the sites whose mitigation commitments will change as a result of the redesign (Log No. 2013.4267, Doc No. 1310MV12). SHPD reviewed a second draft of the plan on January 21, 2014 and outlined several revisions that were needed in order to meet the standards of HAR 13-277 and the *Secretary of the Interior's Standards* for the treatment of historic properties (Log 2013.6921, Doc 1401MV05). Changes were subsequently made to this plan in response to the SHPD reviews of the previous drafts. SHPD now believes that the preservation plan will adequately protect the historic properties that it is intended to during construction. We also believe that the plan now makes reference to a reasonable and good faith effort to consult with Native Hawaiian Organizations.

This revised plan meets the standards of HAR 13-277 as well as the *Secretary of the Interior's Standards* for the treatment of historic properties and is accepted by SHPD. Please send one hardcopy of the document, clearly marked **FINAL**, along with a copy of this review letter and a text-searchable PDF version on CD to the Kapolei SHPD office. We look forward to the opportunity to review the revised Memorandum of Agreement for this undertaking that that incorporates the terms of the addendum preservation plan.

Please contact Mike Vitousek at (808) 652-1510 or Michael.Vitousek@Hawaii.gov if you have any questions or concerns regarding this letter.

Aloha,

A handwritten signature in black ink, appearing to read 'Theresa K. Donham', followed by a horizontal line.

Theresa K. Donham
Deputy State Historic Preservation Officer
Historic Preservation Division

Management Summary

Reference	An Archaeological Preservation and Mitigation Plan Addressing 23 Sites for the Proposed Queen Ka'ahumanu Highway Widening Phase 2 Project, Kalaoa, Kalaoa-Ō'oma, Ō'oma 2, Kohanaiki, Kaloko, Honokōhau 1-2 and Kealakehe, North Kona District, Island of Hawai'i, TMKs: [3] 7-4-008, 7-3-009, and 7-3-043 (Hammatt and Shideler 2014)
Date	April 2014
Project Number	CSH Job Code: KALAOA 17
Investigation Permit Number	Cultural Surveys Hawai'i (CSH) presently carries out archaeological studies under annual Hawai'i State Historic Preservation Division (SHPD) permit no. 14-04 (2014).
Project Location	The project area is located in the <i>ahupua'a</i> (land divisions) of Kalaoa, Kalaoa-Ō'oma, Ō'oma 2, Kohanaiki, Kaloko, Honokōhau 1–2 and Kealakehe, North Kona District, Hawai'i Island. It consists of an approximately 300-ft-wide right-of-way (ROW) that includes the existing Queen Ka'ahumanu Highway; the project area starts (in the south) at approximately 1,150 ft (350 m) south of Kealakehe Parkway (approximate Station 1110+00) and ends (in the north) at approximately 1,700 ft (518 m) north of Keāhole Airport Road (1,000 ft [304.8 m] + taper length; approximate Station 252+00).
Land Jurisdiction	The State of Hawai'i owns the land within the ROW.
Agencies	State of Hawai'i, Highways Division, Department of Transportation (HDOT); Federal Highway Administration (FHWA), U.S. Department of Transportation; Hawai'i State Historic Preservation Office (SHPO), Department of Land and Natural Resources
Project Description	The proposed undertaking consists of widening the Queen Ka'ahumanu Highway from two lanes to four lanes from Kealakehe Parkway to the Keāhole Airport Access Road. Ground disturbance associated with the proposed project will include grading and filling portions of the ROW. Most of the major ground disturbance is proposed for the <i>makai</i> (seaward) side of the existing highway.
Project Acreage and Area of Potential Effects (APE)	The project area is approximately 5.2 miles (8.37 km) long and 300 ft (91.4 m) wide, or approximately 190 acres (76.9 ha). Approximately 50% of this area consists of the existing highway and previously disturbed land along both the <i>mauka</i> (inland) and <i>makai</i> highway shoulders. Therefore, the total area of undisturbed land surveyed amounts to approximately half, or 95 acres (38.4 ha), of the ROW.

Historic Preservation Regulatory Context	<p>This document was prepared in response to an SHPD Chapter 6E-8 and National Historic Preservation Act Section 106 Review dated 28 October 2013 (LOG NO: 2013.4167; DOC NO: 1307MV17; included in present Appendix A).</p> <p><i>An Archaeological Data Recovery and Preservation Plan for the Proposed Queen Ka'ahumanu Highway Widening Phase 2 Project, Kalaoa, Kalaoa-'O'oma, 'O'oma 2, Kohanaiki, Kaloko, Honokōhau 1-2 and Kealakehe, North Kona District, Hawai'i Island, TMK: (3) 7-4-008, 7- 3-009 & 7-3-043</i> (Shideler et al. October 2012) was reviewed and accepted by the SHPD in a Chapter 6E-8 and National Historic Preservation Act Section 106 Review dated 25 October 2012 (LOG NO: 2012.3052, DOC NO: 1210MV25, included in present Appendix A). Subsequently, in an effort to secure Advisory Council on Historic Preservation (ACHP) support, it was decided to minimize adverse impact to certain historic properties by effectively moving the seaward edge of the proposed highway widening corridor inland. A SHPD Chapter 6E-8 and National Historic Preservation Act Section 106 Review dated 23 July 2013 (LOG NO: 2013.4167, DOC NO: 1307MV17, present Appendix A) specifies the need for an amended plan. An amended plan was produced to address that SHPD directive of 23 July 2013. The SHPD directive of 28 October 2013 recommended that: "the amended data recovery and preservation plan be abandoned, and instead, an independent preservation/mitigation plan be prepared only for the sites whose mitigation commitments will change as a result of the redesign."</p> <p>This archaeological preservation and mitigation plan was prepared to support the proposed project's historic preservation review under Hawai'i Revised Statutes (HRS) Chapter 6E-8 and Hawai'i Administrative Rules (HAR) § 13-277 (governing Archaeological Site Preservation) and § 278-3 (governing Archaeological Data Recovery Plans). Due to federal (FHWA) funding, this project is a federal undertaking, requiring compliance with Section 106 of the National Historic Preservation Act (NHPA), the National Environmental Policy Act (NEPA), and Section 4(f) of the Department of Transportation Act.</p>
Document Purpose	<p>This document is intended to support the project through codification of proposed mitigation measures of a data recovery and a preservation program. This document is also intended to support project-related historic preservation consultation among stake-holding federal and state agencies, interested Native Hawaiian groups and individuals, and community groups.</p>

Historic Properties Addressed¹	This archaeological preservation and mitigation plan addresses 23 specific historic properties previously proposed to be directly impacted but that will now be avoided by construction activities as a result of the project redesign. Ten of these sites are trails previously proposed to be partially destroyed with mitigation in the form of archival research with the undisturbed portion of the trail preserved (State Inventory of Historic Properties [SIHP] #s 50-10-27-15324, -18099, -19946, -19953, -19954, -22418, -22507, -28774, -28782, and -29272). The remaining 13 sites were previously proposed to be all or partially destroyed by the highway widening, with data recovery excavation for 12 sites (SIHP #s -19948, -19949, -22417, -28783, -28800, -28811, -29333, -29334, -29336, -29339, -29340 and -29344); and relocation for one site (SIHP # -19947). As a result of the redesign, all 23 of these sites will be avoided by this undertaking.
Historic Properties Recommended Eligible to the National / Hawai'i Register of Historic Places²	All historic properties discussed in this combined archaeological data recovery and preservation plan have been recommended eligible for the National and Hawai'i Registers of Historic Places.
Effect Recommendation^{3,4}	Under Hawai'i State historic preservation review legislation, CSH's project-specific effect recommendation is "effect, with proposed mitigation commitments." Under federal historic preservation review legislation, a project effect recommendation of "adverse effect" is warranted, with the understanding that the proposed mitigation measures will be carried out to mitigate the undertaking's potential effect on Hawai'i and National Register-eligible cultural resources.

¹In historic preservation parlance, cultural resources are the physical remains and/or geographic locations that reflect the activity, heritage, and/or beliefs of ethnic groups, local communities, states, and/or nations. Generally, they are at least 50 years old, although there are exceptions, and include buildings and structures; groupings of buildings or structures (historic districts); certain objects; archaeological artifacts, features, sites, and/or deposits; groupings of archaeological sites (archaeological districts); and, in some instances, natural landscape features and/or geographic locations of cultural significance.

²Historic properties, as defined under federal historic preservation legislation, are cultural resources at least 50 years old (with exceptions) and have been determined eligible for inclusion in the National Register of Historic Places based on their integrity and historic/cultural significance in terms of established significance criteria. Determinations of eligibility are generally made by a federal agency official in consultation with SHPD. Under federal legislation, a project's (undertaking's) potential effect on historic properties must be evaluated and potentially mitigated. Under Hawai'i State historic preservation legislation, historic properties are defined as any cultural resources 50 years old, regardless of their historic/cultural significance under state law, and a project's effect and potential mitigation measures are evaluated based on the project's potential impact to "significant" historic properties (those historic properties determined eligible, based on their integrity and historic/cultural significance in terms of established significance criteria, for inclusion in the Hawai'i Register of Historic Places). Determinations of eligibility to the Hawai'i Register result when a state agency official's historic property "significance assessment" is accepted by SHPD, or when SHPD itself makes an eligibility determination for a historic property.

³Cultural resource significance is evaluated and expressed as eligibility for listing on the National and/or Hawai'i Register. To be considered eligible for listing on the National and/or Hawai'i Register a cultural resource should possess integrity of location, design, setting, materials, workmanship, feeling, and association, and meet one or more of the following broad cultural/historic significance criteria: "A" reflects major trends or events in the history of the state or nation; "B" is associated with the lives of persons significant in our past; "C" is an excellent example of a site type/work of a master; "D" has yielded or may be likely to yield information important in prehistory or history; and, "E" (Hawai'i Register only) has traditional cultural significance to an ethnic group, includes religious structures and/or burials.

⁴Under Hawai'i State historic preservation review legislation, there are five potential forms of historic preservation mitigation: A) preservation; B) architectural recordation; C) archaeological data recovery; D) historical data recovery; and E) ethnographic documentation (HAR § 13-275-8).

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Section 1 Introduction

1.1 Project Background

On behalf of the State of Hawai'i Department of Transportation (HDOT), R.M. Towill Corporation requested that Cultural Surveys Hawai'i, Inc. (CSH) prepare this archaeological preservation and mitigation plan (APMP) amendment for the review of the State Historic Preservation Division (SHPD) in support of certain HDOT improvements to the Queen Ka'ahumanu Highway in Kalaoa, Kalaoa-'O'oma, 'O'oma 2, Kohanaiki, Kaloko, Honokōhau 1–2 and Kealakehe, North Kona District, Island of Hawai'i (TMKs: [3] 7-4-008, 7-3-009, and 7-3-043/Queen Ka'ahumanu Highway).

This document was prepared in response to two SHPD Chapter 6E-8 and National Historic Preservation Act Section 106 Reviews dated 23 July 2013 (LOG NO: 2013.4167, DOC NO: 1307MV17) and 28 October 2013 (LOG NO: 2013.4167; DOC NO: 1307MV17) (both included in present Appendix A).

An *Archaeological Inventory Survey for the Proposed Queen Ka'ahumanu Highway Widening Phase 2 Project, Kalaoa, Kalaoa-'O'oma, 'O'oma 2, Kohanaiki, Kaloko, Honokōhau 1-2 and Kealakehe, North Kona District, Hawai'i Island, TMK: (3) 7-4-008, 7-3-009 & 7-3-043* (Monahan et al. July 2012) was accepted by the SHPD in a Chapter 6E-8 and National Historic Preservation Act Section 106 Review dated 21 August 2012 (LOG NO: 2012.1443, DOC NO: 1208MV01) (included in present Appendix A).

Subsequently, an *Archaeological Data Recovery and Preservation Plan for the Proposed Queen Ka'ahumanu Highway Widening Phase 2 Project, Kalaoa, Kalaoa-'O'oma, 'O'oma 2, Kohanaiki, Kaloko, Honokōhau 1-2 and Kealakehe, North Kona District, Hawai'i Island, TMK: (3) 7-4-008, 7-3-009 & 7-3-043* (Shideler et al. October 2012) was reviewed and accepted by the SHPD in a Chapter 6E-8 and National Historic Preservation Act Section 106 Review dated 25 October 2012 (LOG NO: 2012.3052, DOC NO: 1210MV25) (included in present Appendix A).

Subsequently, in an effort to secure Advisory Council on Historic Preservation (ACHP) support, it was decided to minimize adverse impact to certain historic properties by effectively moving the seaward edge of the proposed highway widening corridor inland. A SHPD Chapter 6E-8 and National Historic Preservation Act Section 106 Review dated July 23, 2013 (Log No. 2013.4167, Doc. No. 1307MV17, present Appendix A) specifies the need for an amended plan.

An *Amended Archaeological Data Recovery and Preservation Plan for the Proposed Queen Ka'ahumanu Highway Widening Phase 2 Project, Kalaoa, Kalaoa-'O'oma, 'O'oma 2, Kohanaiki, Kaloko, Honokōhau 1-2 and Kealakehe, North Kona District, Hawai'i Island, TMK: (3) 7-4-008, 7-3-009 & 7-3-043* (Shideler et al. September 2013) was produced in an attempt to address that SHPD directive of 23 July 2013. The subsequent SHPD Chapter 6E-8 and National Historic Preservation Act Section 106 Review of 28 October 2013 recommended “the amended data recovery and preservation plan be abandoned, and instead, an independent preservation/mitigation plan be prepared only for the sites whose mitigation commitments will change as a result of the redesign.” The present APMP amendment has been produced to address that SHPD directive of 28 October 2013 and addresses 23 specific historic properties (see Table 1).

The project area, which is depicted in the Keāhole Point and Kailua U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles (Figure 1), a tax map plat (Figure 2), and aerial photograph (Figure 3), measures approximately 5.2 miles (8.37 km) in length by 300 ft (91.4 m) in width, or approximately 190 acres (76.9 ha).

The Queen Ka'ahumanu Highway Widening Project (Phase 2) includes design and construction services to widen Queen Ka'ahumanu from the existing two lanes into a four-lane divided highway within the 300-ft right-of-way (ROW) between Kealakehe Parkway and the Keāhole Airport Access Road. Major features of the project include construction of new pavements and pavement markings; drainage systems; sidewalks; traffic signal systems and traffic signs; guardrails and landscape plantings; and highway lighting plus the relocation and installation of utilities. The project proponent—the HDOT—will also address any mitigation of impacts to archaeological sites within the project limits, and will provide temporary and permanent BMP (Best Management Practices). Finally, the project proponent is the responsible party for the process of all permits required to complete the project in conformance with appropriate federal, state and local standards.

According to the project proponent, the specific project limits are as follows (Figure 4):

- Start—the transition area from the Queen Ka'ahumanu Highway Widening Phase 1 Project located approximately 1,150 ft (350.5 m) south of Kealakehe Parkway (approximate Station 1110+00) to
- End—approximately 1,700 ft (518.1 m) north of Keāhole Airport Road (1,000 ft (or 305 m) + taper length; approximate Station 252+00).
- All work would fall within the State's 300-ft (91.4 m) existing ROW.

Earlier in the project conception, it was divided into two segments—North and South—for pragmatic reasons related to construction schedules (see Figure 4). This division of the project area is now obsolete, although two important reports describing supplemental survey work with consulting parties include this north/south distinction in their titles and organization (i.e., Monahan and Wilkinson 2012; Monahan and Yucha 2012).

1.2 Project Acreage and Area of Potential Effects (APE)

The project area is approximately 5.2 miles (8.37 km) long and 300 ft (91.4 m) wide, or approximately 190 acres (76.9 ha). Of this total area, approximately 50% consists of the existing highway and previously disturbed land along both the *mauka* (inland) and *makai* (seaward) highway shoulders. Therefore, the total area of undisturbed land surveyed amounts to approximately half, or 95 acres (38.4 ha), of the ROW. The entire undisturbed portion of the project area was surveyed for historic properties. In addition, the entire previously disturbed area on the *mauka* side of the existing highway was also systematically surveyed as a check and assurance that no historic properties were present. On the *makai* side, survey transects (oriented north-to-south) were conducted so that all previously disturbed areas were visually confirmed to be disturbed. Later, during supplemental survey efforts conducted with the consulting parties (Monahan and Wilkinson 2012; Monahan and Yucha 2012), identification and inspection efforts were not conducted by systematic transects but on a more selective basis focusing on areas of interest to the consulting parties.

Table 1. Summary of Mitigation for (23) Sites for which Project Effect has been Changed (arranged numerically)

SIHP # 1	Site Type	Original Effect*	Present Project Effect	Initial Agreed Upon Mitigation *	Agreed Upon Mitigation Now
-15324	Trail (<i>mauka-makai</i>)	Destruction of portion of site	No impact to site	Data recovery (archival research) and preservation	Data recovery (archival research) and preservation
-18099	Trail (<i>mauka-makai</i>), trail to Honokōhau	Destruction of portion of site	No impact to site	Data recovery (archival research) and preservation	Data recovery (archival research) and preservation
-19946	Trail (<i>mauka-makai</i>)	Destruction of portion of site	No impact to site	Avoidance during construction (as may be possible)	Data recovery (archival research) and preservation
-19947	Stacked rocks	Destruction of entire site (total of three features, Features A–C)	No impact to site	Relocation of all three features (A–C) to west (within ROW)	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity
-19948	Agriculture and quarrying	Features A and B will be physically impacted by construction; Features C–F will not be physically impacted by construction; Feature G will be physically impacted by construction; Feature H will not be physically impacted by construction	No impact to site	Data recovery (excavation) for Features A, B and G; preservation for Features C–F and H	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity
-19949	Enclosure	Destruction of entire site	No impact to site	Data recovery (excavation)	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity

SIHP # 1	Site Type	Original Effect*	Present Project Effect	Initial Agreed Upon Mitigation *	Agreed Upon Mitigation Now
-19953	Trail (<i>mauka-makai</i>)	Destruction of portion of site	No impact to site	Data recovery (archival research) and preservation	Data recovery (archival research) and preservation
-19954	Trail (<i>mauka-makai</i>)	Destruction of portion of site	No impact to site	Data recovery (archival research) and preservation	Data recovery (archival research) and preservation
-22417	Modified lava blister	Destruction of entire site	No impact to site	Data recovery (excavation)	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity
-22418	Trail (<i>mauka-makai</i>)	Destruction of entire site	No impact to site	Data recovery (archival research)	Data recovery (archival research) and preservation
-22507	Trail (<i>mauka-makai</i>)	Destruction of portion of site	No impact to site	Data recovery (archival research) and preservation	Data recovery (archival research) and preservation
-28774	Trail (<i>mauka-makai</i>)	Destruction of portion of site	No impact to site	Data recovery (archival research) and preservation	Data recovery (archival research) and preservation
-28782	Trail (<i>mauka-makai</i>)	Destruction of portion of site	No impact to site	Data recovery (archival research) and preservation	Data recovery (archival research) and preservation
-28783	Agricultural complex	Feature A will not be physically impacted by construction; Feature B will be destroyed by construction; Features C–F will not be physically impacted by construction	No impact to site	Data recovery (excavation) for Feature B; preservation for Features A, C–F	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity
-28800	<i>Pāhoehoe</i> excavation	Destruction of entire site	No impact to site	Data recovery (excavation)	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity

SIHP # 1	Site Type	Original Effect*	Present Project Effect	Initial Agreed Upon Mitigation *	Agreed Upon Mitigation Now
-28811	<i>Pāhoehoe</i> excavation	Destruction of entire site	No impact to site	Data recovery (excavation)	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity
-29272	Level area in 'a'ā with trail (<i>mauka/ makai</i>)	Feature A (level area) will be destroyed by construction; Feature B (trail) will not be physically impacted by construction	No impact to site	Feature A: data recovery (excavation); Feature B: data recovery (archival research) and preservation	Feature A: interim preservation and commitment to mitigation prior to land disturbance in the vicinity; Feature B: data recovery (archival research) and preservation
-29333	Rock stacking (possible <i>ahu</i>)	Destruction of entire site	No impact to site	Data recovery (dismantling)	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity
-29334	Rock mound	Destruction of entire site	No impact to site	Data recovery (excavation/dismantling)	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity
-29336	Rock terrace	Destruction of entire site	No impact to site	Data recovery (excavation)	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity
-29339+	Rock wall segment	No impact	No impact to site	Data recovery (excavation)	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity

SIHP #¹	Site Type	Original Effect*	Present Project Effect	Initial Agreed Upon Mitigation *	Agreed Upon Mitigation Now
-29340+	Rock mound	No impact	No impact to site	Data recovery (excavation)	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity
-29344	Excavated pit	Destruction of entire site	No impact to site	Data recovery (excavation)	Interim preservation and commitment to mitigation prior to land disturbance in the vicinity

¹ These State Inventory of Historic Property (SIHP) numbers begin with “50-10-27.”

*From Shideler et al. (October 2012) *Archaeological Data Recovery and Preservation Plan . . .*, Table 3, pp. 26-28 (accepted in a SHPD Chapter 6E-8 NHPA Section 106 Review of 25 October 2012 [LOG NO: 2012.3052, DOC NO: 1210MV25])

+ Two sites (-29339 and -29340) were initially recommended for data recovery (Shideler et al. 2012:26) The SHPD review of 28 October 2013 asserts: “. . . these sites should be treated in a similar fashion as the other sites whose treatment recommendations have changed to preservation. This change would not rule out the possibility of Data Recovery in the near future.”

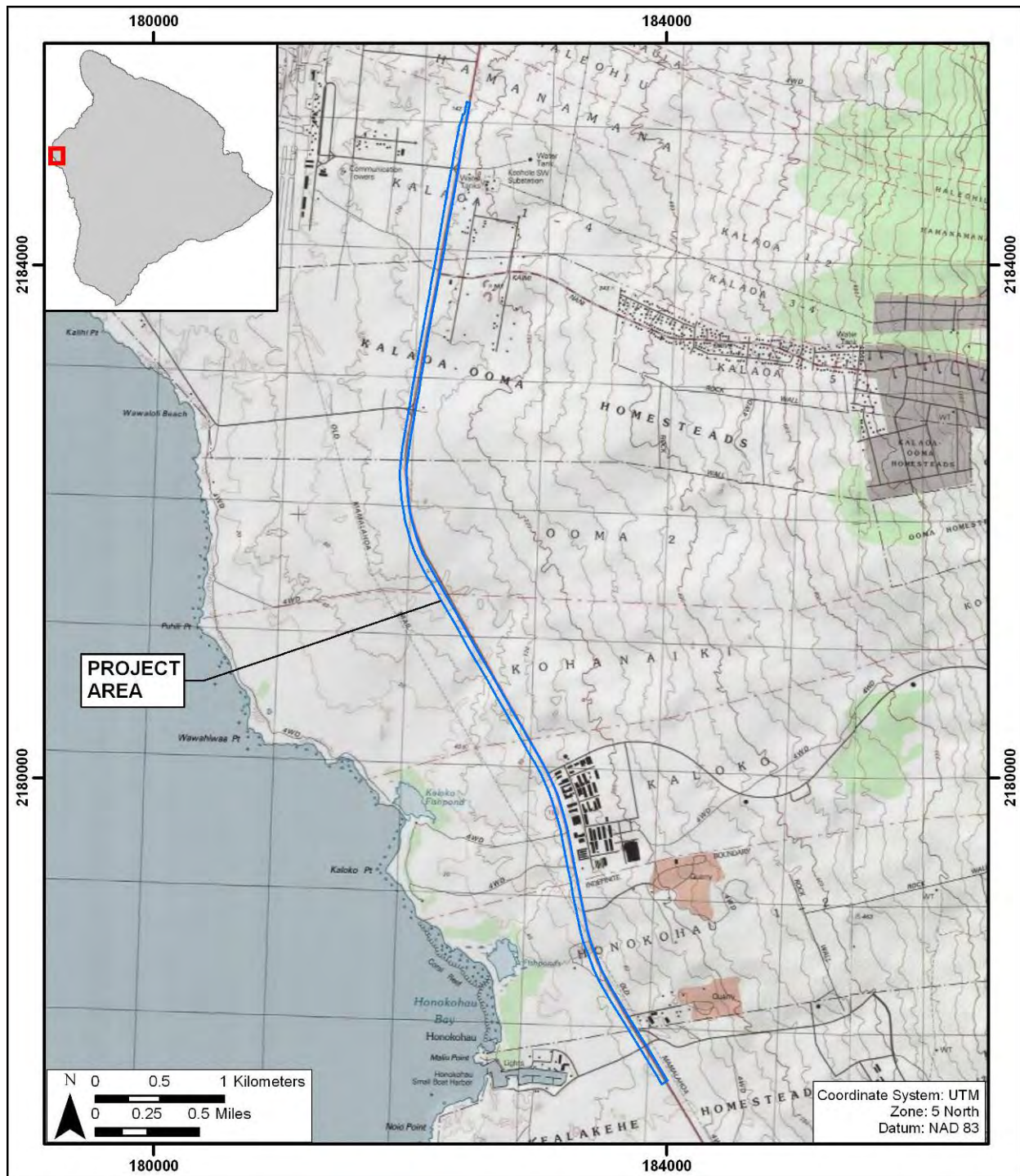


Figure 1. Portion of the 1996 Keāhole Point USGS 7.5-minute topographic quadrangle, showing the project area portion of the Queen Ka'ahumanu Highway

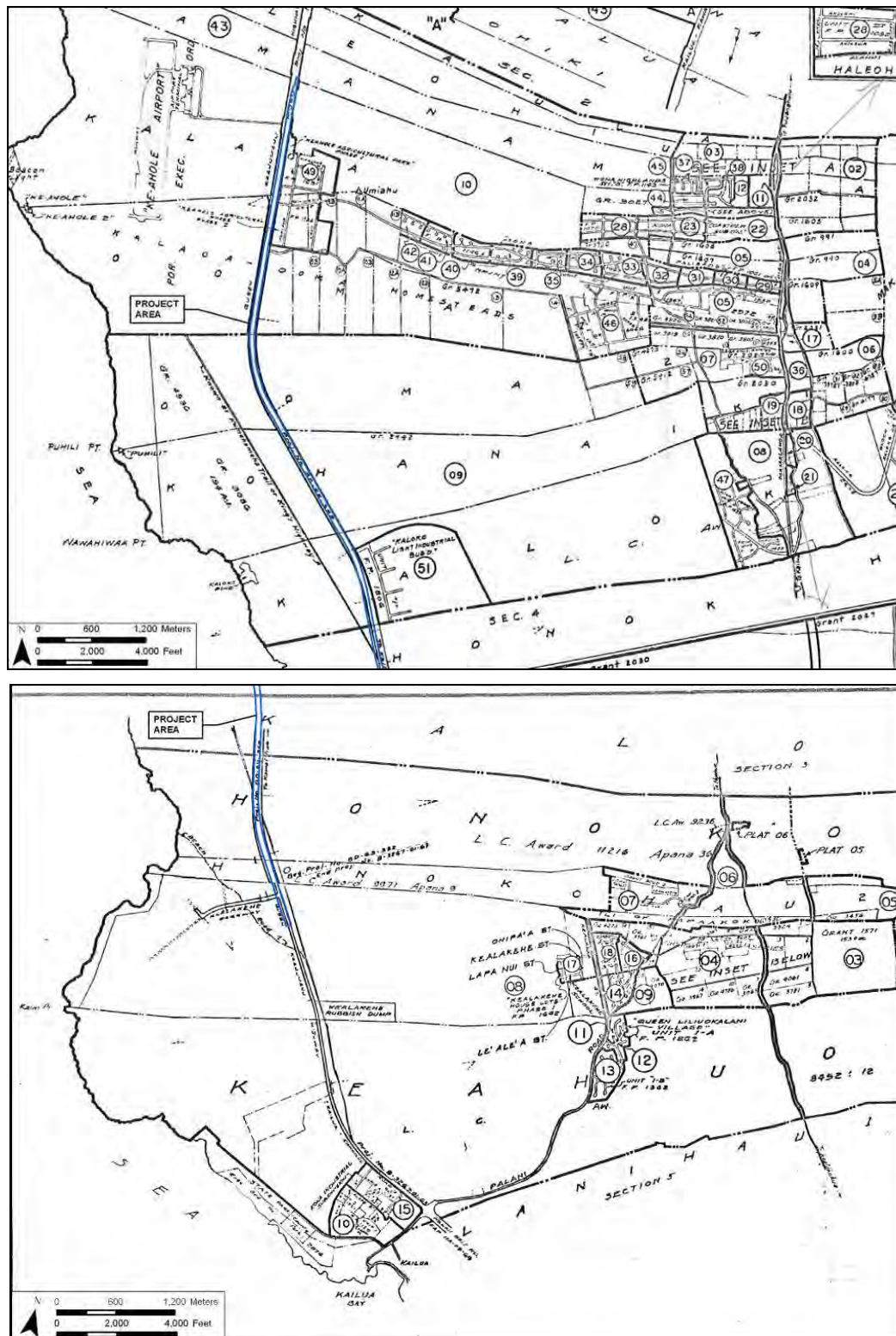


Figure 2. Tax Map Keys showing the project area portion of the Queen Ka'ahumanu Highway (Hawai'i TMK Service)



Figure 3. 2005 aerial photograph of Kona, showing the project area portion of the Queen Ka'ahumanu Highway (source: USGS Orthoimagery)

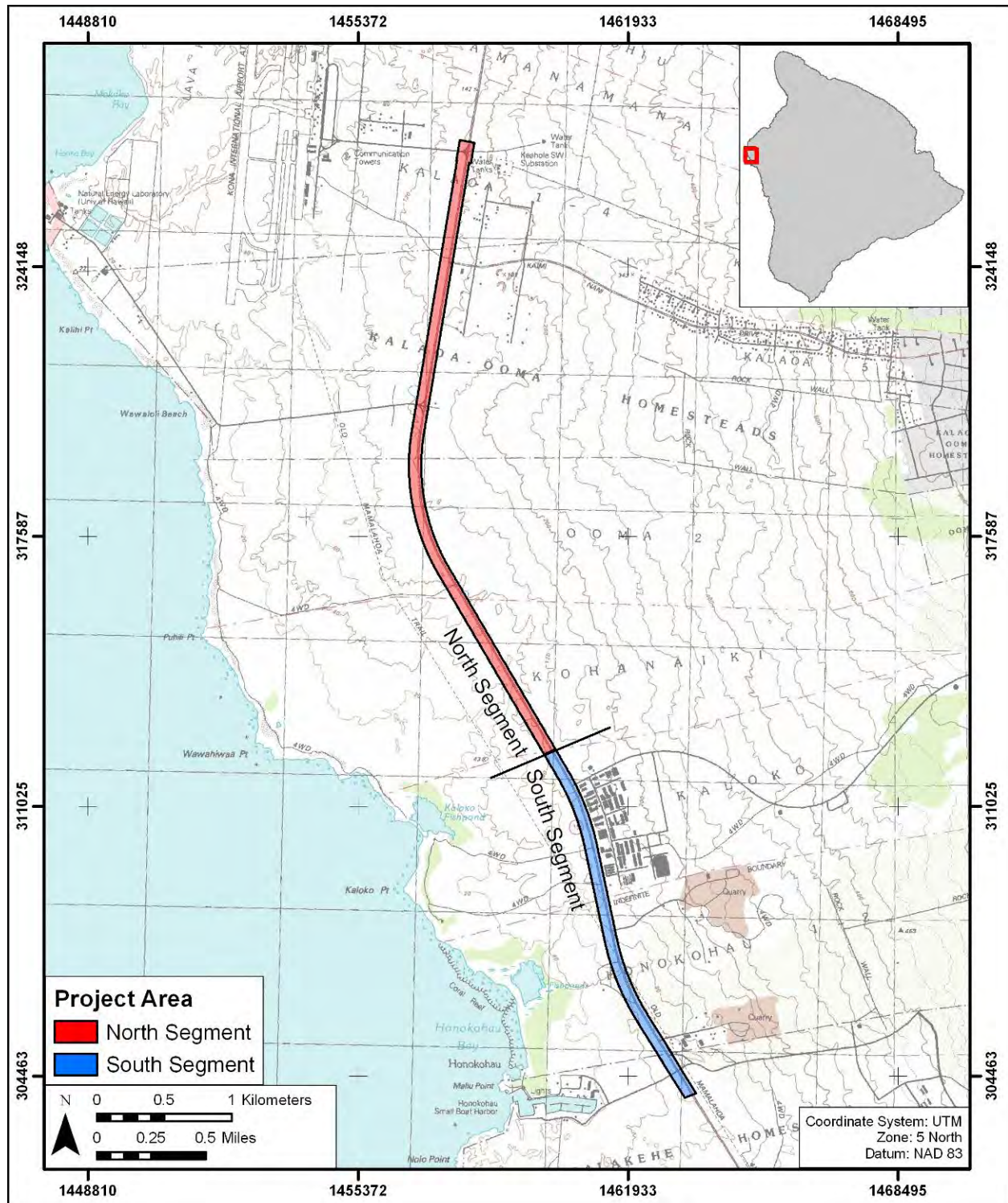


Figure 4. Schematic depiction of the now-obsolete North and South Segments of the project area; as described above, earlier in the project conception it was divided into two segments

For the purposes of this project, the area of potential effects (APE) consists of the highway ROW plus areas potentially affected by the proposed undertaking, including, but not limited to, the Kaloko-Honokōhau National Historical Park and the Honokōhau Settlement National Historic Landmark (State Inventory of Historic Properties [SIHP] # 50-10-27-4138), which are immediately adjacent (west) to the project area in Honokōhau and Kaloko Ahupua'a.

The SHPD review letter of the AIS report for this project dated 9 July 2012 (LOG NO: 2012.1443, DOC NO: 1206MV26) asked for reconsideration of the APE in the vicinity of the "Big Cave" (SIHP # 50-10-27-29275). Following consultation between FHWA and the ACHP, the FHWA determined that the "Big Cave" (SIHP # -29275) and the intervening land located west of the ROW would not be included within the APE.

1.3 Historic Preservation Regulatory Context

This APMP amendment was prepared to support the proposed project's historic preservation review under Hawai'i Revised Statutes (HRS) Chapter 6E-8 and Hawai'i Administrative Rules (HAR) § 13-277 (governing Archaeological Site Preservation) and HAR § 278-3 (governing Archaeological Data Recovery Plans). Due to federal (FHWA) funding, this project is a federal undertaking, requiring compliance with Section 106 of the National Historic Preservation Act (NHPA), the National Environmental Policy Act (NEPA), and Section 4(f) of the Department of Transportation Act. Therefore, this document is also subject to SHPD review pursuant to 36 CFR Part 800 and the *Secretary of the Interior's Standards for Identification, Standards for Evaluation and Standards for Archeological Documentation*.

This APMP amendment is intended to support the project through the codification of proposed mitigation measures of a data recovery and preservation program to the satisfaction of the SHPD. This document is also intended to support project-related historic preservation consultation among stake-holding federal and state agencies, interested Native Hawaiian groups and individuals, and community groups.

1.4 Historic Properties Addressed in the Present Plan

In accordance with the SHPD Chapter 6E-8 and National Historic Preservation Act Section 106 Review dated 28 October 2013 (LOG NO: 2013.4167; DOC NO: 1307MV17) (included in present Appendix A), this plan has been prepared "only for the sites whose mitigation commitments will change as a result of the redesign" and in accordance with the directive that "This plan should provide preservation measures for the 20 sites that were changed to preservation via Log 2013.4267, Doc 1307MV17." However, in addition, the SHPD review dated 28 October 2013 gives directives to address three additional sites also addressed in this APMP amendment. The directives are summarized below:

- In addition, SIHP #s -29339 and -29340 . . . we believe that these sites . . . should be treated in a similar fashion as the other sites whose treatment recommendations have changed to preservation. This change would not rule out the possibility of data recovery in the near future.
- The preservation buffer for SIHP # -19953 does not adequately protect this site.

The 23 historic properties addressed are summarized in Table 1. Detailed descriptions of these historic properties are provided in Section 3.

1.5 Scope of Work

In consultation with the SHPD, who provided verbal concurrence in a meeting on 10 January 2011, and because many of the historic properties in the project area will be subject to *both* data recovery and preservation, CSH recommended preparation of a single plan that deals with *both* data recovery and preservation mitigation. Accordingly, the mitigation described in this document follows two sections of Hawai'i Administrative Rules, one governing data recovery (HAR § 13-278) and one governing preservation (HAR § 13-277), as described below. Because this is a federally funded project, the data recovery work also conforms to the *Secretary of the Interior's Standards for Archeological Documentation*.

1.5.1 Data Recovery

Specific research goals and appropriate types of data, as well as appropriate methods for collecting these data, are outlined in the following requirements taken directly from HAR § 13-278-4, the Hawai'i State rules governing archaeological data recovery plans, and the *Secretary of the Interior's Standards for Archeological Documentation*, the federal standards for such work. The state and federal requirements are similar but vary slightly. The subject plan will satisfy all of the following:

State of Hawai'i

- 1) Identification of historic properties to be studied;
- 2) Identification of research objectives to be addressed;
- 3) Identification of data needed to address research objectives;
- 4) Identification of field methods to be used to acquire and analyze the data;
- 5) Identification of necessary laboratory work; and
- 6) Identification of procedures for the disposition of collections upon the conclusion of the data recovery action.

Federal

- 1) Evaluated significance of the property(ies) to be studied;
- 2) Research problems or other issues relevant to the significance of the property;
- 3) Prior research on the topic and property type; and how the proposed documentation objectives are related to previous research and existing knowledge;
- 4) The amount and kinds of information (data) required to address the documentation objectives and to make reliable statements including at what point information is redundant and documentation efforts have reached a point of diminishing returns;
- 5) Methods to be used to find the information; and

- 6) Relationship of the proposed archeological investigation to anticipated historical or structural documentation, or other treatments.

1.5.2 Preservation

Specific components of a preservation plan are outlined in the following requirements taken directly from HAR § 13-277-3:

- 1) Identification for each significant historic property which forms of preservation will be implemented (i.e., avoidance and protection [conservation], stabilization, rehabilitation, restoration, reconstruction, interpretation, or appropriate cultural use);
- 2) Specification of buffer zones around each significant historic property and depiction of buffer zones on a map of sufficient scale (these buffer zones are depicted following the description of each of the 23 historic properties to be preserved);
- 3) Specification of short-term protection measures for each significant historic property that will be within or near a construction area;
- 4) Discussion of the consultation process for historic properties deemed significant to certain ethnic organizations or individuals, and details on the consultation process and results.

Specification of the long-term preservation measures to be undertaken at each significant historic property.

1.6 Environmental Setting

1.6.1 Natural Environment

The project area is 300 ft in width along a 5.2-mile corridor. The project area lies between approximately 0.5 to 1.25 miles from the coastline at elevations of between 60 ft above mean sea level (AMSL) to 140 ft AMSL (at the north end). Rainfall in the project area averages between 20 to 30 inches per year and temperatures range from an average minimum of 62-68 degrees Fahrenheit to an average maximum of 78-82 degrees Fahrenheit (Armstrong 1973:57-58).

The land surface is comprised predominately of un-dissected 'a'ā and *pāhoehoe* lava flows. The *Soil Survey of the Island of Hawaii* describes 'a'ā lava terrain as having “practically no soil covering and is bare of vegetation, except for mosses, lichens, ferns, and a few small *ohia* trees . . . This lava is rough and broken. It is a mass of clinkers, hard, glassy sharp pieces piled in tumbled heaps” (Sato et al. 1973:34). The same study describes *pāhoehoe* lavas as “a billowy, glassy surface that is relatively smooth. In some areas however, the surface is rough and broken and there are hummocks and pressure domes” (Sato et al. 1973:34). Figure 5 depicts the main soil types in the project area. Besides the 'a'ā flows (rLV on the figure) and the *pāhoehoe* flows (rIW), the highway also crosses a few areas of Punaluu Extremely Rocky Peat, 6-20% slopes(rPYD). This soil series consists of very shallow, well drained organic soils, which formed in organic material mixed with minor amounts of basic volcanic ash over *pāhoehoe* lava.

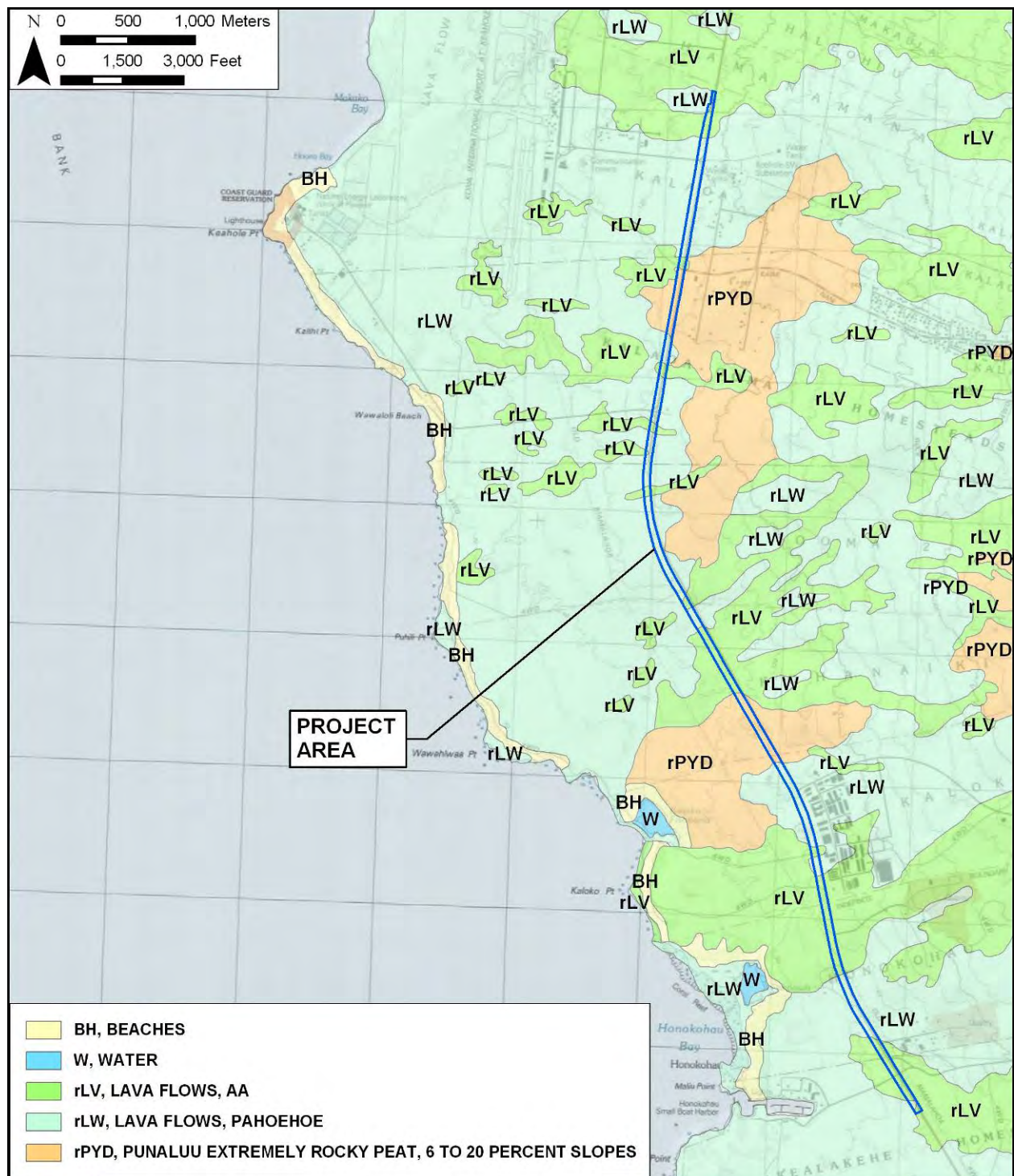


Figure 5. U.S. Department of Agriculture soil classification for the project area (Sato et al. 1973)

Vegetation in the project area is identified as “Fountain Grass Grassland” in Char & Char Associates’ *The Botanical Survey of West Hawai’i Boundary Review* (Head and Rosendahl 1993:2). This vegetation type typically consists of low tufts of grass with scattered shrubs and a few trees. Specific plants commonly observed within the project area include *pili* grass (*Heteropogon contortus*), Guinea grass (*Panicum maximum*), fountain grass (*Pennisetum setaceum*), *wilelaiki* or Christmas berry (*Schinus terebinthifolius*), *klu* (*Acacia farnesiana*), *koa haole* (*Leucaena glauca*), *kiawe* (*Prosopis pallida*), and *lantana* (*Lantana camara*). In areas of Punaluu Stony Peat, common vegetation includes *koa haole* and Guinea grass.

The National Park Service has pointed out that the natural environment immediately adjacent to the project area on either side of the existing highway is important to take into consideration given the proposed project’s potential impacts. The National Park Service is particularly concerned about the ocean and shoreline resources, including the many anchialine pools as well as the fishponds at Kaloko and ‘Aimakapā.

1.6.2 Built Environment

The Queen Ka‘ahumanu Highway extends through barren *pāhoehoe* and ‘*a‘ā* lava flows. There are two commercially developed areas adjacent to the *mauka* side of the highway in Honokōhau for a gas station and quarry, and in Kaloko for Kaloko Industrial Park. On the *makai* side of the project area, there are several adjacent, developed areas and access roads leading into them including (from south to north) Honokōhau Harbor, Kaloko-Honokōhau National Historical Park, Shores at Kohanaiki, the Natural Energy Laboratory of Hawai’i Authority (NELHA), and the Kona International Airport. Additionally, there are planned or proposed developments on the east side of the existing highway and adjacent to the project area, such as the West Hawai’i Business Park and the Kaloko Makai planned community.

Approximately 50% of the project area consists of the existing highway and previously disturbed land along both the *mauka* and *makai* highway shoulders. Previous disturbance in the project area appears to be primarily the result of the original highway construction (both sides of the existing highway) and utility pole installation (*mauka* side). Therefore, the total area of undisturbed land surveyed amounts to approximately half, or 95 acres (38.4 ha), of the ROW.

Section 2 Summary 2012 AIS Results and Recommendations

2.1 Background of the AIS

Staff working for the National Park Service (NPS), including the Honokōhau Settlement National Historic Landmark, the Kaloko-Honokōhau National Historical Park and the Ala Kahakai National Historic Trail, raised concerns about archaeological features or sites they believed were overlooked during previous surveys. These NPS concerns were raised in response to the HDOT's 2008 reissuance of the Finding of No Significant Impact (FONSI) for the proposed project.

In response to NPS concerns, CSH was contracted in 2010 to conduct supplemental archaeological inventory survey of the project area, the results of which were reported in an AIS report by Monahan et al. (2012). The objective of the study by Monahan et al. (2012) was to conduct a complete re-survey of the entire Phase 2 project area. In 2011, the resulting AIS was accepted by the SHPD in a letter dated 27 April 2011 (LOG NO: 2011.1140, DOC NO: 1104TD12), under the condition that other consulting parties, in particular the NPS and NHOs, were satisfied with the report.

When it became clear, through continuing consultation, that the other consulting parties were not satisfied with the report, CSH undertook two supplemental studies of the project area (Monahan and Wilkinson 2012; Monahan and Yucha 2012). These studies, which included a limited amount of fieldwork investigation with the NPS and NHOs, yielded additional historic properties that were added to the AIS report, which is an integration of information from three main documents, the original AIS by Monahan et al. (2012) and the two supplemental survey reports cited above.

In order to address additional NPS and SHPD concerns, further supplementary fieldwork was undertaken from 9 to 12 July 2012 by CSH archaeologists Ena Sroat, B.A., Oliver Bautista, B.A., and Johnny Dudoit, B.A.

The final AIS report (Monahan et al. 2012), therefore, is an integration of this supplementary fieldwork as well as information from three main documents, the original AIS by Monahan et al. (first version dated 2011) and the two supplemental survey reports cited above.

2.2 Historic Properties Identified and Significance Criteria

Table 2 summarizes the 75 historic properties identified in the AIS report for this project (Monahan et al. 2012). The AIS was accepted by the SHPD in a letter dated 21 August 2012 (Log No.: 2012.1443, Doc. No.: 1208MV01). Table 2 also includes significance assessments (i.e., eligibility criteria for inclusion on the State and/or National Registers of Historic Places). Figure 6 through Figure 16 depict the locations of all 75 historic properties. It is important to note that, in addition to sites in the ROW, the National Park Service has determined all sites within Kaloko-Honokōhau National Historical Park and Honokōhau Settlement National Historic Landmark are also eligible for the National Register of Historic Places.

Table 2. Project Effect and Mitigation Recommendations for (75) Historic Properties in the Project Area (arranged South to North); several historic properties have multiple features; the (23) historic properties addressed in this present amendment plan are highlighted in yellow

Site # ¹	Site Type	Function	Significance	Project Effects ²	Recommended Mitigation ³
-19954	Trail (<i>mauka-makai</i>)	Transportation	C, D, and E	No impact to site	Data recovery (archival research) and preservation
-29332	Mound/paved area within naturally formed <i>pāhoehoe</i> depression	Indeterminate, possible burial	D and E	No impact to site	Data recovery (as per SHPD letter of 9 July 2012)
-29334	Rock mound within naturally formed <i>pāhoehoe</i> depression	Indeterminate	D and E	No impact to site	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-28774	Trail (<i>mauka-makai</i>)	Transportation	C, D, and E	No impact to site	Data recovery (archival research) and preservation
-22507	Trail (<i>mauka-makai</i>)	Transportation	C, D, and E	No impact to site	Data recovery (archival research) and preservation
-29335	Rock wall segment	Indeterminate	D and E	Destruction of entire site	Data recovery (excavation)
-18099	Trail (<i>mauka-makai</i>)	Transportation	A, C, D, and E	No impact to site	Data recovery (archival research) and preservation
-22418	Trail (<i>mauka-makai</i>)	Transportation	C, D, and E	No impact to site	Data recovery (archival research) and preservation
-22417	Modified lava blister	Agriculture/planting pit	D and E	No impact to site	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-28778	<i>Pāhoehoe</i> excavation	Agriculture/planting pit	D and E	Destruction of entire site	Data recovery (excavation)
-22415	Platform	Burial	D and E	No impact to site	Burial treatment plan (preservation)
-29336	Rock terrace	Indeterminate	D and E	No impact to site	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-29337	Excavated pit	Indeterminate-possible quarry or sweet potato planter	D and E	No impact to site	Avoidance during construction
-29339	Rock wall segment	Indeterminate	D and E	No impact to site	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-29338	Excavated pit	Indeterminate-possible quarry or sweet potato planter	D and E	Destruction of entire site	No further work
-29340	Rock mound	Indeterminate, possible burial	D and E	No impact to site	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-29341	Excavated pits	Indeterminate-possible quarry or sweet potato planter	D and E	No impact to site	Avoidance during construction
-29342	Excavated pit	Indeterminate-possible quarry for rock to repair nearby Māmalahoa Trail	D and E	No impact to site	Avoidance during construction
-00002**	Māmalahoa trail	Transportation	A, B, C, D and E	Destruction of a portion of site	Data recovery (archival research) and preservation
-19953**	Trail (<i>mauka-makai</i>)	Transportation	C, D, and E	Destruction of a portion of site	Data recovery (archival research) and preservation
-29343	Excavated pit	Indeterminate-possible quarry or sweet potato planter	D and E	No impact to site	Avoidance during construction
-28780	‘A ‘ā excavation	Indeterminate, possible burial	D and E	No impact to site	Preservation
-28781	Paved/leveled area	Indeterminate-possible agricultural clearing	D and E	No impact to site	Preservation
-28782	Trail (<i>mauka-makai</i>)	Transportation	C, D, and E	No impact to site	Data recovery (archival research) and preservation
-28783	Complex	Agriculture	D and E	No impact to site	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-28784	Trail (<i>mauka-makai</i>)	Transportation	C, D, and E	No impact to site	Data recovery (archival research) and preservation
-28785	Enclosure	Agriculture	D and E	Destruction of entire site	Data recovery (excavation)

Site # ¹	Site Type	Function	Significance	Project Effects ²	Recommended Mitigation ³
-29333	Rock stacking (possible <i>ahu</i>)	Indeterminate	D and E	No impact to site	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-28786	Modified depression	Agriculture	D and E	Destruction of entire site	Data recovery (excavation)
-28787	Trail (<i>mauka-makai</i>)	Transportation	C, D, and E	No impact to site	Data recovery (archival research) and preservation
-19952	Trail (<i>mauka-makai</i>)	Transportation	C, D, and E	No impact to site	Data recovery (archival research) and preservation
-28788	Modified outcrop complex	Agriculture	D and E	No impact to site	Preservation
-19951	Wall	Ranching/boundary	D and E	No impact to site	Preservation
-28789	Mound complex	Agriculture	D and E	No impact to site	Preservation
-19950	Modified outcrop complex	Agriculture	D and E	No impact to site	Preservation
-28790	<i>Pāhoehoe</i> excavation	Quarrying	D and E	No impact to site	Preservation
-19949	Enclosure	Indeterminate-possible windbreak/temporary shelter	D and E	No impact to site	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-28791	Trail (<i>mauka-makai</i>)	Transportation	C, D, and E	No impact to site	Data recovery (archival research) and preservation
-28792	Petroglyph	Symbolic expression	D and E	No impact to site	Preservation
-29344	Excavated pit	Indeterminate-possible quarry or sweet potato planter or bird pit	D and E	No impact to site	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-10714	Trail system (<i>mauka-makai</i>), interpreted as part of the “Road to the Sea Trail” (three features)	Transportation	A, C, D, and E	Portions of all three features (Features A, B, and C) will be destroyed by construction; portions of all three features (Features A, B, and C) will not be physically impacted by construction	Data recovery (archival research) and preservation
-28794	Filled crevice	Indeterminate-possible agricultural clearing	D and E	No impact to site	Avoidance during construction
-28797	Mound complex	Agriculture	D and E	No impact to site	Preservation
-19948	Complex	Agriculture and quarrying	D and E	No impact to site	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-28799	Excavated pit complex	Agriculture	D and E	No impact to site	Preservation
-28800	<i>Pāhoehoe</i> excavation	Quarrying	D and E	No impact to site	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-28801	Modified outcrop complex	Agriculture	D and E	No impact to site	Avoidance during construction
-19947	Stacked rocks	<i>Ahupuaʻa</i> boundary markers	D and E	Destruction of entire site (total of three features, Features A–C)	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-28802	Complex	Temporary habitation	D and E	No impact to site	Preservation
-28803	Complex	Indeterminate-possible agricultural clearing	D and E	No impact to site	Avoidance during construction
-28804	Filled crevice	Indeterminate-possible agricultural clearing	D and E	No impact to site	Avoidance During Construction
-28805	Modified outcrop	Agriculture/clearing	D and E	No impact to site	Avoidance during construction
-15324	Trail (<i>mauka-makai</i>)	Transportation	C, D, and E	No impact to site	Data recovery (archival research) and preservation
-19946	Trail (<i>mauka-makai</i>)	Transportation	C, D, and E	No impact to site	Data recovery (archival research) and preservation
-28806	Mound	Possible marker	D and E	No impact to site	Preservation
-28807	Filled crevice	Indeterminate	D and E	East end of site will be destroyed by construction; entire site is within construction limits	Data recovery (excavation/removal of coral)
-29345	Coral-filled <i>pāhoehoe</i> crevice	Indeterminate	D and E	No impact to site	Data recovery (excavation/removal of coral)
-28808	Mound complex	Markers	D and E	Three (of total five) features (A, B, and C) will not be physically impacted by construction; Features D and E will be physically impacted by construction	Features A–C: preservation Features D and E: relocation (to the west within ROW)

Site # ¹	Site Type	Function	Significance	Project Effects ²	Recommended Mitigation ³
-28809	<i>Pāhoehoe</i> excavation	Quarrying	D and E	No impact to site	Avoidance during construction
-28810	Lava tube	Indeterminate/possible water catchment	D and E	No impact to site	Preservation
-29346	Mound	Indeterminate—possible marker or quarrying	D and E	Destruction of entire site	Relocation to the west (within ROW)
-10154	Walled enclosure	Indeterminate-possible habitation	D and E	No impact to site	Preservation
-06432	Core-filled stone wall	<i>Ahupua</i> ‘a boundary	D and E	Destruction of a small portion of site	No further work; minimize destruction through archaeological and cultural monitoring
-29347	Mound	Possible marker or quarrying	D and E	No impact to site	Avoidance during construction
-29272	Level area in ‘a‘ā with trail (<i>mauka/makai</i>)	Possible temporary resting spot/work area and transportation	C, D, and E	No impact to site	Feature A: Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity Feature B: data recovery (archival research) and preservation
-28811	<i>Pāhoehoe</i> excavation	Quarrying	D and E	No impact to site	Interim preservation and commitment to mitigation prior to any future land disturbance in the vicinity
-28812	Possible filled crevice	Indeterminate	D and E	Destruction of entire site	Data recovery (excavation/removal of rock)
-28813	Modified lava blisters	Agriculture	D and E	Feature A will not be physically impacted by construction Features B–E will be destroyed during construction	Feature A: preservation Features B–E: data recovery (excavation)
-28814	Lava tube	Indeterminate/possible water catchment	D and E	Destruction of entire site	Data recovery (excavation)
-28815	<i>Pāhoehoe</i> excavation	Quarrying	D and E	Destruction of entire site	Data recovery (excavation)
-19943	Lava tube	Temporary habitation	D and E	No impact to site	Preservation
-19945	Petroglyphs (n=2) and bashed/pecked <i>pāhoehoe</i> (n=7)	Symbolic expression and prospecting for voids in lava flow	D and E	Features A and B Petroglyphs) will not be physically impacted by construction Features C–I (pecking marks) most will be destroyed by construction	Features A and B: preservation (petroglyphs) Features C-I (pecking marks on lava): no further work
-29348	Boulder (<i>pāhoehoe</i> basher) in excavated pit	Prospecting for voids in lava flow	D and E	Entire site is immediately adjacent to grading limits	Collection and curation of portable artifact (boulder); No Further Work for the Excavated Pit
-29349	Boulder (<i>pāhoehoe</i> basher) and associated excavated pit	Prospecting for voids in lava flow	D and E	Feature A (boulder) will not be physically impacted by construction Feature B (excavated pit) will be destroyed by construction	Collection and Curation the Portable Artifact (Boulder, Feature A); no further work for excavated pit (Feature B)
-29275*	Lava tube	Burial, contemporary habitation	D and E	No impact to site; site is located outside of project area/APE	Preservation (burial treatment plan in progress)

¹ State Inventory of Historic Property (SIHP) numbers begin with “50-10-27.” Other temporary site number designations will eventually be replaced with SIHP numbers.

² Based on construction limits provided to CSH by SSFM April 2012.

³ Explanation of mitigation terminology: 1) **Avoidance during construction** = protection during all project-related construction activities with interim protection measures under the preservation plan *and* commitment by HDOT to conduct a new historic preservation review in the future should other construction projects be planned that may affect these sites; 2) **Burial treatment plan (preservation)** = preparation of a BTP proposing preservation in place to be submitted to the SHPD/HIBC for review, comment and approval; 3) **Collection and curation** = portable artifact will be collected (removed) from its current location and curated according to the MOA; 4) **Data recovery (archival research)** = for trail sites, data recovery consists of additional archival research that will place the project-area trail segments in a wider geographic context that accurately reflects their cultural and historical significance; 5) **Data recovery (excavation)** = data recovery consists of traditional archaeological excavation of soil/sediment for the purposes of recovering material evidence germane to the site/feature’s function and/or age; in some cases, where there is little or no soil/sediment to excavate, data recovery consists of dismantling or removing rocks or coral in order to inspect what lies beneath; 6) **No further work** = no mitigation is proposed for these sites; 7) **Preservation** = protection during construction *and* permanent in-place, preservation in perpetuity; 8) **Relocation** = site will be carefully dismantled, moved west beyond the construction limits, and rebuilt within the ROW. In addition to these mitigation recommendations, archaeological and cultural monitoring is recommended for all ground-disturbing activities in the project area (ROW). See text above for details.

* Note, SIHP # -29275 is not in the project area/APE, but is included in the AIS (Monahan et al. 2012); it will not be affected by current construction.

** These two sites (SIHP #s- 00002 and -19953) are special cases. Their treatment was codified in the original 1999 MOA. Construction plans will be designed to adhere to the 1999 MOA specifications.

Table 3. Summary of Proposed Mitigation

Item	Action (SIHP #)	No. Sites
1	Burial treatment plan —preservation in place (-22415, -29275*)	2
2	Preservation (-10154, -19943, -19950, -19951, -28780, -28781, -28788, -28789, -28790, -28792, -28797, -28799, -28802, -28806, -28810)	15
3	Preservation and no further work (-19945—two petroglyphs will be preserved; no further work for remaining features at this site)	1
4	Avoidance during construction (-28794, -28801, -28803, -28804, -28805, -28809, -29337, -29341, -29342, -29343, -29347)	11
5	No further work (-06432—note, damage to -06432 will be minimized by way of archaeological and cultural monitoring; -29338)	2
6	Relocation (-29346)	1
7	Relocation and preservation (-28808—relocation of two features, preservation of three features)	1
8	Interim preservation and commitment to mitigation (relocation) prior to any future land disturbance (-19947)	1
9	Data recovery (excavation/dismantling) (-28778, -28785, -28786, -28807, -28812, -28814, -28815, -29332, -29335, -29345)	10
10	Data recovery (archival research) and preservation (-00002, -10714, -15324, -18099, -19946, -19952, -19953, -19954, -22418, -22507, -28774, -28782, -28784, -28787, -28791)	15
11	Data recovery (collection and curation of portable artifacts) (-29348, -29349)	2
12	Data recovery (excavation) and preservation (-28813)	1
13	Interim preservation and commitment to mitigation (data recovery) prior to any future land disturbance (-19948, -19949, -22417, -28783, -28800, -28811, -29333, -29334, -29336, -29339, -29340, -29344)	12
14	Data recovery (archival research) and preservation (-29272 Feature B) and interim preservation and commitment to mitigation (data recovery) prior to any future land disturbance (-29272 Feature A)	1
	TOTAL	75

* Landowner has declined consent

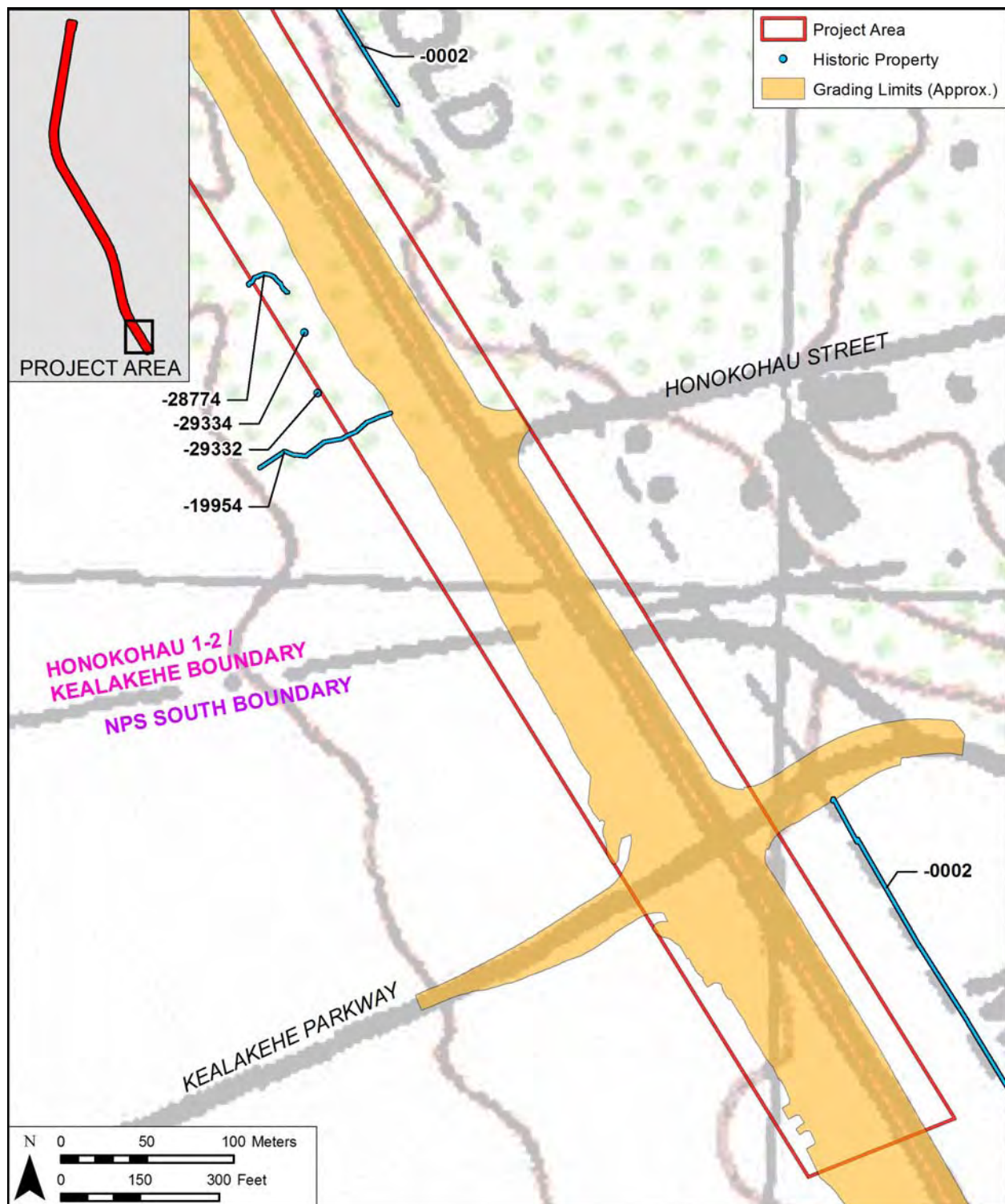


Figure 6. Portion of the 1996 Keāhole Point USGS 7.5-minute topographic quadrangle showing Section 1 of the project area

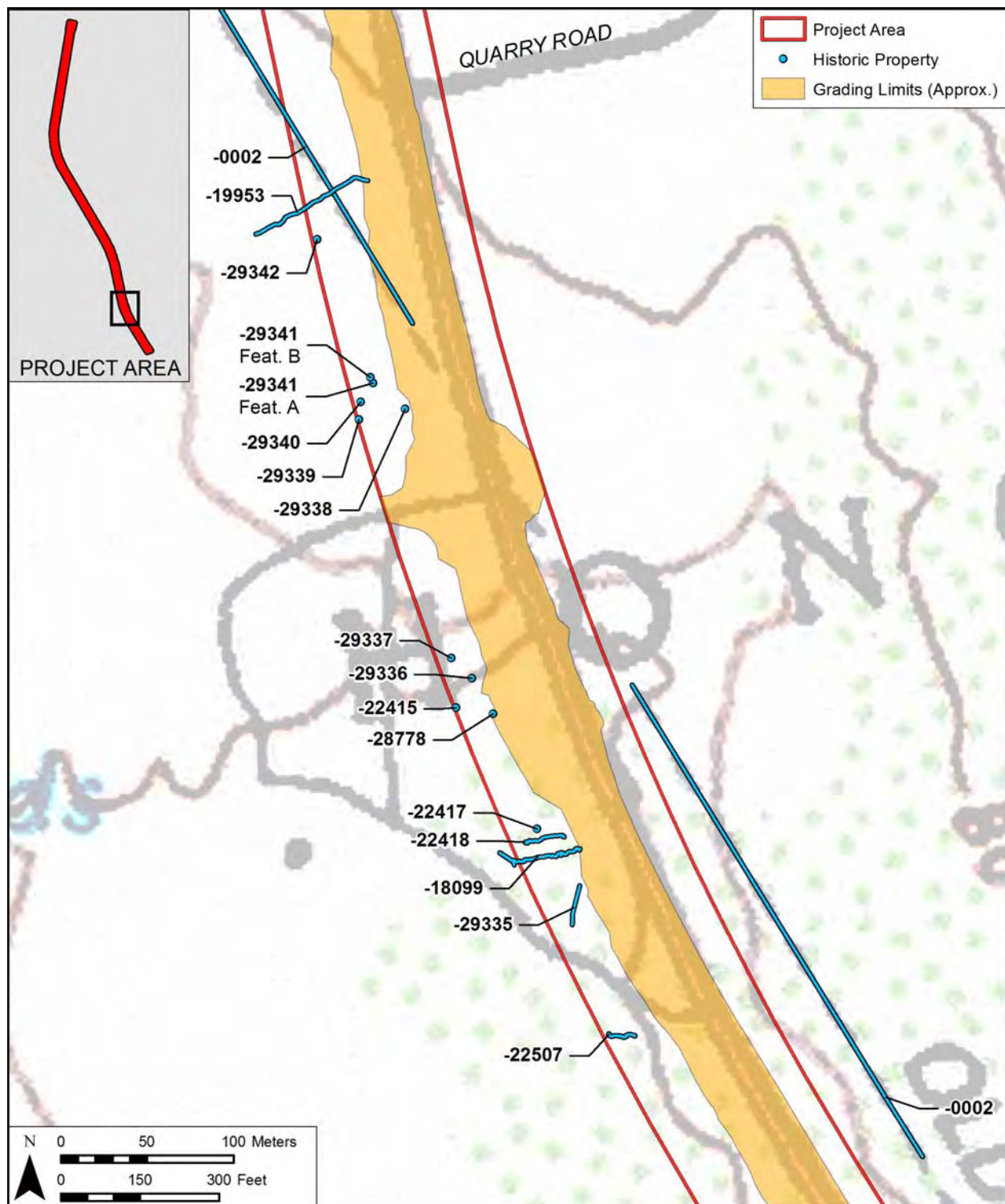


Figure 7. Portion of the 1996 Keāhole Point USGS 7.5-minute topographic quadrangle showing Section 2 of the project area

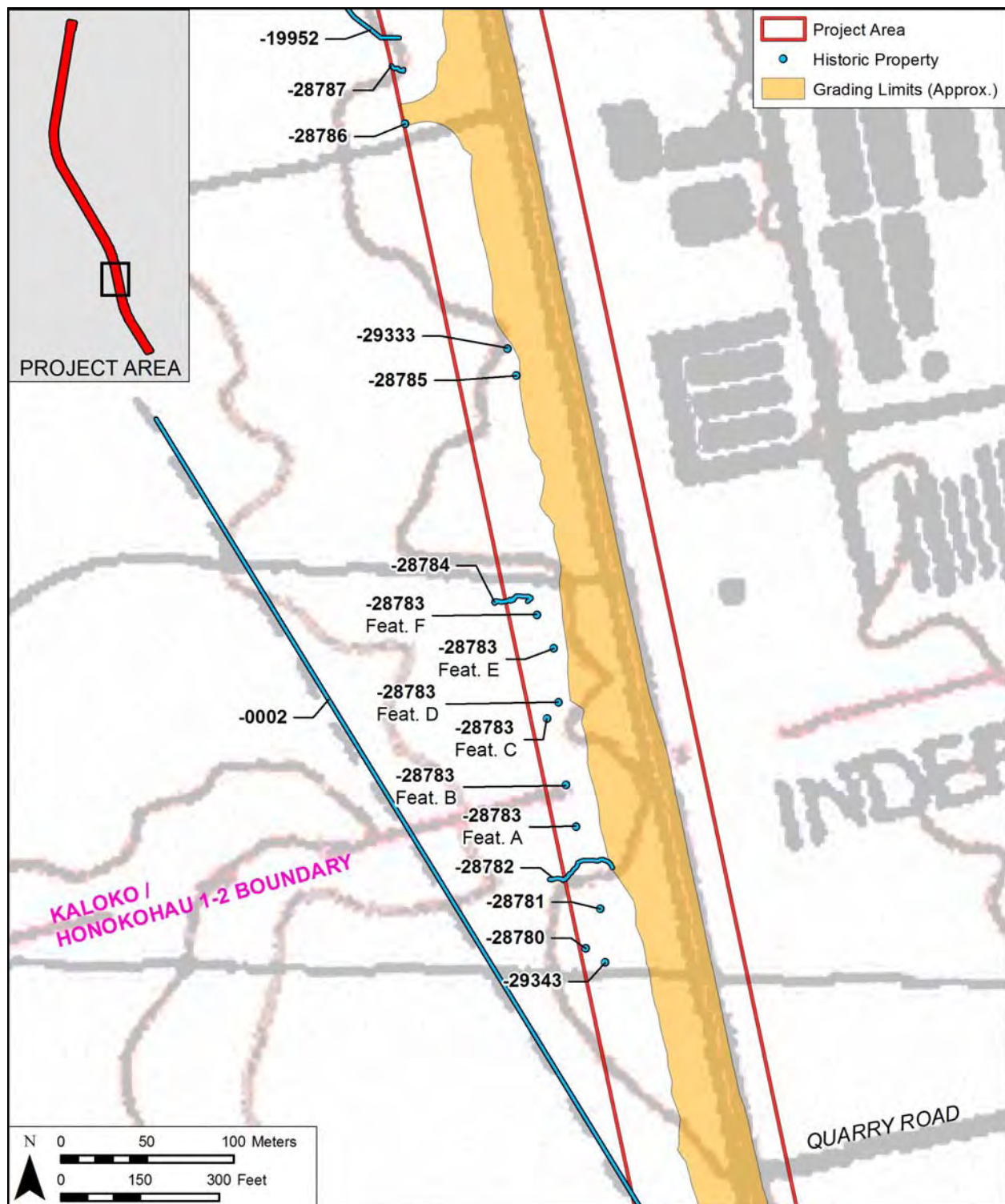


Figure 8. Portion of 1996 Keāhole Point USGS 7.5-minute topographic quadrangle showing Section 3 of the project area

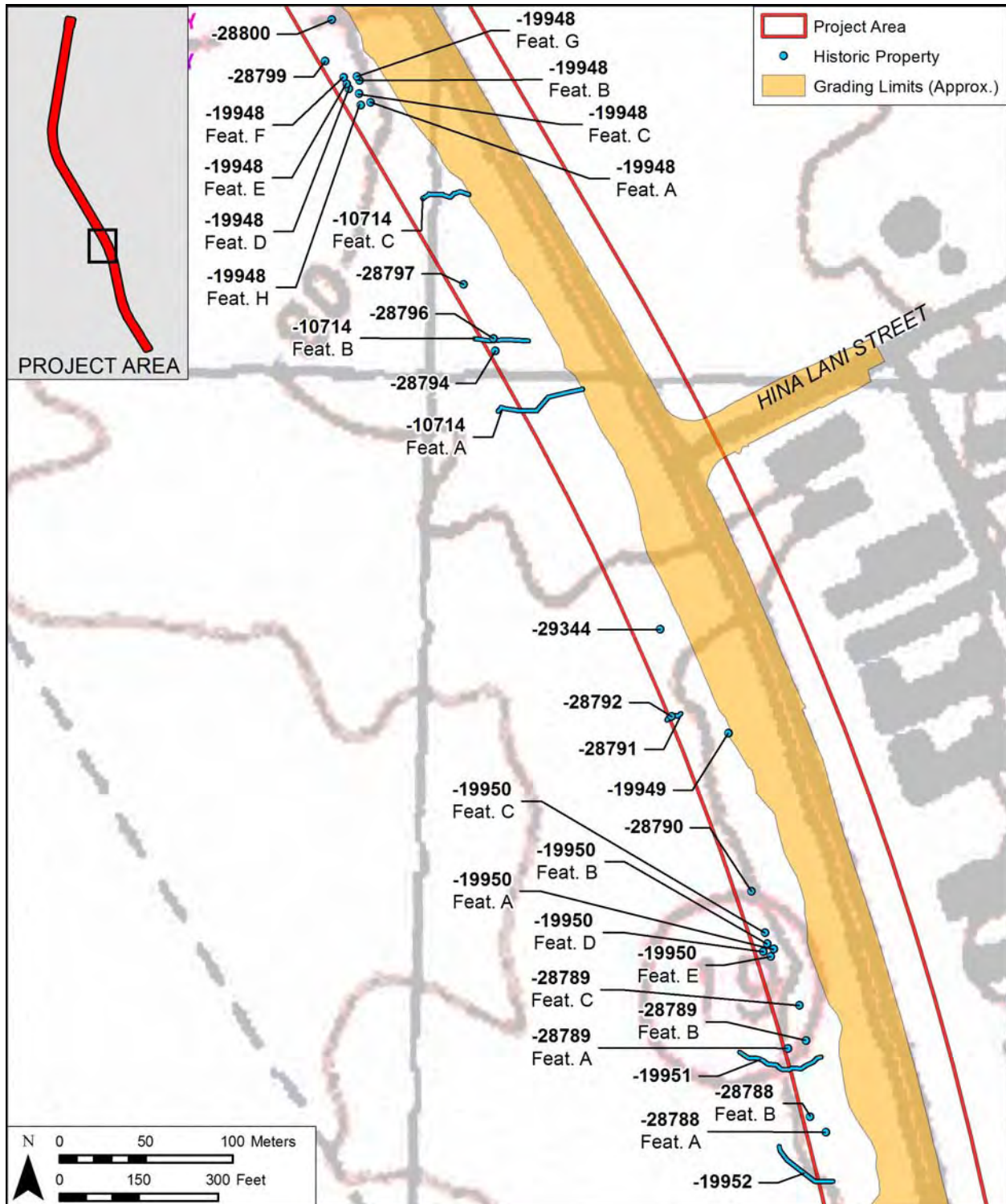


Figure 9. Portion of 1996 Keāhole Point USGS 7.5-minute topographic quadrangle showing Section 4 of the project area

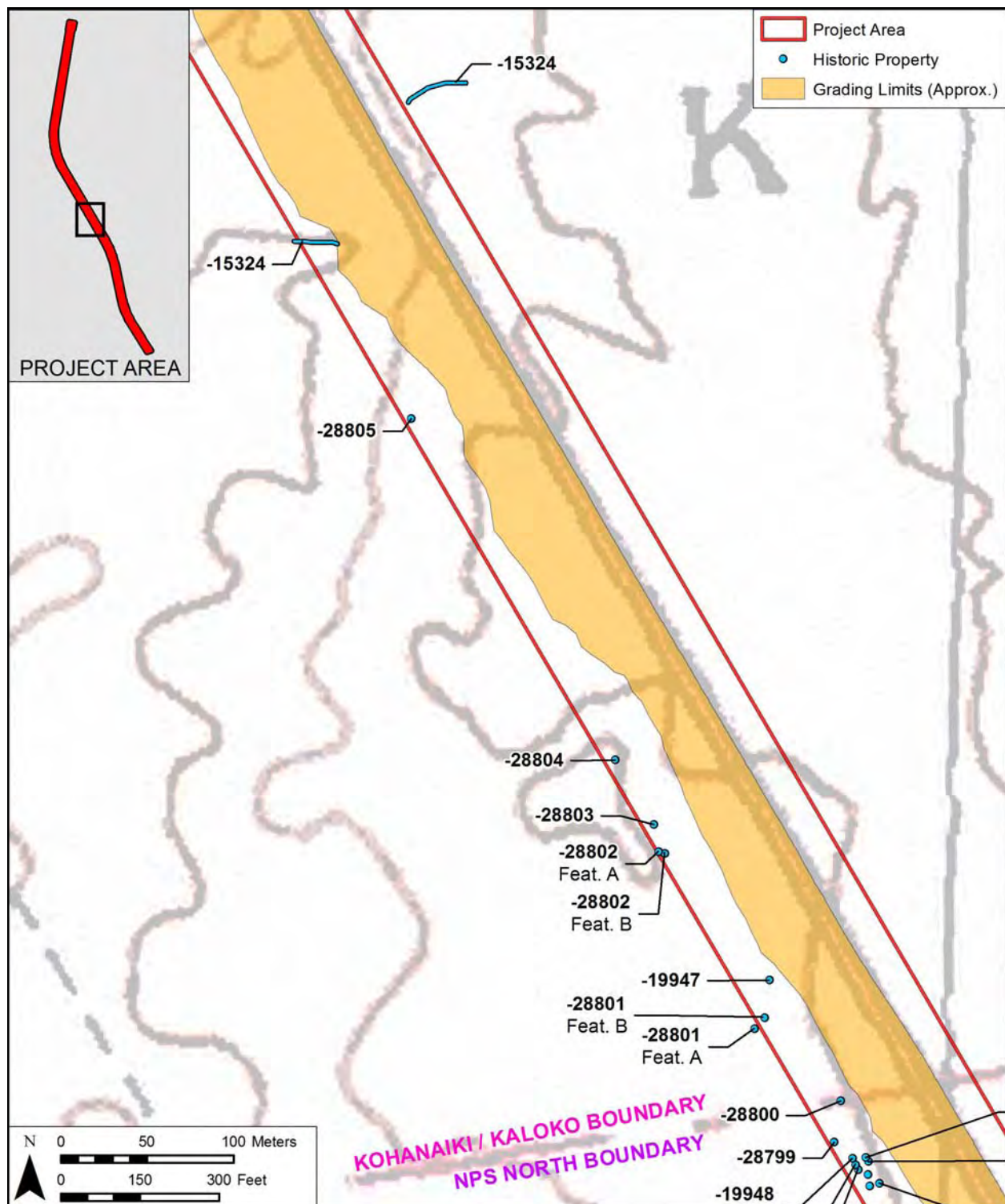


Figure 10. Portion of 1996 Keāhole Point USGS 7.5-minute topographic quadrangle showing Section 5 of the project area

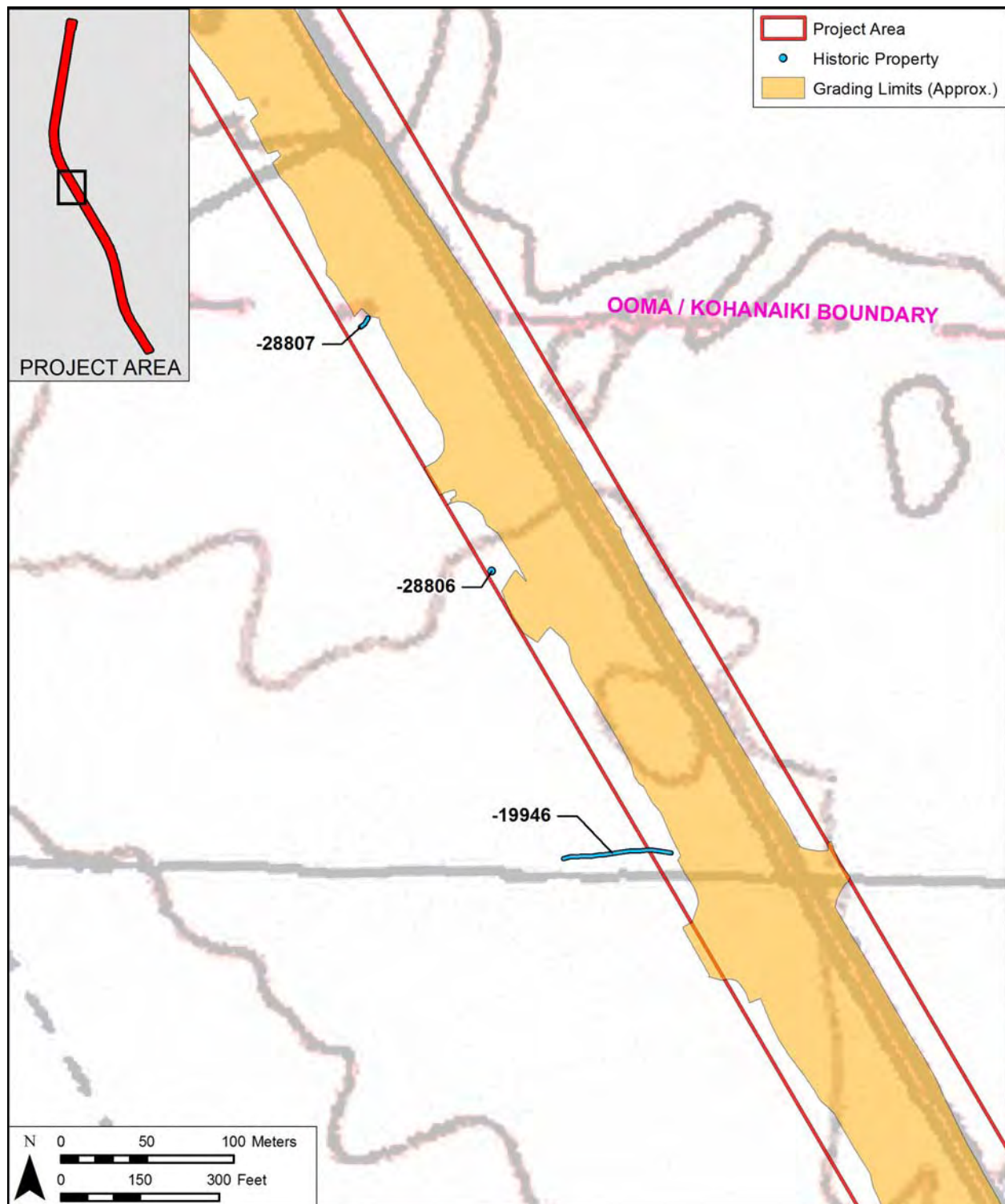


Figure 11. Portion of the 1996 Keāhole Point USGS 7.5-minute topographic quadrangle showing Section 6 of the project area

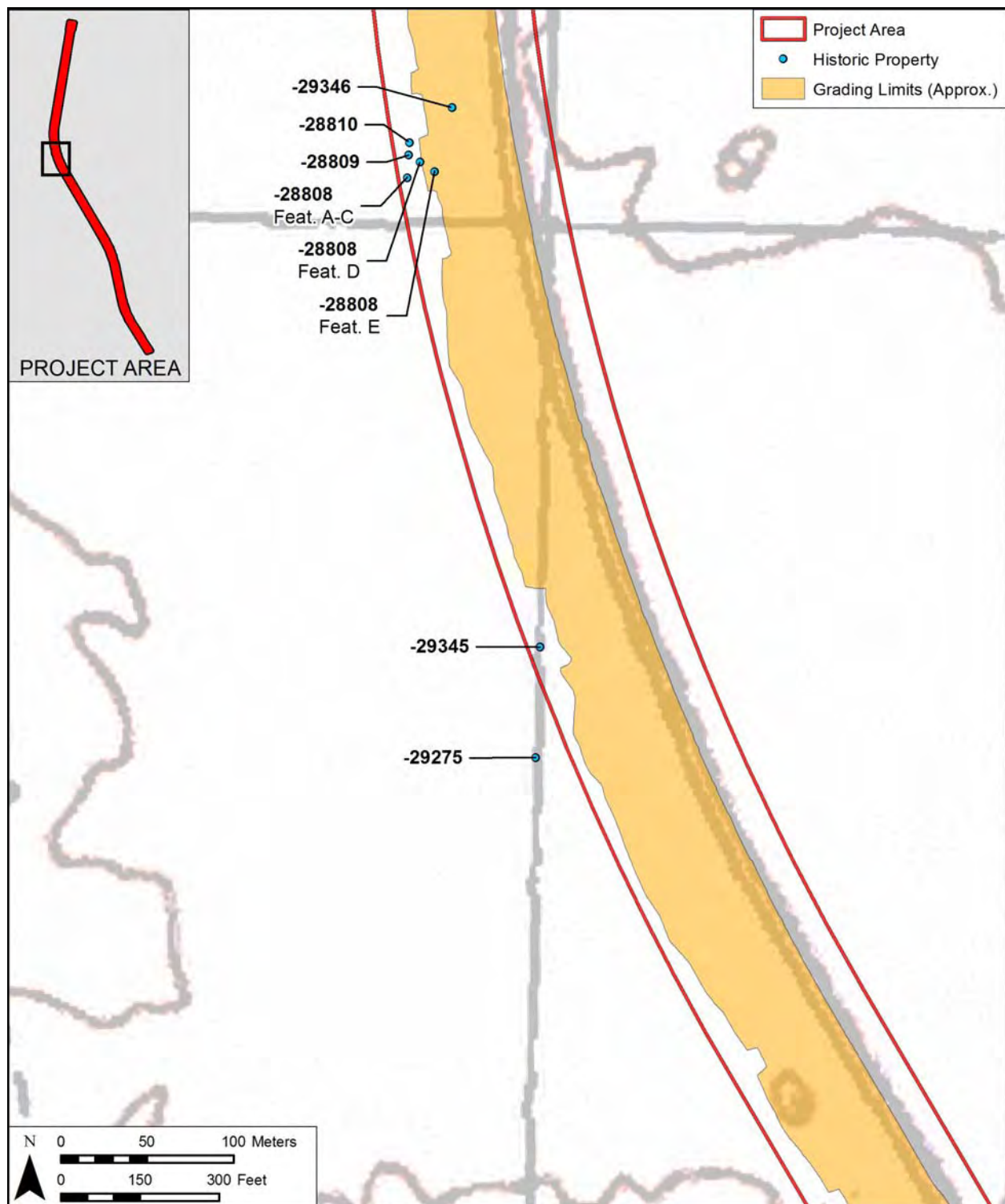


Figure 12. Portion of the 1996 Keāhole Point USGS 7.5-minute topographic quadrangle showing Section 7 of the project area

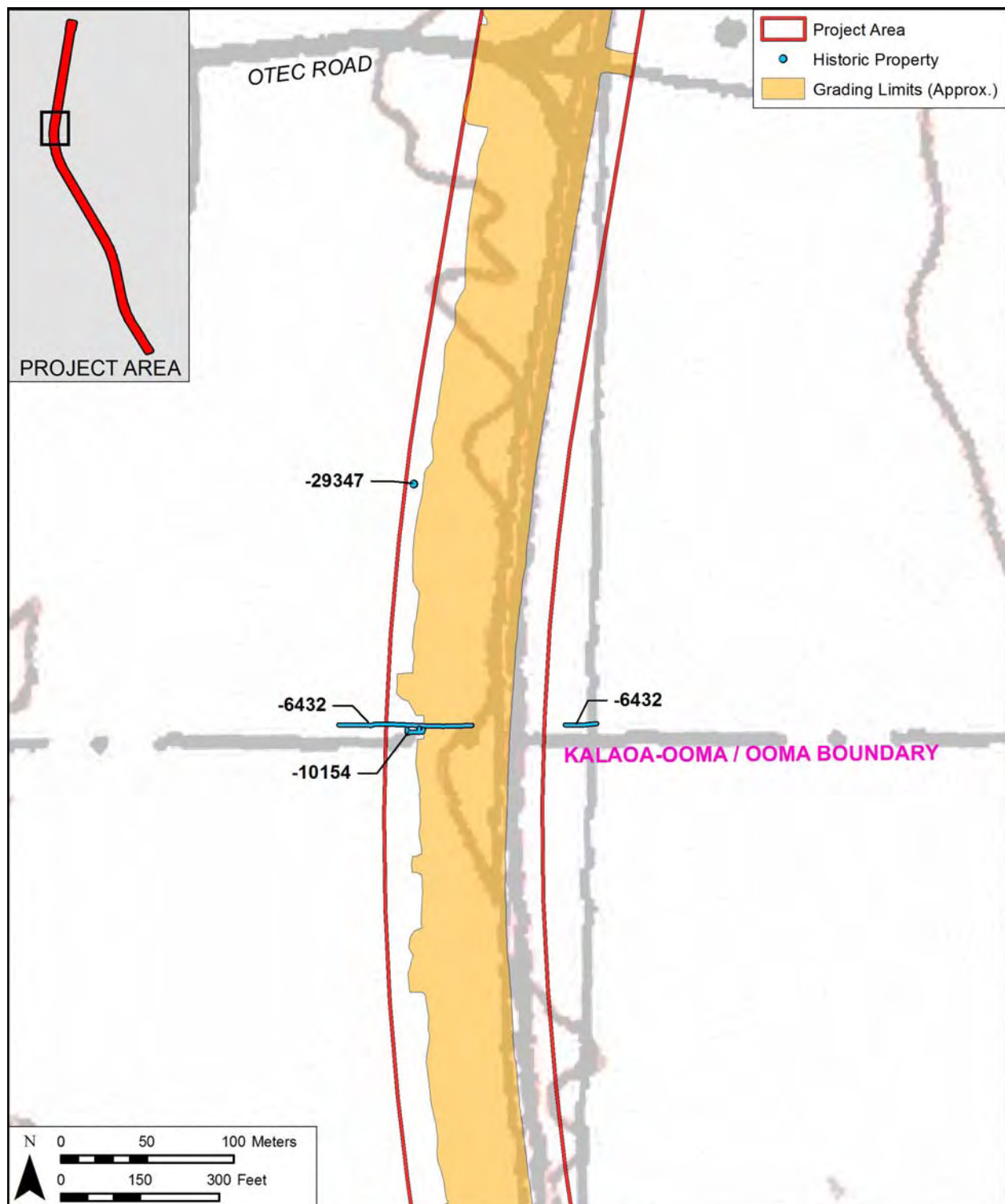


Figure 13. Portion of the 1996 Keāhole Point USGS 7.5-minute topographic quadrangle showing Section 8 of the project area

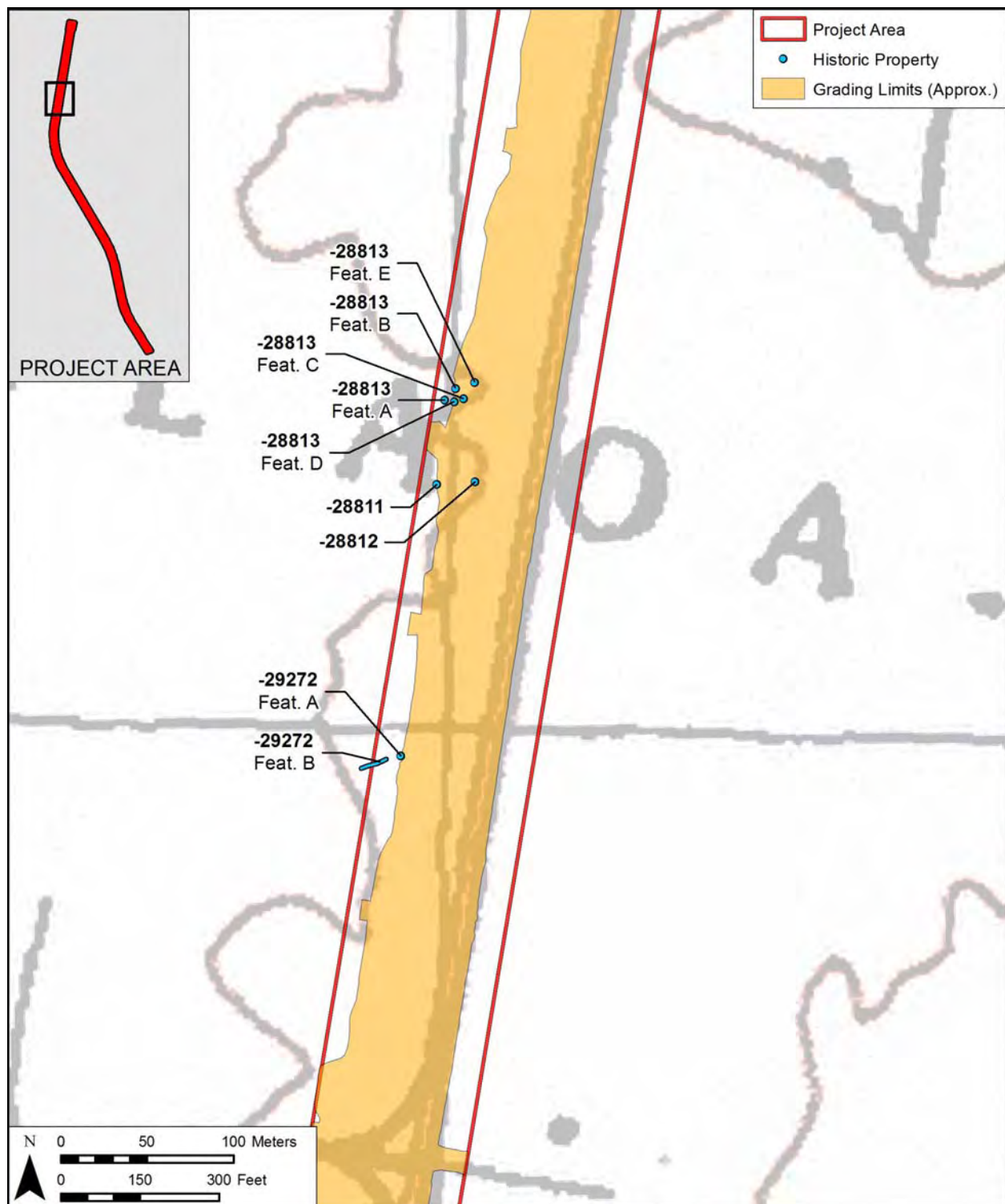


Figure 14. Portion of the 1996 Keāhole Point USGS 7.5-minute topographic quadrangle showing Section 9 of the project area

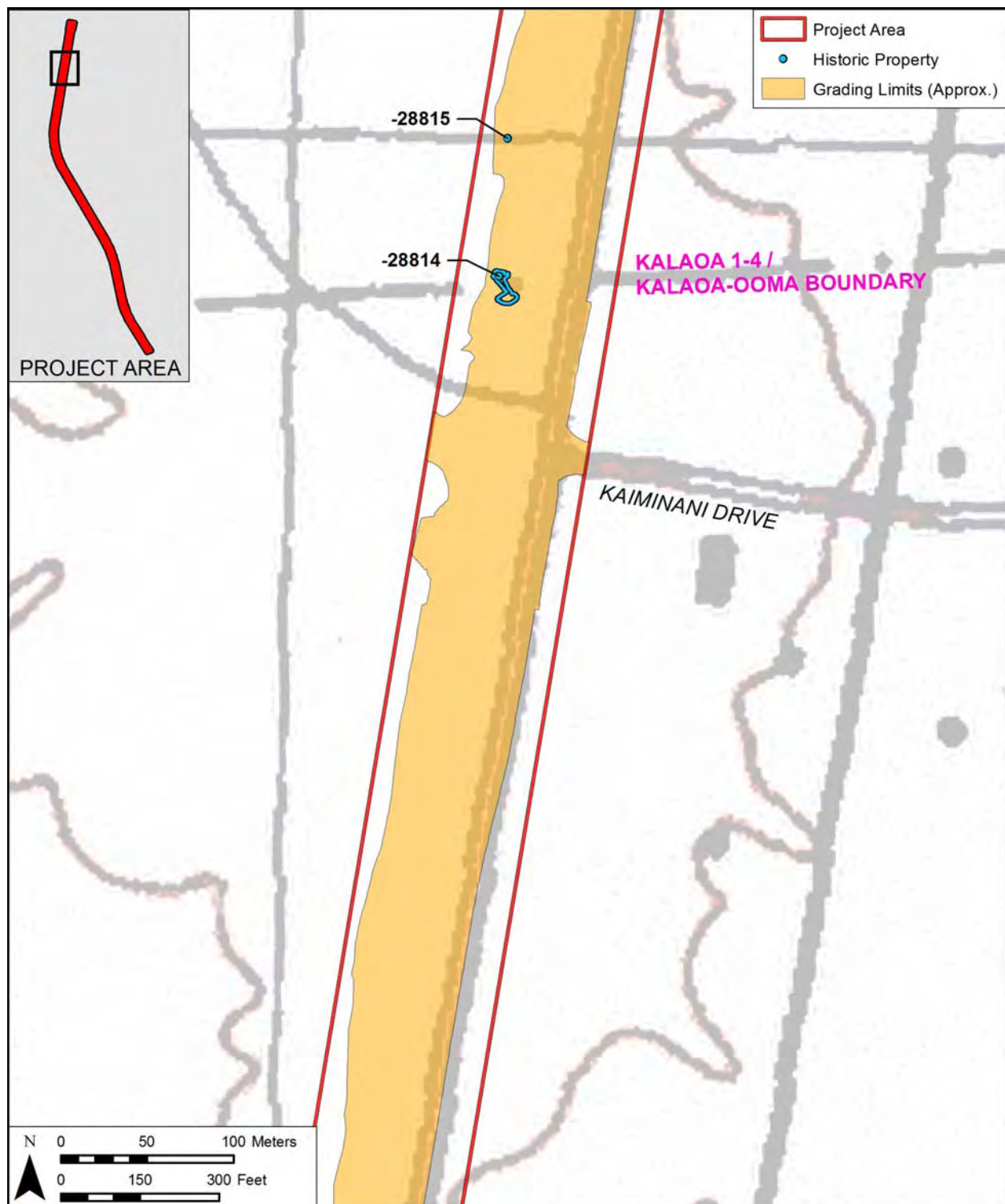


Figure 15. Portion of the 1996 Keāhole Point USGS 7.5-minute topographic quadrangle showing Section 10 of the project area

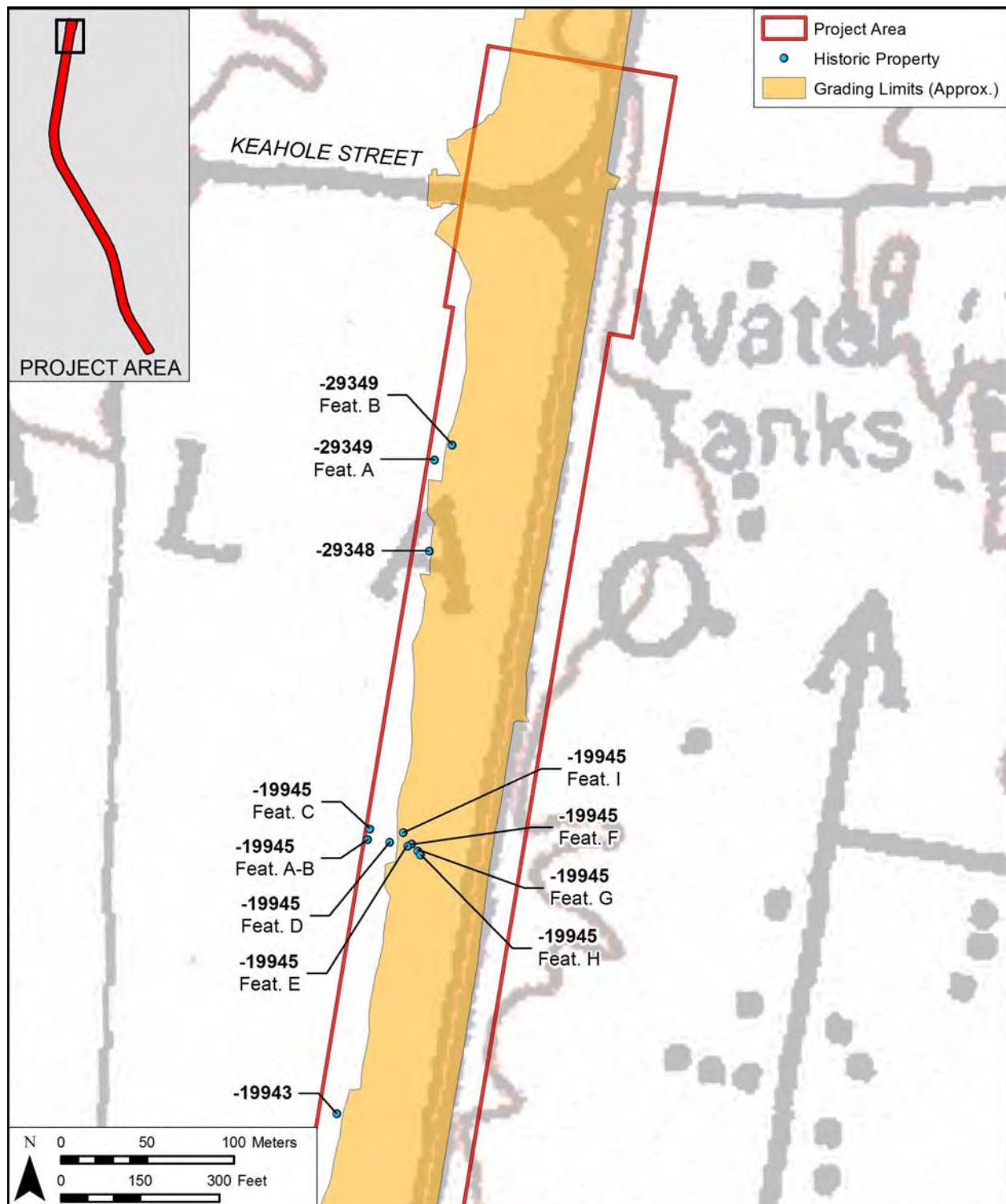


Figure 16. Portion of the 1996 Keāhole Point USGS 7.5-minute topographic quadrangle showing Section 11 of the project area

2.2.1 Mitigation Recommendations

In order to mitigate the proposed project's potential effects on significant cultural resources, the following mitigation measures are recommended. In general, the objective of this mitigation program is to protect and preserve as many historic properties as possible, and to obtain additional information at significant sites that cannot be avoided by current construction plans. The mitigation program includes archaeological and cultural monitoring (Section 2.3.2.1), data recovery (Section 2.3.2.2), preservation and avoidance during construction (Section 2.3.2.3), relocation (Section 2.3.2.4), burial treatment (Section 2.3.2.5), and other proposed mitigation (Section 2.3.2.6).

During consultation for the subject archaeological survey, the NPS and NHOs, including OHA, requested the opportunity to review and comment on the data recovery, preservation, archaeological monitoring, and burial treatment plans prior to ground-disturbing activities. This opportunity for review and comment is a standard part of the ongoing consultation process and will be honored.

2.2.1.1 Archaeological and Cultural Monitoring

In addition to the mitigation recommendations listed in Table 2 and Table 3, CSH recommends archaeological and cultural monitoring of all original ground-disturbing activities in the project area (ROW). Archaeological and cultural monitoring shall be performed whenever disturbance of original (previously undisturbed) ground is conducted in the project area. The archaeological monitor shall continuously observe and monitor ground-disturbing activities. Archaeological monitoring shall be conducted in accordance with an archaeological monitoring plan (AMP) prepared in accordance with HAR § 13-279. The AMP shall be reviewed and accepted by the SHPD prior to the start of ground-disturbing activities.

There are no administrative rules governing cultural monitoring; however, such individuals typically possess training and knowledge of the project-specific landscape and its cultural and natural resources received from their *kūpuna* (elders). CSH has worked with cultural monitors on many projects, and has developed daily cultural monitoring forms that cultural monitors fill out to record their observations and/or concerns. CSH has professional relationships with potential cultural monitors for the subject project.

2.2.1.2 Data Recovery

Several different types of data recovery for this project have been recommended, as described in the original data recovery and preservation plan (Shideler et al. 2012) and in this APMP amendment (see Table 3 above, rows 9 to 14). Data recovery is still recommended for a total of 41 historic properties. Some sites will be subject to a *combination* of mitigation treatments, including different types of data recovery (both archival and traditional excavation/dismantling) and preservation (including passive preservation and relocation). Section 4 of this APMP amendment describes in detail all aspects of data recovery work for this project.

Ten historic properties (see Table 3, row 9 addressing SIHP #s -28778, -28785, -28786, -28807, -28812, -28814, -28815, -29332, -29335, -29345) are recommended for data recovery in

the form of traditional excavation (and/or dismantling in the case of sites and site features without substantial soil/sedimentary deposits) prior to highway construction.

Sixteen of the historic properties for which data recovery is recommended are trails (see Table 3, row 10 addressing SIHP #s -00002, -10714, -15324, -18099, -19946, -19952, -19953, -19954, -22418, -22507, -28774, -28782, -28784, -28787, -28791 and -29272), including the Māmalahoa Trail (SIHP # -00002) and 15 *mauka-makai* trails. For trails sites, data recovery will not include fieldwork; rather, it will consist of a comprehensive archival analysis that will place the project area trail segments in a context that accurately reflects their cultural and historical significance.

Two historic properties (see Table 3, row 11 addressing SIHP #s -29348 and -29349) are recommended for data recovery that consists of collecting and curating portable artifacts.

One historic property (see Table 3, row 12 addressing SIHP # -28813) is recommended for a combination of data recovery excavation of some features and preservation of other features.

Following Section 4(f) consultation, 12 historic properties were recommended for interim preservation with a commitment to data recovery (see Table 3, row 13) prior to any future land disturbance in the immediate vicinity.

One historic property (see Table 3, row 14 addressing SIHP # -28813) is recommended for a combination of data recovery archival research and preservation for one feature (SIHP # -29272 Feature B) with a commitment to interim preservation and data recovery of another feature (SIHP # -29272 Feature A).

2.2.1.3 Preservation

Section 5 of this APMP amendment describes in detail preservation work for the historic properties addressed in this APMP amendment. Certain nuances to the various categories of preservation are summarized below.

A burial site (see Table 3, row 1 addressing SIHP #s -22415), has been recommended for preservation in place, with preparation of a burial treatment plan in accordance with HRS § 6E-43 and HAR § 13-300. In the case of SIHP # -29275, a site that is outside of the highway ROW, the landowner has declined consent. These sites are not addressed further in this APMP amendment (the reader is referred to the SHPD-accepted Shideler et al. 2012 plan for more detail and background).

Fifteen sites are recommended for straight-forward “preservation” (see Table 3, row 2). These sites are not addressed further in this APMP amendment (the reader is referred to the SHPD-accepted Shideler et al. 2012 plan for more background and specific preservation measures).

One petroglyph site (SIHP # -19945) will be subject to preservation for the two petroglyphs (Features A and B), but no further work for the remaining features at this site (areas of bashing/pecking the *pāhoehoe*, designated Features C–I) (see Table 3, row 3).

One historic property (SIHP # -28808, see Table 3, row 7) is recommended for preservation of three features and relocation of two features. This site is not addressed further in this APMP amendment (the reader is referred to the SHPD-accepted Shideler et al. 2012 plan for more background and specific preservation measures).

One historic property, SIHP # -19947 (stacked rocks) (see Table 3, row 8), is recommended for interim preservation and commitment to mitigation (relocation) prior to any future land disturbance. Because this mitigation commitment has now been deferred, this historic property is addressed in this APMP amendment.

One historic property, SIHP # -28813 (modified lava blisters) (see Table 3, row 12), will be partially preserved and partially subject to data recovery. This site is not addressed further in this APMP amendment (the reader is referred to the SHPD-accepted Shideler et al. 2012 plan for more background and specific preservation measures).

All trails will be preserved to the greatest extent possible according to the currently understood construction limits (see Figure 6 through Figure 16; see also additional discussion in Section 2.2.2.6). For SIHP # -29272, a *mauka/makai* trail site with a cleared area in addition to the trail, the entire trail segment in the ROW (designated Feature B) will be preserved; the level area (Feature A) will be subject to data recovery excavation.

CSH has discussed with the NPS and with representatives of the project proponent the issue of interpretative signage for inclusion in the data recovery preservation plan. CSH recommends ongoing consultation regarding the number, placement, and content of such signage with other project stakeholders including NHOs.

2.2.1.4 Avoidance During Construction

Eleven historic properties (SIHP #s -28794, -28801, -28803, -28804, -28805, -28809, -29337, -29341, -29342, -29343, and -29347, see Table 3, row 4) are recommended for avoidance during construction (ADC), which means protection during all project-related construction activities *and* commitment by HDOT to conduct a new historic preservation review in the future should other construction projects be planned that may affect these sites. These sites are not addressed further in this APMP amendment (the reader is referred to the SHPD-accepted Shideler et al. 2012 plan for more background and specific preservation measures).

2.2.1.5 Other Proposed Mitigation

A. In consultation with the NPS, other concerns have been raised about additional potential effects and methods to avoid or mitigate these. Discussion is ongoing between NPS and project planners/engineers, and may be concluded at this time. These discussion topics are described briefly below:

- 1) How will water quality in the Park be affected by the proposed project, including work conducted during construction as well as use of the highway once it is completed? The NPS is concerned about contaminated water run-off entering the groundwater system of the park and filtering down to the many anchialine ponds, fishponds, and other wetlands in the Park. According to the project proponents, BMPs will be sufficient to avoid runoff coming near the fishponds and wetlands. During ongoing consultation for the subject archaeological survey, the NPS states “nonpoint source pollution control devices, such as oil/water separators, be installed and maintained within the project area adjacent to the NHL/National Park to mitigate adverse effects to the NHL/National Park.” HDOT is proposing the use of oil-absorbent inserts in their

drywells to mitigate releases of hydrocarbons. In addition, vegetation (drought-tolerant and native species) will be installed in the median swales.

- 2) NPS is concerned about visual and auditory impacts of the proposed highway on Park users and the overall character of the Park. During ongoing consultation for the subject archaeological survey, the NPS states “highway lighting should be effectively mitigated by including shielding (full cutoff), controls on when light is needed, and controls on spectrum and intensity. White light sources should be avoided. The lighting mitigation plan will be reviewed by the National Park Service.” HDOT is planning the installation of lighting that will conform to the request of NPS. Design is pending.
 - 3) Another alternative being considered is the use of appropriate vegetation along the *makai* (downslope) edge of the highway. The NPS has offered to share its vegetation management plan to assist the project proponents.
- B. The NPS has stated that a “construction fence must be put in place along the Project Area side of the boundary the entire length of the National Park/NHL as already agreed to by the project proponents. The field installation of this fence must not cause any damage to preservation sites within the Project Area or the NHL/National Park. This protection measure should be a required component of the Preservation, Monitoring, and Burial Treatment Plans.” HDOT will include a construction fence along the edge of the construction limits and not along the highway boundary to minimize the need to disturb additional land.
 - C. The NPS has stated that “no contractors shall enter the National Park/National Historic Landmark without prior notification to and approval by the National Park Service.”
 - D. Regarding treatment of trails, the NPS has requested a comprehensive treatment of trail sites and has provided some resources—including historic registered map references. These can be used as a baseline for a comprehensive archival analysis that will place the project-area trail segments in a context accurately reflecting their cultural and historical significance. In addition to conducting primary archival research, CSH proposes the primary archival research work proceed in consultation with the Trails and NPS staff. Data recovery work for trails will not involve any additional fieldwork.
 - E. Regarding trail access, HDOT will explore access to trails that have a *mauka-makai* alignment to provide pedestrian crossings at-grade and/or an underpass. The HDOT hasn’t made any commitment to providing a separate connector trail along edge of ROW linking *mauka* to *makai* but such a connector trail may be developed.

During ongoing consultation for the subject archaeological survey, the NPS states:

to mitigate the cumulative effects of the original highway construction and the widening of the highway’s proposed destruction of historic trails we request that alternative transportation corridors be constructed including safe pedestrian access provided at grade across the highway at the Hina Lani Street and the National Park/West Hawaii Business park intersections. These two intersections are in proximity to the Road to the Sea Trail and the Trail to Honokohau respectively. These crossings should include raised medians and crossing islands. Additionally

. . . paths paralleling the highway should be included in the proposed project. . . . By providing a safe means for pedestrians to cross the highway and access the National Park/NHL and National Trail, existing historic and prehistoric trails will continue as viable cultural connections to National Park/NHL resources. Additionally, interpretive materials, signage or other educational components should be in place to show the broader trail complex and explain the importance of these trails throughout the history of the area.

2.2.2 Memorandum of Agreement (MOA, 1999)

The MOA executed in 1999 between the Advisory Council on Historic Preservation (ACHP), the Federal Highways Administration (FHWA), and the State Historic Preservation Office (SHPO) stipulates specific actions to be taken by FHWA to mitigate the impacts of the proposed highway improvements on historic properties. Pursuant to the provisions of the MOA, the signatories and consulted parties will be consulted again regarding mitigation proposed for the sites identified in the project's AIS and amendments made to the MOA (or in a new MOA), as necessary, based on the recommendations contained in the AIS.

It is understood that the SHPD will need to be provided the opportunity to review any changes to the MOA (or a new MOA).

The SHPD review of 28 October 2013 specifies "that the terms of the addendum preservation plan should be incorporated into the Memorandum of Agreement for this undertaking."

Section 3 Historic Properties Addressed in this Plan

This section describes the 23 historic properties included in this archaeological preservation and mitigation plan (APMP) amendment. A general overview of the types of data recovery and preservation recommended by CSH, as well as a listing of historic properties subject to each type of mitigation, was presented in the previous section (see Section 2). The sites are arranged in numerical order.

3.1.1 SIHP # 50-10-27-15324 Trail (*mauka-makai*)

This site is recommended for data recovery (archival research) and preservation.

Temp. Site No.: 6 (Walsh and Hammatt 1995); 92-1118-12 (PHRI)

Site Type: Trail (*mauka-makai*)

No. of Features: 2

Functional Interpretation: Transportation

Probable Age: Indeterminate

Overall Dimensions: See description below

Topography: Both 'a'ā and *pāhoehoe* sections

Elevation: 60-65 ft (18-20 m) AMSL (in the ROW)

Description:

SIHP # 50-10-27-15324 was first formally described by PHRI, Inc. In 1995, CSH (Walsh and Hammatt 1995) described the site and noted the presence of PHRI's site tag. The site was revisited during the current archaeological inventory survey and found to be in the same physical condition (Figure 17 and Figure 18). The trail was described by Walsh and Hammatt (1995) as follows:

Site 15324 consists of two converging trail segments designated Features A and B . . . Both trail segments extend in a roughly *mauka-makai* direction, but angle toward each other and converge into one trail that continues inland. The point where the two trails meet is located at the edge of the bulldozed portion of the present highway right of way, 164 feet (50 m.) from the *makai* edge of the highway pavement. Both trail segments were observed to continue over 300 feet (91 m.) *makai*. On the *mauka* side of the highway, the trail was observed at the edge of the bulldozed portion of the powerline (the new right-of-way boundary) and continuing inland at 65 degrees T.N. [true north] for at least another 100 feet (30 m.).

Both trail segments (Features A and B) average 0.6 m wide and consist of a trodden surface that meanders over *pāhoehoe* and *a'ā* lava surfaces. A few isolated stepping stones consisting of *pāhoehoe* slabs were observed along Feature B. Both trail segments are well worn and clearly visible, especially on the *a'ā* lava surfaces. The portion of Feature A within the new right-of-way is approximately 40 feet (12 m.) long, and the portion of Feature B within the new right-of-way is 50 feet (15 m.) long. [Walsh and Hammatt 1995:39]

Walsh and Hammatt (1995) recommended SIHP # -15324 eligible for the National and State Registers of Historic Places under criterion D for its information relevant to prehistory and history. The site was recommended for preservation “to the extent possible within the proposed highway widening plans” and “those portions of [the site] that cannot be avoided [should] be included in a program of data recovery” (Walsh and Hammatt 1995:57). The final archaeological treatment plan (1999), however, called for “interim protection” only for SIHP # -15324.

Mitigation Measures

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, some ten trails that were going to be impacted (including SIHP # -15324) now will not be impacted. The mitigation for these trails will be the same data recovery “Archival Research & Preservation” inasmuch as the archival research will be done for all trails anyway. Preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides except that nearest the Queen Ka‘ahumanu Highway where the buffer zone will be approximately 0.6 m. The proposed preservation buffers are depicted in Figure 19. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). See Section 5 for preservation measures.



Figure 17. Detail of a portion of SIHP # -15324, view to east (note stepping stone under the north arrow)

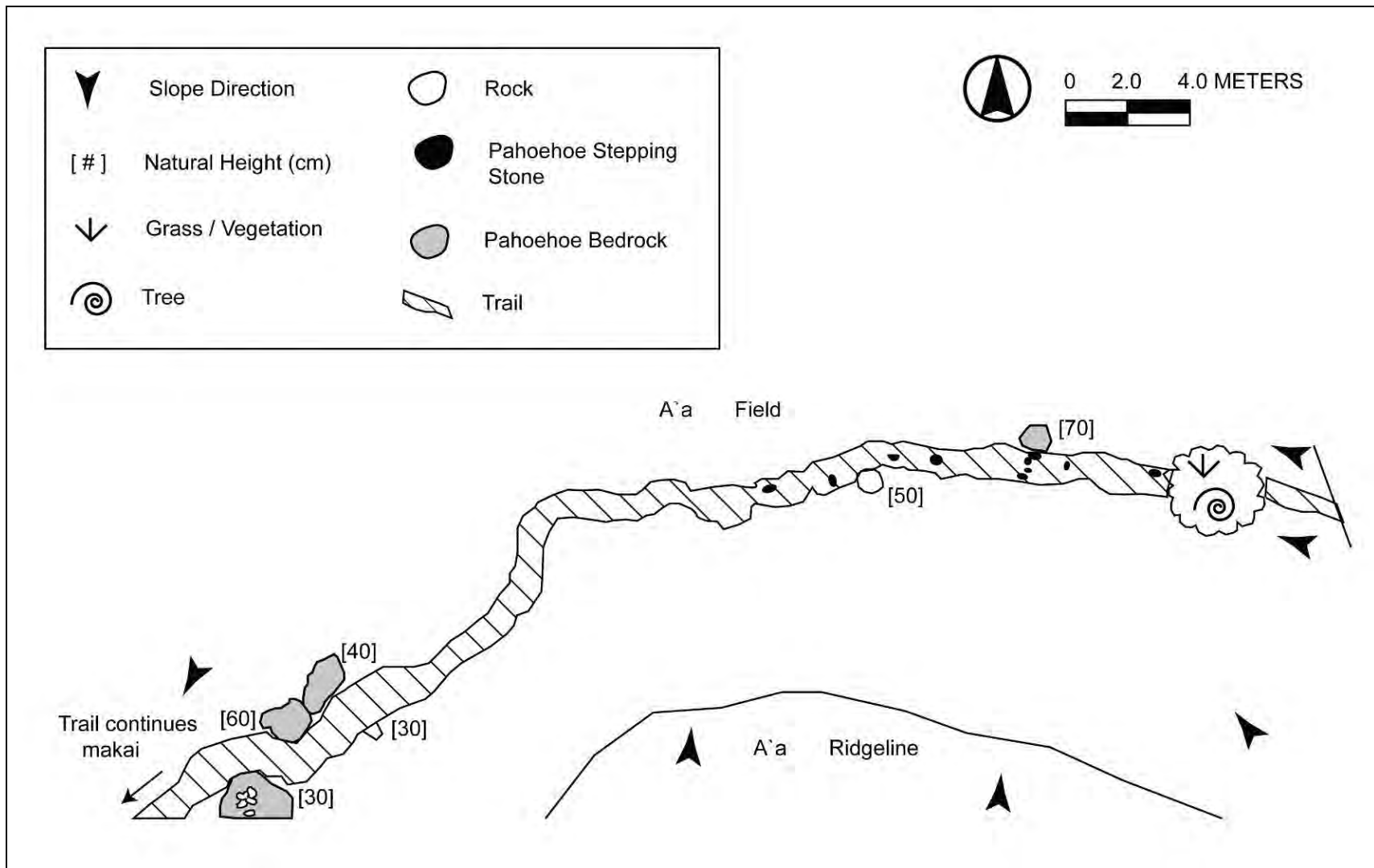


Figure 18. Plan view map of SIHP # -15324

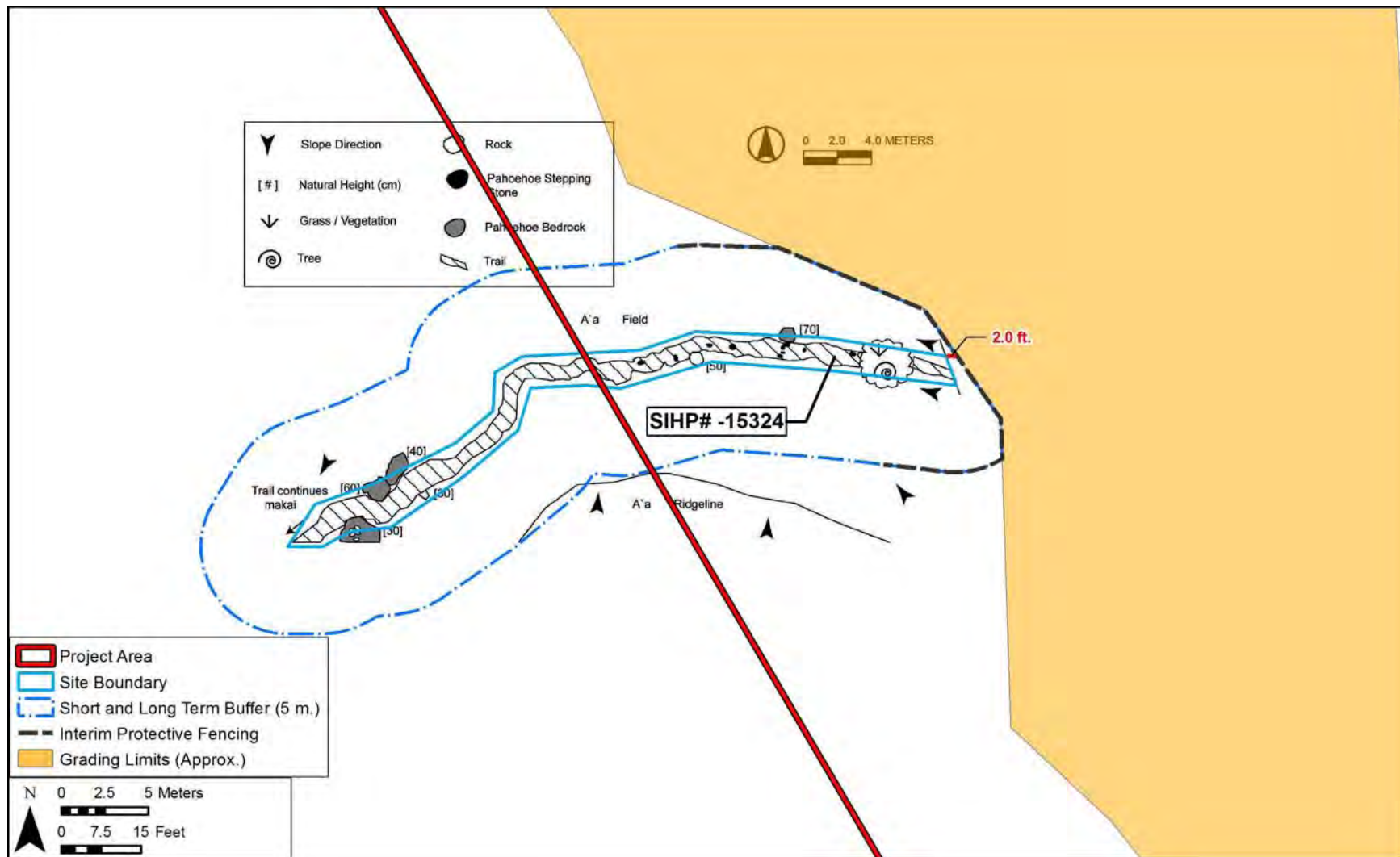


Figure 19. Preservation buffers for SIHP # -15324

3.1.2 SIHP # 50-10-27-18099 Trail (*mauka-makai*) to Honokōhau

This site is recommended for data recovery (archival research) and preservation.

Temp. Site No.: Trail 4 (Monahan et al. 2012), 157-6 (Nelson and Gmirkin 2001)

Site Type: Trail (curbstone)

No. of Features: 1

Functional Interpretation: Transportation

Probable Age: Indeterminate-possibly historic

Overall Dimensions: Minimally 3,066 m (10,120 ft) long (1.7 m N/S by 37.6 m E/W within the current project area)

Topography: Undulating *pāhoehoe* flow, level to moderately sloping

Elevation: 45 to 810 ft (14 to 247 m) AMSL (refers to entire trail including *mauka* portion)

Description:

SIHP # 50-10-27-18099, also known as the Trail to Honokōhau, is a trail that extends roughly east/west through the project area approximately 200 m south of the Kaloko-Honokōhau National Historical Park visitor center entrance within the portion of the project area adjacent to the Kaloko-Honokōhau National Historical Park (Figure 20 through Figure 24). The trail has been previously identified within Honokōhau Ahupua'a on the *mauka* side of the existing highway during an archaeological inventory survey conducted by CSH in 1993 (Robins et al. 1993). Robins et al. (1993) describe SIHP # -18099 as follows:

In accordance to Russell A. Apple's classifications of Hawaiian land routes (Apple 1973), this type of curbstone trail is of the "AB" trail type. "AB" trails are generally defined as historic trails constructed for mule or horse travel over an existing prehistoric land route.

Where the trail crosses *pāhoehoe* outcrop it is usually characterized by a pebble pavement bound by parallel cobble and boulder alignments. The trail has an average width of 3.3 m and, when traversing prominent depressions, is constructed to a maximum height of 1.0 m. Along 'a'ā outcrop, the trail is distinguished by a trodden surface presently obscured by a dense grass growth and inset boulder curbing.

As was identified during the survey and on aerial photos, the trail begins at the south side of Aimakapa Pond (fishpond) along the coast of Honokōhau I Ahupua'a and extends *mauka* across the *ahupua'a*, intersecting the Māmalahoa Trail (SIHP # 50-10-27-2), and running parallel to a trodden 'a'ā trail (SIHP # 50-10-27-18122). The most *mauka* portion of the trail, beginning at approximately 690 ft. a.m.s.l., has evolved during the historic era into a road likely associated with ranching or historic agriculture activities in this region.

Midden was observed over portions of the trail. [Robins et al. 1993:23]

The portion of SIHP # -18099 that extends through the present project area consists of intermittent portions of curbstone alignments over solid *pāhoehoe* bedrock. Bulldozer track marks were observed in the vicinity of the trail. No artifacts or midden were observed in the area.

In the *ahupua'a* of Honokōhau I, SIHP # -18099 is being preserved on the *mauka* side of the existing highway by West Hawaii Business Park, LLC. This trail is subject to protection and preservation under the Highways Act of 1892 (HRS § 264-1[b]) (Na Ala Hele DLNR 2008).

SIHP # -18099 has previously been recommended eligible for nomination to the State Register of Historic Places under Criteria A, C, and D by CSH in two previous projects in Honokōhau I and II (Robins et al. 2000; Yucha and McDermott 2008).

Mitigation Measures

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, some ten trails that were going to be impacted (including SIHP # -18099) now will not be impacted. The mitigation for these trails will be the same data recovery “Archival Research & Preservation” inasmuch as the archival research will be done for all trails anyway. Preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides except that on the east where the buffer zone will be approximately 0.6 m. The proposed preservation buffers are depicted in Figure 25. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction which would be fortified with a portable construction barrier for added protection). See Section 5 for preservation measures.



Figure 20. SIHP # -18099 (within the project area) Section 1, view to east



Figure 21. SIHP # -18099 (within the project area) Section 2, view to east



Figure 22. SIHP # -18099 (within the project area) Section 3, view to east

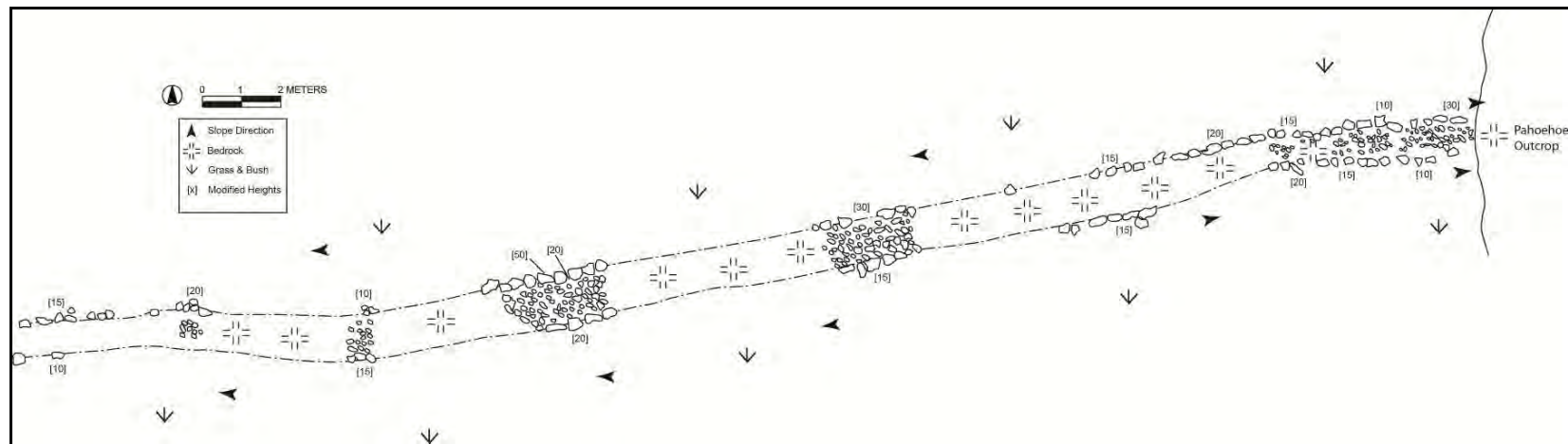


Figure 23. Plan view map of SIHP # -18099

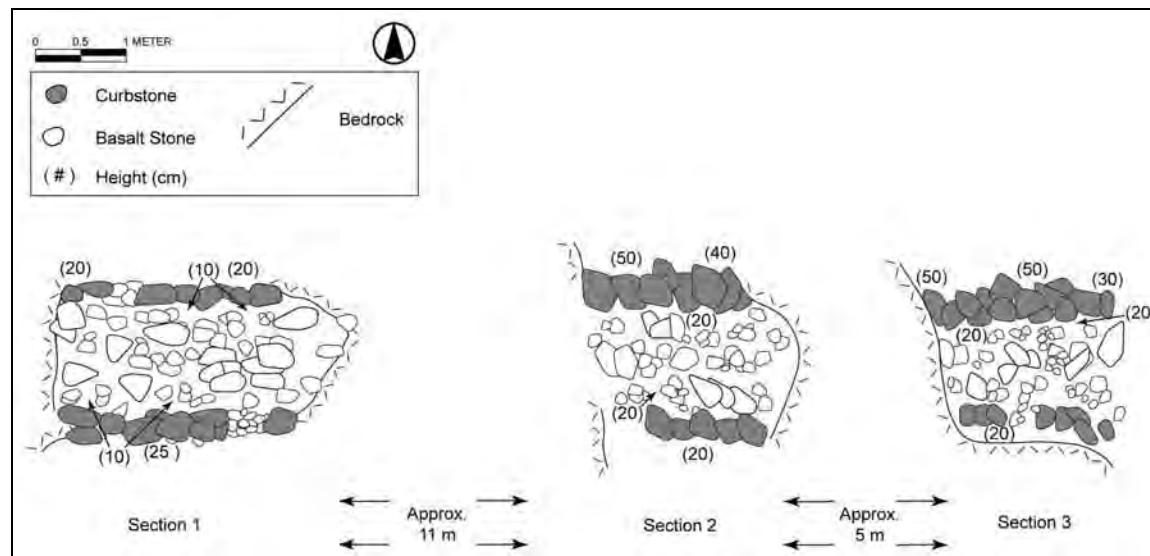


Figure 24. Plan view map of three sections of the portion of SIHP # -18099 located within the current project area

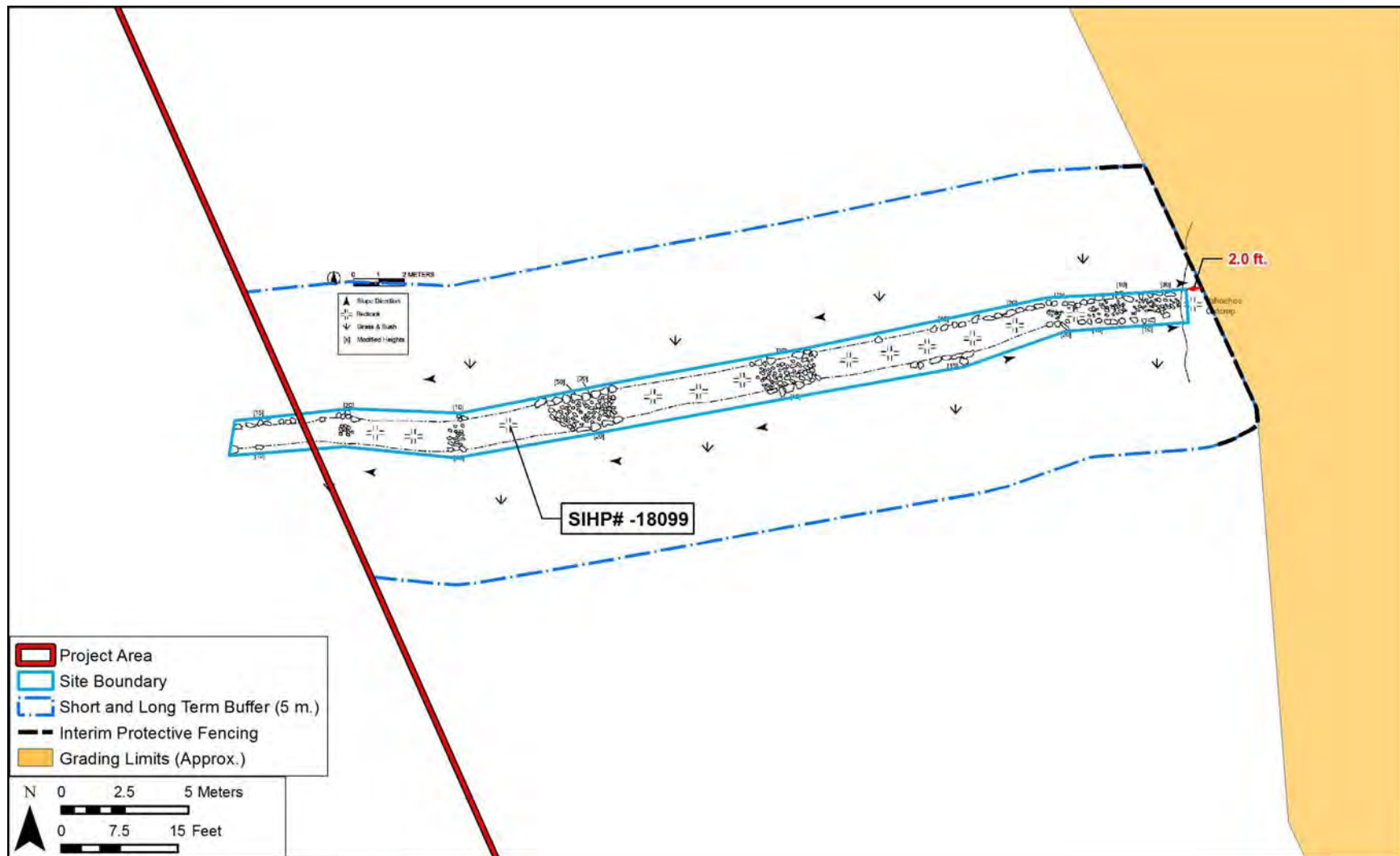


Figure 25. Preservation buffers for SIHP # 18099

3.1.3 SIHP # 50-10-27-19946 Trail (*mauka-makai*)

This site is recommended for data recovery (archival research) and preservation.

Temp. Site No.: N/A

Site Type: Trail (*mauka-makai*)

No. of Features: 1

Functional Interpretation: Transportation

Probable Age: Post-Contact

Overall Dimensions: See description below

Topography: 'A 'ā

Elevation: 60-65 ft (18-20 m) AMSL (in the ROW)

Description:

SIHP # 50-10-27-19946 is a trail approximately 44 m west of Queen Ka'ahumanu Highway at the edge of the bulldozer push originally described by Walsh and Hammatt (1995) (Figure 26 through Figure 29). Matsuyama Market and the Pine Trees Café complex are across the highway to the southeast. The trail trends *mauka/makai* over a rough 'a'ā flow and terminates at the edge of a *pāhoehoe* flow (next to a cairn) at its westernmost point, well outside the ROW. The trail terminates at its *mauka* end at a small pile of rubble at the edge of bulldozer push resulting from the initial construction of Queen Ka'ahumanu Highway. As a result of heavy foot traffic, the trail has settled below the surrounding 'a'ā flow, approximately 10-50 cm. The surface of the trail is fairly level, comprised of small cobbles of *pāhoehoe* and 'a'ā. The portion within the ROW measures approximately 13.10 m long *mauka/makai* and is approximately 1.25-1.50 m wide.

The trail is well defined and in good condition. No cultural material was observed within the ROW. However, out of the ROW to the west on a rise in the trail there are the remains of a donkey on the trail; the bones are very weathered and sun-bleached. The trail appears to be a historic horse/donkey trail due to its width and lack of stepping stones (not to mention the donkey bones in the trail). However, it could have evolved from a traditional period foot trail.

Mitigation Measures

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, some ten trails that were going to be impacted (including SIHP # - 19946) now will not be impacted. The mitigation for these trails will be the same data recovery "Archival Research & Preservation" inasmuch as the archival research will be done for all trails anyway. Preservation will be through avoidance and protection (conservation). There will be a construction buffer zone of 5 m on all side of the site except the *mauka* side where it would be very slightly less (4.5 m or 14.5 feet). The proposed preservation buffers are depicted in Figure 30. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction which would be fortified with a portable construction barrier for added protection). See Section 5 for preservation measures.



Figure 26. Photograph of SIHP # -19946, view to west



Figure 27. Photograph of SIHP # -19446, view to east

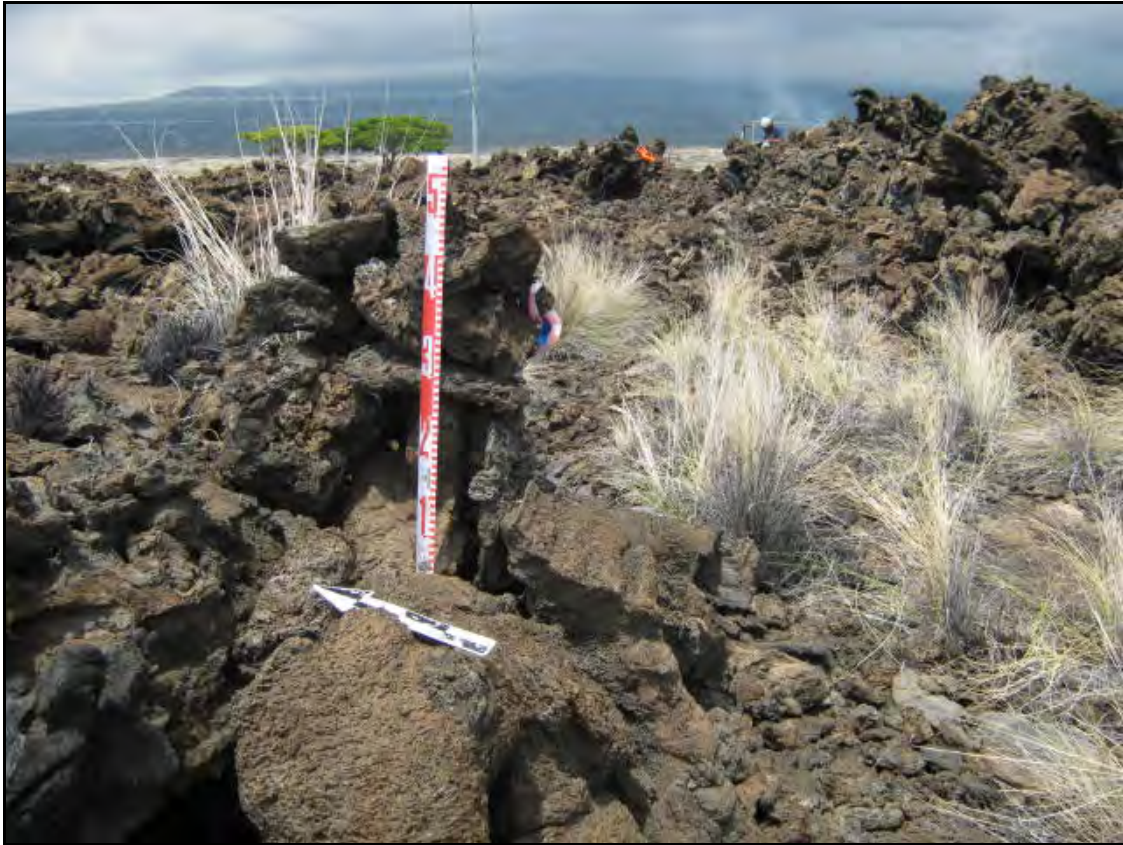


Figure 28. Photograph of cairn at the *makai* portion of SIHP # -19446

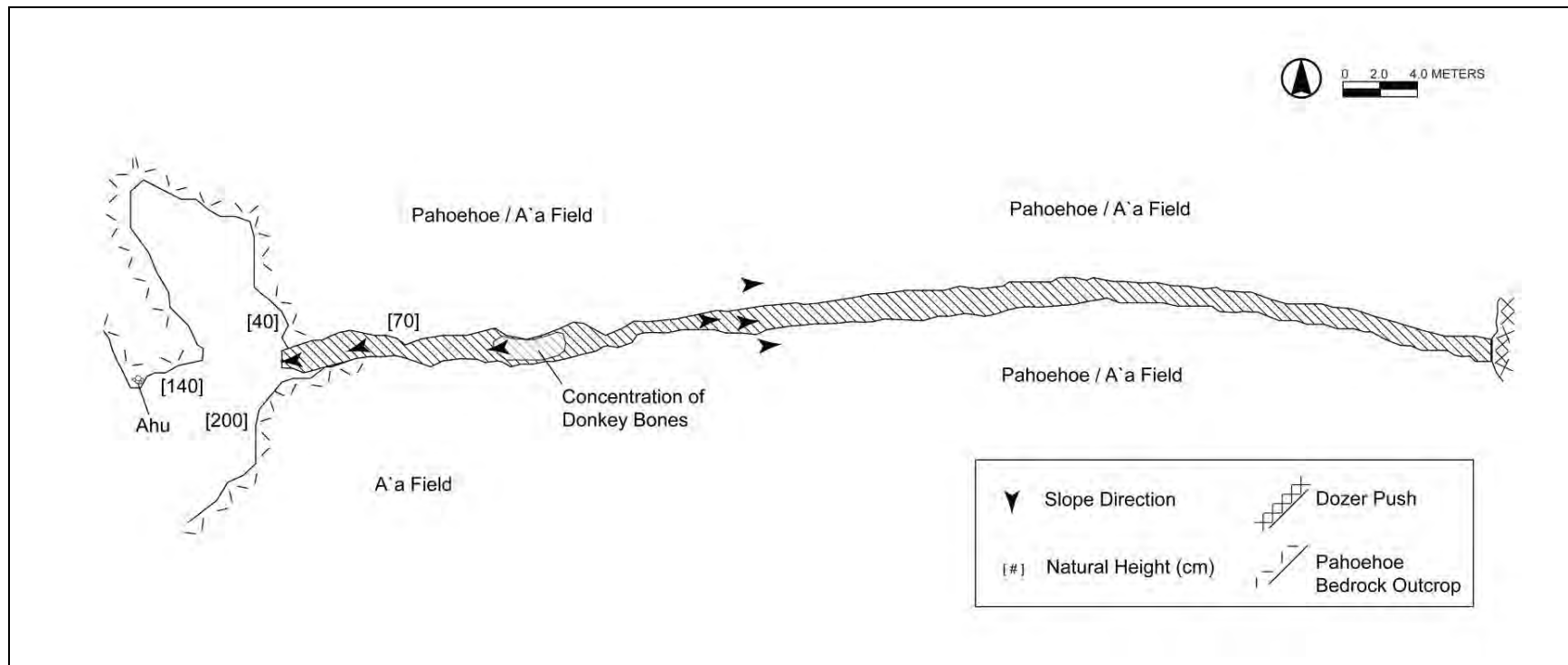


Figure 29. Plan view map of SIHP # -19446

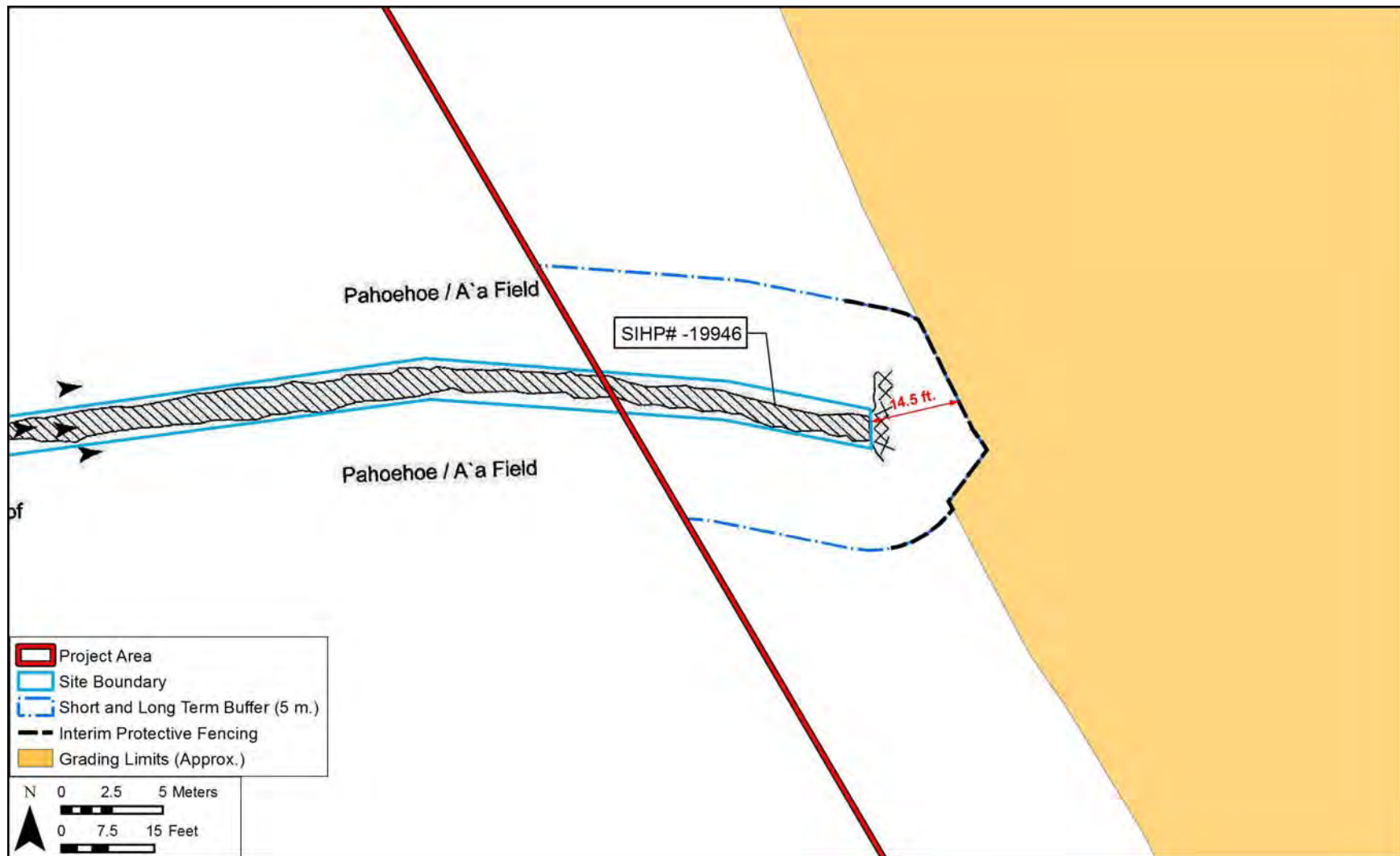


Figure 30. Preservation buffers for SIHP # -19946

3.1.4 SIHP # 50-10-27-19947 Stacked Rocks

Temp. Site No.: 7 (Walsh and Hammatt 1995)

Site Type: Stacked rocks

No. of Features: 3

Functional Interpretation: *Ahupua'a* boundary marker (Kohanaiki and Kaloko)

Probable Age: Prehistoric (pre-Contact)

Overall Dimensions: 5.0 m N/S by 5.0 m E/W

Topography: Site located in a low spot on gently undulating *pāhoehoe* terrain

Elevation: 83 ft (26 m) AMSL

Description:

SIHP # 50-10-27-19947 was first formally described by CSH in 1995 (Walsh and Hammatt 1995). The site was revisited during the archaeological inventory survey by Monahan et al. (2011) and found to be in the same physical condition (Figure 31 and Figure 32). The site was originally described by Walsh and Hammatt (1995) as follows:

Site 19947 consists of three small cairns, designated Features A–C. The cairns are located within a low point of gently undulating *pāhoehoe* terrain. They are constructed of loosely stacked *pāhoehoe* cobbles and small boulders on top of slightly raised *pāhoehoe* outcrops. Two of the cairns are aligned in a roughly north-south axis and the third is to the west of these, forming a triangle.

The cairns are located at the approximate *ahupua'a* boundary between Kohanaiki and Kaloko, and are considered to be *ahupua'a* boundary markers. All three are in fair to good condition. [Walsh and Hammatt 1995:49]

See Appendix B in the AIS by Monahan et al. (2012) for descriptions and dimensions of individual features at SIHP # -19947.

Walsh and Hammatt (1995) recommended SIHP # -19947 eligible for the National and State Registers of Historic Places under criterion D for its information relevant to prehistory and history. The site was recommended for “no further work” by Walsh and Hammatt (1995). The final archaeological treatment plan (1999) did not include this site and thus concurred with CSH’s 1995 recommendation.

During the consultation process, an NHO representative, Ruby McDonald, requested photographs of all three features from this site be included in the documentation for this project (instead of the single, representative photograph currently included in this report). All three features will be photographed during data recovery work.

Mitigation Measures

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, this site is recommended for interim preservation with protection behind a continuous barrier on the highway (east) side during highway widening work with a commitment to the previously agreed-to mitigation (relocation) prior to any future land disturbance in the immediate vicinity. Preservation will be through avoidance and protection (conservation). There will be a construction buffer zone of 5 m on all sides of the site. The buffer zone is depicted in Figure 33. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). See Section 5 for preservation measures.



Figure 31. Representative stacked rock feature at SIHP # -19947, view to west

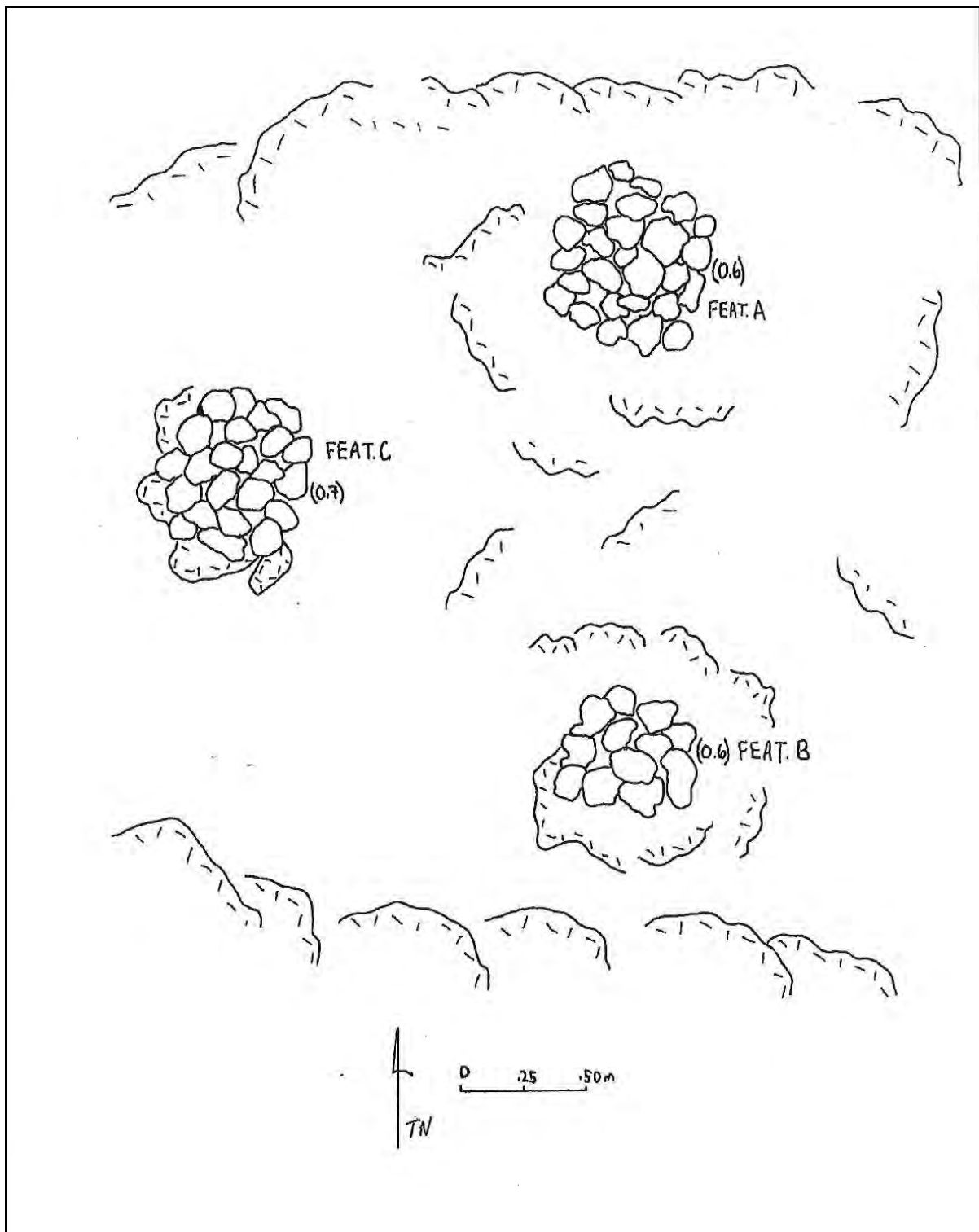


Figure 32. Plan view map of SIHP # - 19947 (taken from Walsh and Hammatt 1995)

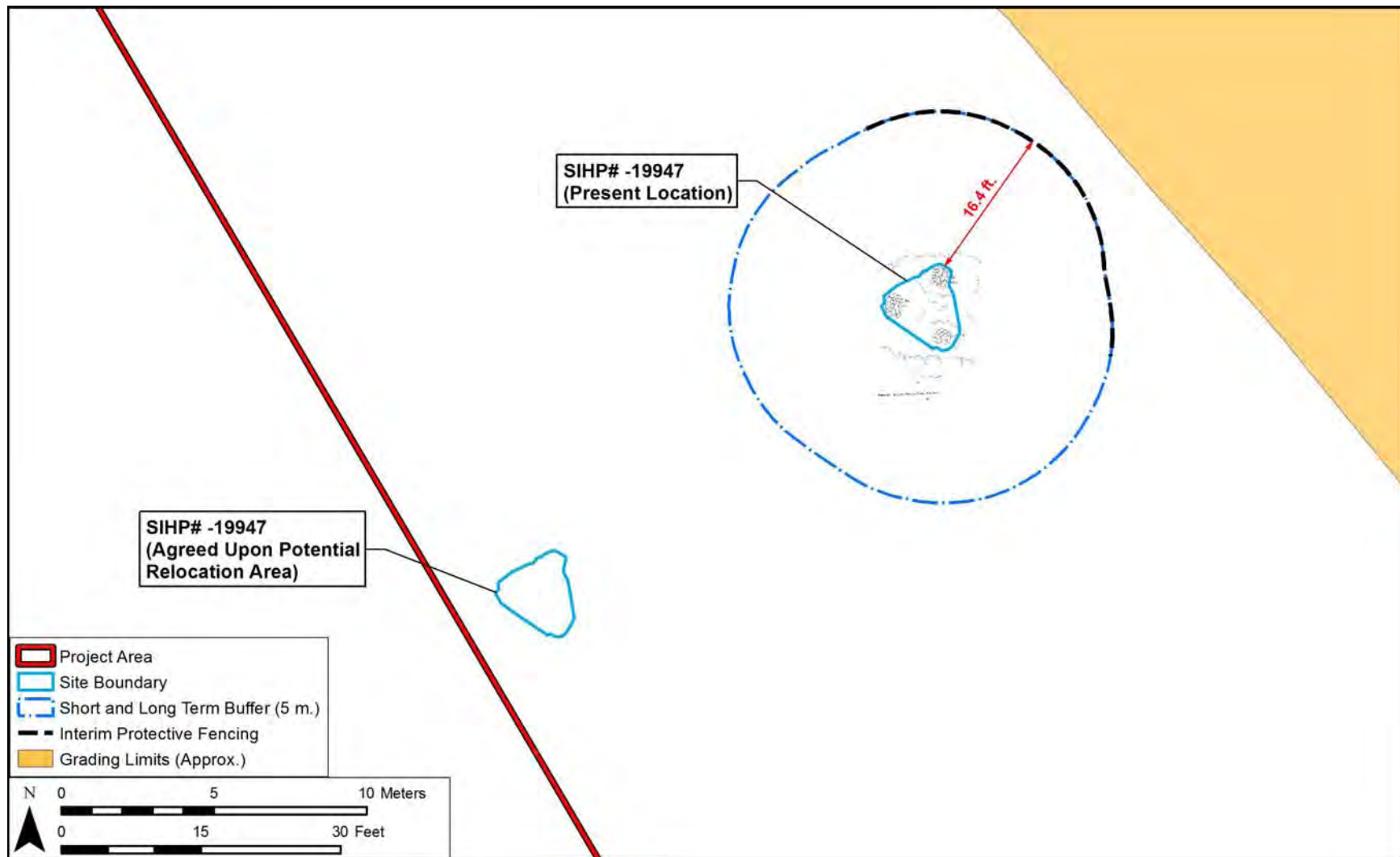


Figure 33. Preservation buffers for SIHP # 19947 (interim preservation and commitment to mitigation prior to any future land disturbance)

3.1.5 SIHP # 50-10-27-19948 Agriculture and Quarrying Complex

This site complex consists of eight features (Features A through H).

Temp. Site No.: T-091010-11 (Monahan et al. 2012); 8 (Walsh and Hammatt 1995)

Site Type: Complex

No. of Features: 8

Functional Interpretation: Agriculture and quarrying

Probable Age: Prehistoric (pre-Contact)

Overall Dimensions: 22.8 m N/S by 17.2 m E/W

Topography: Level *pāhoehoe* flow

Elevation: 79-80 ft (24 m) AMSL

Description:

SIHP # 50-10-27-19948 is a site complex consisting of eight features (Features A through H) located approximately 270 m northwest of the intersection of Hina Lani Street and the Queen Ka'ahumanu Highway within the portion of the project area adjacent to the Kaloko-Honokōhau National Historical Park (Figure 34 through Figure 42). Feature types identified at the SIHP # -19948 complex include one modified lava blister (Feature A), six *pāhoehoe* excavations (Features B through G), and one filled crevice (Feature H) (Table 4).

A portion of the site was first identified by Walsh and Hammatt (1995), who only documented part of what is now designated Feature B. Recent field inspection by CSH demonstrates this feature is part of a larger site complex, as described below.

Feature A is a lava blister that has been partially cleared of collapse (*pāhoehoe* cobbles and boulders) with an expanded and modified opening as evidenced by scalloping and quarry marks. A thin sediment layer with organic debris has accumulated at the base of the blister, which presently supports the growth of grasses. No artifacts or midden were observed in the area.

Features B through G are *pāhoehoe* excavations consisting of areas where an overlying, uplifted sheet of *pāhoehoe* has been quarried and removed to expose a lower *pāhoehoe* surface. Quarry marks and scalloping were observed along the edges of each excavation. The excavated material (*pāhoehoe* slabs, cobbles, and boulders) is scattered throughout the SIHP # -19948 site area, and in some cases has been re-deposited within the excavated areas. The interior of the excavated areas consist of a relatively thin accumulation of sediment and organic debris that presently support the growth of *koa haole* and grasses. No artifacts or midden were observed in the area.

Feature H is a filled crevice consisting of *pāhoehoe* cobbles and pebbles that have been placed within a natural crevice in the *pāhoehoe* surface. The *pāhoehoe* cobble and pebble fill extends approximately 0.2 m above the adjacent ground surface. No artifacts or midden were observed in the area.

SIHP # -19948 is interpreted as an agricultural and quarrying complex likely dating from prehistoric (pre-Contact) times.

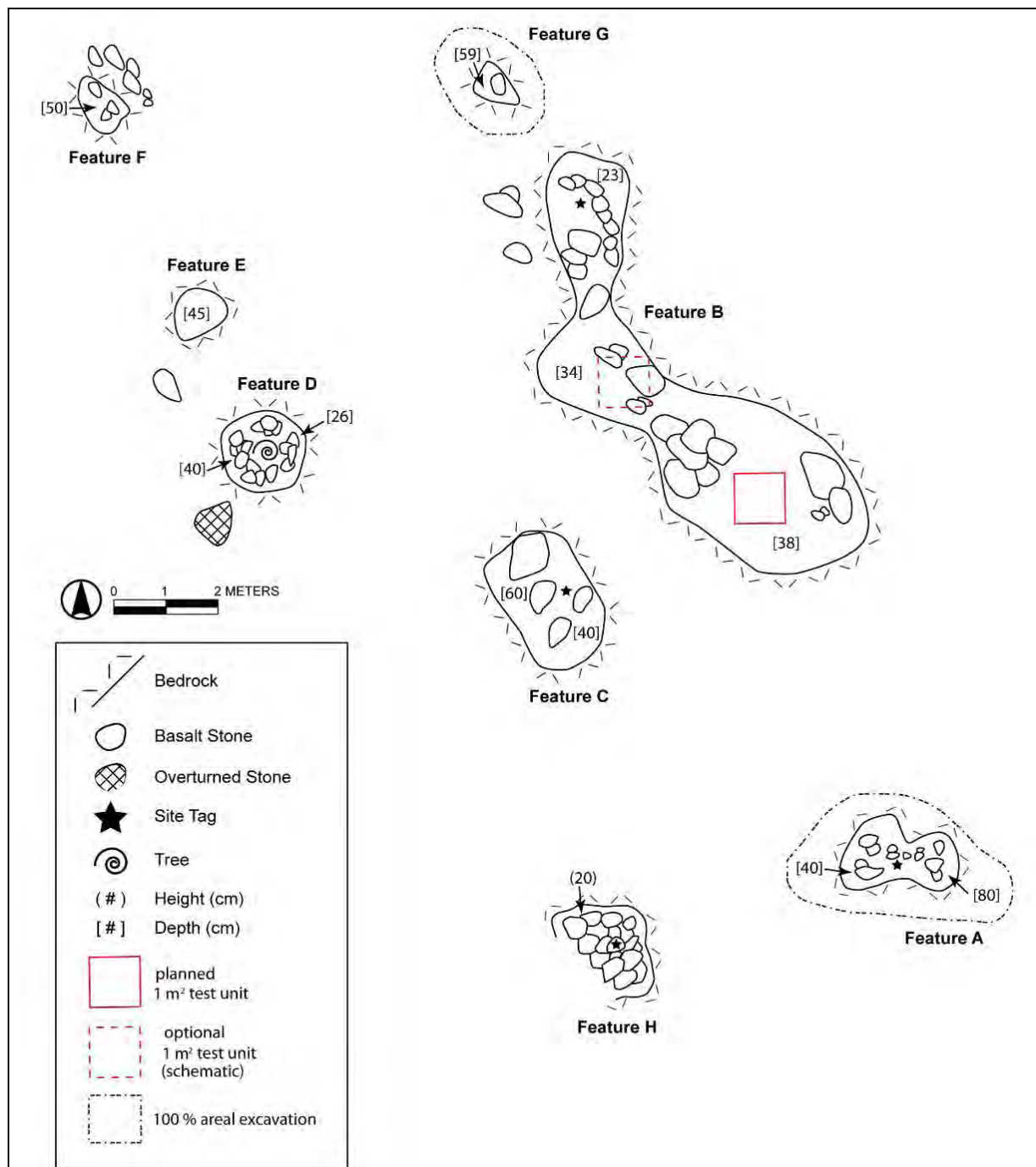


Figure 34. Plan view map of SIHP # -19948; 100% excavation recommended for Features A and G, and a 1-sq-m excavation recommended for Feature B with an option for a second 1-sq-m excavation if there are any significant finds in the first 1-sq-m excavation; Features C, D, E, F, and H will not be affected by construction



Figure 35. Photograph of SIHP # -19948 Feature A, view to east



Figure 36. Photograph of SIHP # -19948 Feature B, view to east



Figure 37. Photograph of SIHP # -19948 Feature C, view to east



Figure 38. Photograph of SIHP # -19948 Feature D, view to east



Figure 39. Photograph of SIHP # -19948 Feature E, view to east



Figure 40. Photograph of SIHP # -19948 Feature F, view to east



Figure 41. Photograph of SIHP # -19948 Feature G, view to east



Figure 42. Photograph of SIHP # -19948 Feature H, view to east

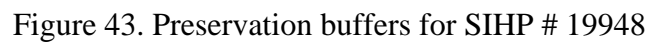
Table 4. Metric Data for SIHP # -19948, Features A through H

Feature	Length (N/S)	Width (E/W)	Max Depth
A	1.6 m	2.2 m	0.8 m
B	8.6 m	4.9 m	0.4 m
C	2.5 m	1.8 m	0.6 m
D	1.9 m	1.9 m	0.4 m
E	0.7 m	0.5 m	0.5 m
F	1.0 m	0.6 m	0.5 m
G	0.9 m	0.4 m	0.6 m
H	2.4 m	1.2 m	-

Mitigation Measures

Data recovery was initially recommended for Features A, B, and G in the belief that these three features would be destroyed by construction. A 100% areal excavation was recommended for Features A and G. An initial 1-sq-m excavation was recommended for Feature B with an option for a second 1-sq-m excavation should the first test excavation produce any significant quantity of midden, artifacts (other than basalt waste flakes), or subsurface features. Fieldwork was estimated at six to eight archaeologist days.

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, this site is recommended for interim preservation with protection behind a continuous barrier on the highway (east) side during highway widening work with a commitment to the previously agreed-to mitigation (excavation) prior to any future land disturbance in the immediate vicinity. Preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides of the site. Proposed preservation buffers for SIHP # -19948 are depicted in Figure 43. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). See Section 5 for preservation measures.



3.1.6 SIHP # 50-10-27-19949 Enclosure

This small circular enclosure is on top of smooth *pāhoehoe* terrain. It is not clear there is any soil present.

Temp. Site No.: 9 (Walsh and Hammatt 1995)

Site Type: Enclosure

No. of Features: 1

Functional Interpretation: Indeterminate-possible windbreak/temporary shelter

Probable Age: Indeterminate (historic or possibly modern)

Overall Dimensions: 2.0 m by 2.0 m

Topography: Smooth, level *pāhoehoe*

Elevation: 84 ft (26 m) AMSL

Description:

SIHP # 50-10-27-19949 was first formally described by CSH in 1995 (Walsh and Hammatt 1995). The site was revisited during the current archaeological inventory survey and found to be in the same physical condition (Figure 44 and Figure 45). The site was described by Walsh and Hammatt (1995:49) as follows:

Site 19949 is a small circular enclosure situated on top of smooth *pāhoehoe* terrain . . . The enclosure is constructed of minimally stacked or aligned small *pāhoehoe* slabs and small a‘a boulders and cobbles. The interior of the enclosure measures 2.0 m. and the enclosure walls measure between 0.5 and 0.6 m. high.

The enclosure appears to have been hastily constructed and the walls are loosely stacked and fragile. It may have functioned as an historic or modern hunting blind.

Observations made during the current investigation and site visit are consistent with earlier interpretations regarding the function and age of this site. Given the character of the rock stacking, this site is clearly not a traditional Hawaiian construction. In general, it is poorly built and does not exhibit the structural quality typically associated with prehistoric (pre-Contact) rock stacking. It is not possible, however, to definitively determine whether this site is historic in age (i.e., greater than 50 years) or modern. There is no soil/sedimentary deposition to test. There are no surface cultural materials. Therefore, the age of this site is interpreted as indeterminate, and most likely historic or modern in age. The function, as well, is indeterminate given all available evidence, but it seems likely to represent a temporary shelter/windbreak of some sort.

Walsh and Hammatt (1995) recommended SIHP # -19949 eligible for the National and State Registers of Historic Places under criterion D for its information relevant to prehistory and history. The site was recommended for “no further work” by Walsh and Hammatt (1995). The final archaeological treatment plan (1999) did not include this site and thus concurred with CSH’s 1995 recommendation.

Mitigation Measures

The proposed approach to data recovery was 100% dismantling and areal excavation within a grid of 9 sq m (3 m by 3 m). CSH anticipated four archaeologist days to accomplish this fieldwork. In an effort to secure ACHP support it was decided to effectively move the *makai*

edge of the project *mauka*. As a result, this site is recommended for interim preservation with protection behind a continuous barrier on the highway (east) side during highway widening work with a commitment to the previously agreed-to mitigation (excavation) prior to any future land disturbance in the immediate vicinity. Preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides of the site except for the *mauka* side where it will be 0.6 m. Proposed preservation buffers for SIHP # -19949 are depicted in Figure 46. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction which would be fortified with a portable construction barrier for added protection). See Section 5 for preservation measures.



Figure 44. Photograph of SIHP # -19949, view to southwest (scale measures approximately 50 cm)

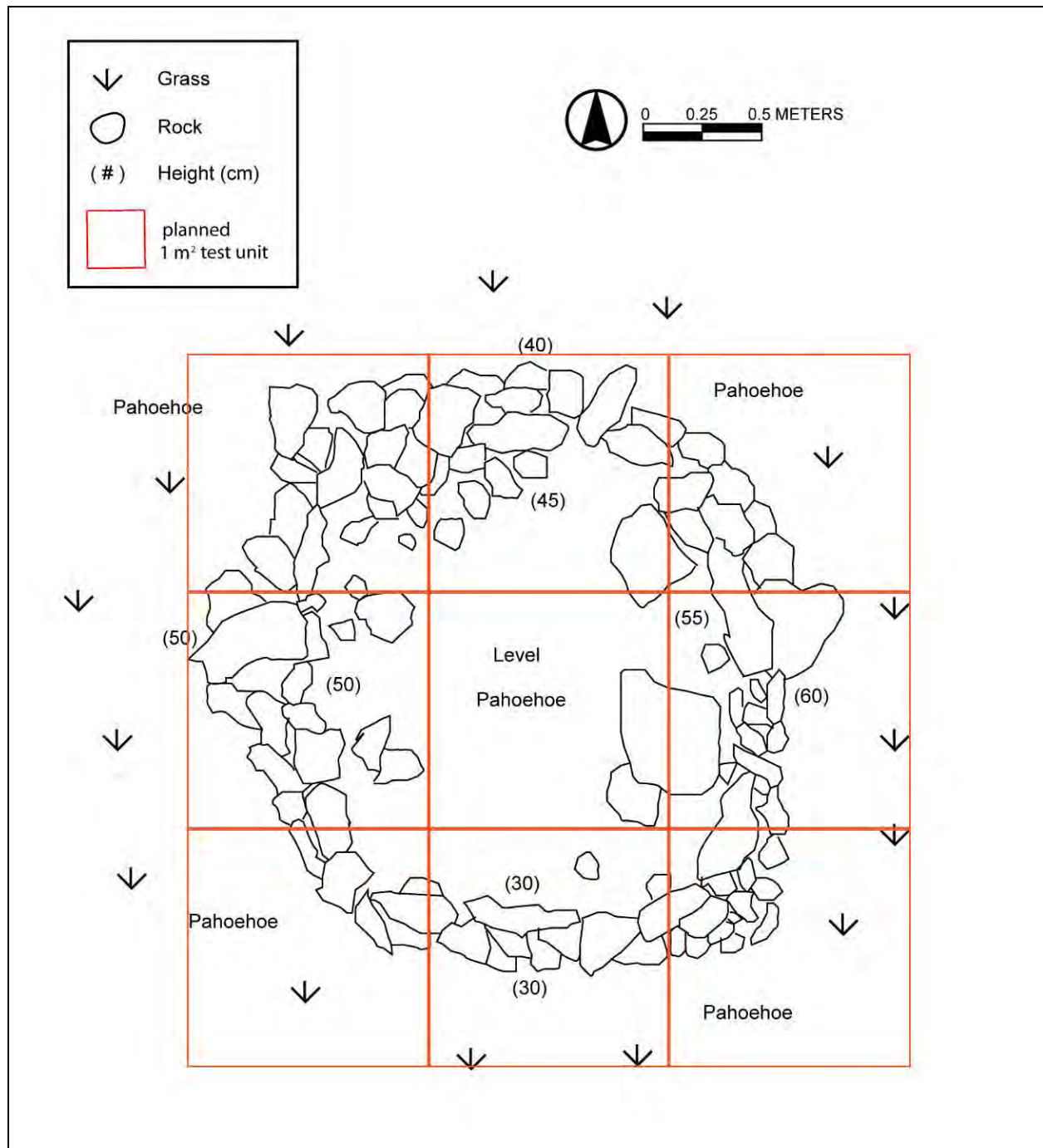


Figure 45. Plan view map of SIHP # -19949; 100% excavation of a grid of 9 sq m recommended

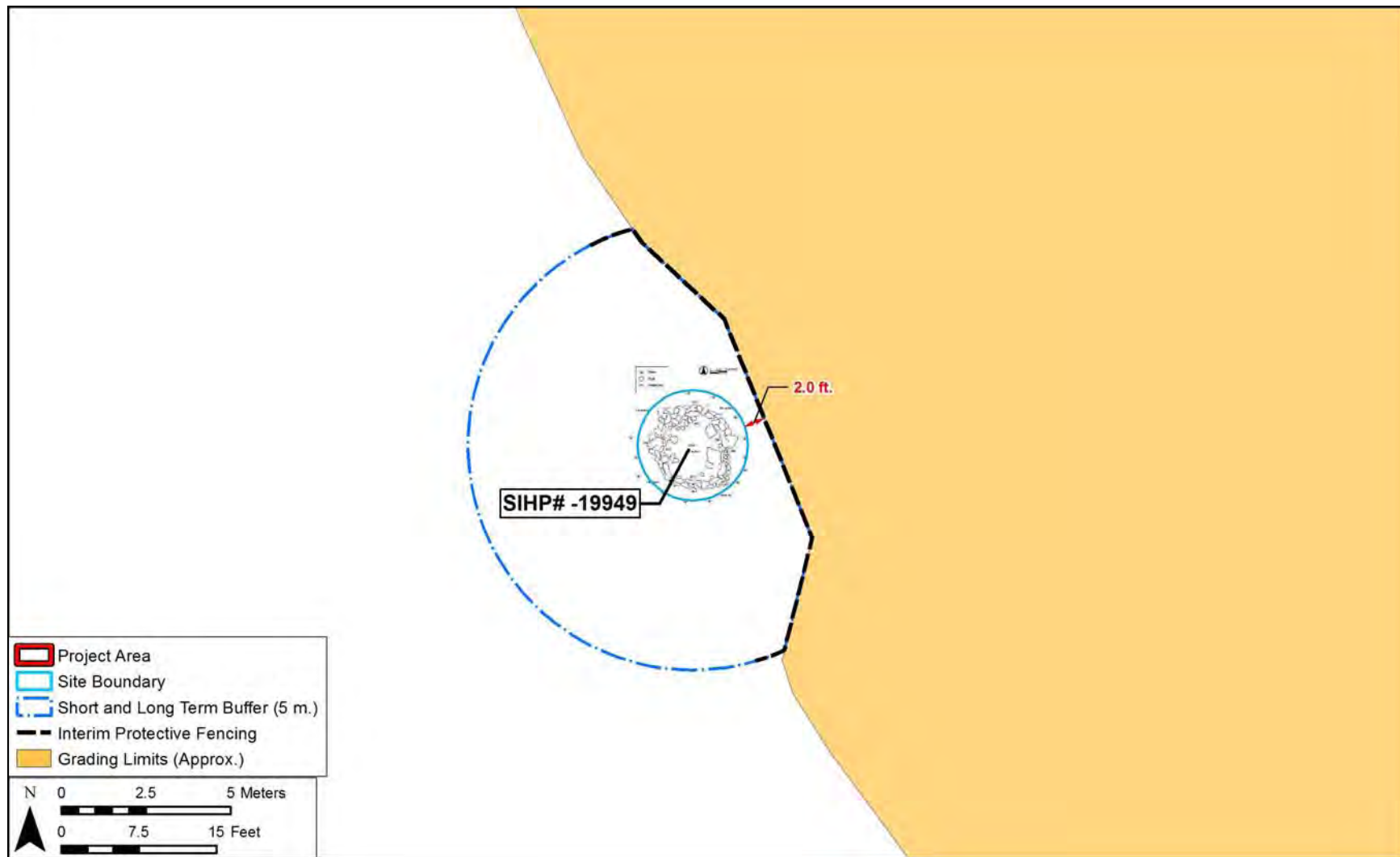


Figure 46. Preservation buffers for SIHP # -19949

3.1.7 SIHP # 50-10-27-19953 Trail (*mauka-makai*)

This site is recommended for data recovery (archival research) and preservation.

Temp. Site No.: 14 (Walsh and Hammatt 1995)

Site Type: Trail

No. of Features: 1

Functional Interpretation: Transportation

Probable Age: Pre-Contact or early historic

Overall Dimensions: Approximately 30.5 m (150 ft) long (in the ROW)

Topography: Gently sloping 'a'ā terrain

Elevation: 57-60 ft (17-18 m) AMSL

Description:

SIHP # 50-10-27-19953 was first formally described by CSH in 1995 (Walsh and Hammatt 1995). The site was revisited during the current archaeological inventory survey and found to be in the same physical condition (Figure 47 through Figure 51). A water worn cobble and surveyor's pin described in CSH's 1995 report were observed during the current study. The overall length of the trail, and its *mauka* terminus (i.e., starting approximately 16 m from the existing highway pavement edge), has not changed since 1995. The trail was described by Walsh and Hammatt (1995) as follows:

Site 19953 consists of a slightly meandering, but generally *mauka-makai* oriented trail . . . The trail consists of a partially cleared and trodden surface over A'a lava terrain. The trail measures 0.5 to 0.6 m. wide. It begins 53 feet (16 m.) from the highway pavement edge and continues *makai* for at least 200 feet (61 m.) beyond the project area boundary. A roughly 20 foot (6 m.) section of the trail has been destroyed where it intersects with the Mamalahoa Trail at approximately 150 feet (46 m.) from the highway pavement edge.

The trail is in fair to good condition and has previously been identified and flagged, probably by National Park archaeologists who, we have been informed, have done some surveying in the area and have identified several inland-heading trails. The site has not been previously recorded however, and a state site number had not been previously assigned (personal communication with National Park archaeologist Catherine Glidden 6/27/95). [Walsh and Hammatt 1995:54]

The SHPD has pointed out (letter of 9 July 2012) that "this trail predates the Māmalahoa Trail." Therefore it is likely this trail is pre-Contact/early historic age.

Walsh and Hammatt (1995) recommended SIHP # -19953 eligible for the National and State Registers of Historic Places under criterion D for its information relevant to prehistory and history. The site was recommended for data recovery by Walsh and Hammatt (1995); however, the final archaeological treatment plan (1999) called for data recovery of the portion of the trail that could not be saved (due to project-related construction) and "interim protection" of the remainder of the non-data recovery portion of the trail in the ROW. In 1999, CSH (Hammatt et al. 1999) conducted data recovery of a portion of SIHP # -19953.

Mitigation Measures

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, some ten trails that were going to be impacted (including SIHP # -19953) now will not be impacted. The mitigation for these trails will be the same data recovery “Archival Research & Preservation” inasmuch as the archival research will be done for all trails anyway. Preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides except the east where the buffer zone will be 0.6 m. Proposed preservation buffers for SIHP # -19953 are depicted in Figure 52. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction which would be fortified with a portable construction barrier for added protection). See Section 5 for preservation measures.



Figure 47. Photograph of the eastern portion of SIHP # -19953 at the intersection with the Māmalahoa Trail (SIHP # -00002), view to east



Figure 48. Photograph showing the eastern terminus of SIHP # -19953, view to east



Figure 49. Photograph of western portion of SIHP # - 19953, showing the upright water worn cobble located just outside (*makai*) of the project area (in lower right corner), view to east



Figure 50. Photograph of western portion of SIHP # -19953 in project area, view to west

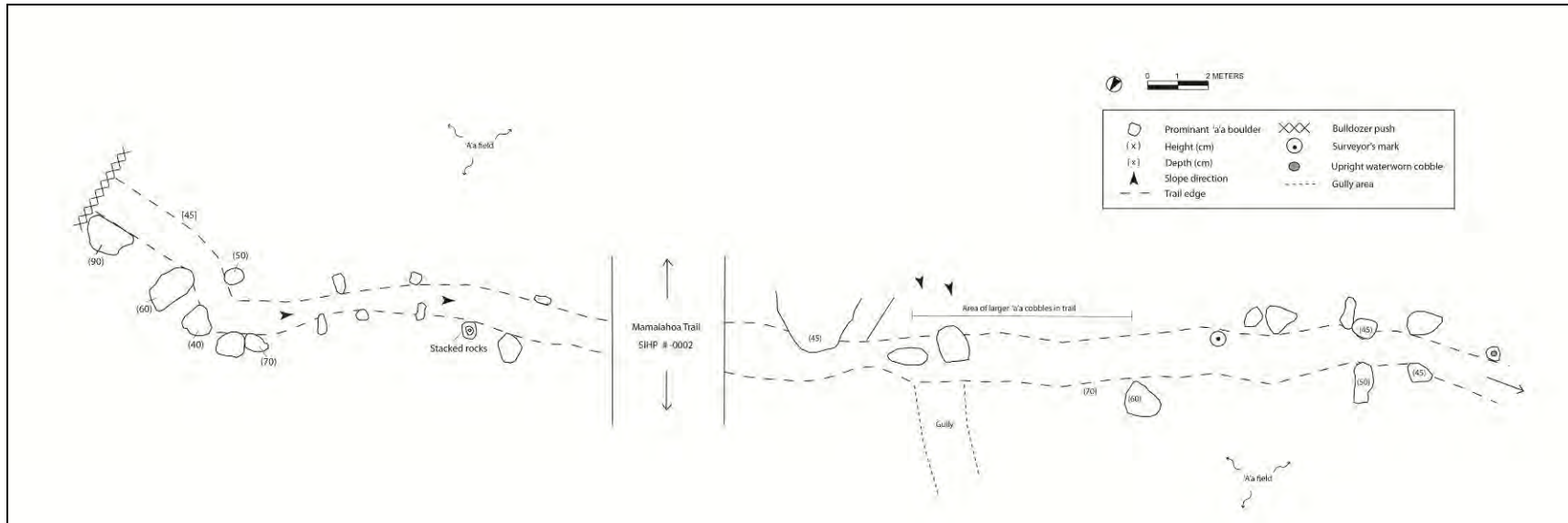


Figure 51. Plan view map of SIHP # -19953

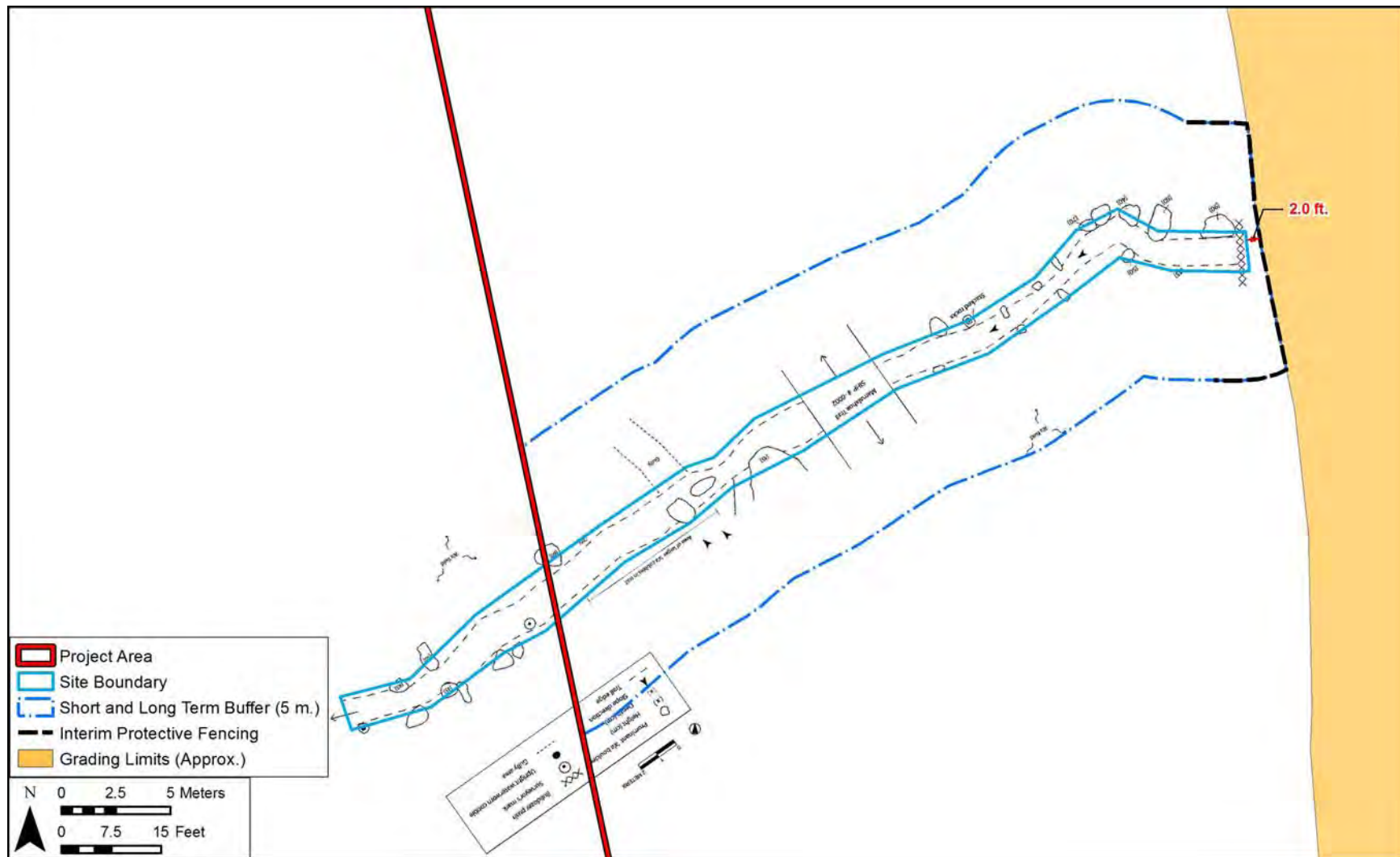


Figure 52. Preservation buffers for SIHP # -19953

3.1.8 SIHP # 50-10-27-19954 Trail (*mauka-makai*)

This site is recommended for data recovery (archival research) and preservation.

Temp. Site No.: 15 (Walsh and Hammatt 1995)

Site Type: Trail

No. of Features: 1

Functional Interpretation: Transportation

Probable Age: Indeterminate

Overall Dimensions: Approximately 30.5 m (100 ft) long (in the ROW)

Topography: Trail meanders through 'a'ā along the edge of a *pāhoehoe* flow

Elevation: 42 ft (13 m) AMSL

Description:

SIHP # 50-10-27-19954 was first formally described by CSH in 1995 (Walsh and Hammatt 1995). The site was revisited during the current archaeological inventory survey and found to be in the same physical condition (Figure 53 through Figure 55). The overall length of the trail, and its *mauka* terminus (i.e., starting approximately 28 m from the existing highway pavement edge), has not changed since 1995. The trail was described by Walsh and Hammatt (1995) as follows:

Site 19954 consists of a *mauka-makai* oriented trail . . . The trail begins 93 feet (28m.) from the present highway pavement edge (extent of bulldozed portion of old right-of-way) and meanders through the A'a along the edge of a *pahoehoe* outcrop, then up and over an outcrop and continues *makai* beyond the project area boundary into the National Park. Some portions of the trail contain *pahoehoe* slabs placed as stepping stones, and it appears that the slabs were taken from the adjacent *pahoehoe* outcrop. The trail measures 0.4 to 0.5 m. wide. The trail is in fair to good condition and has previously been identified and flagged, probably by National Park archaeologists who, we have been informed, have done some surveying in the area and have identified several inland-heading trails. The site has not been previously recorded however, and a state site number had not been previously assigned (personal communication with National Park archaeologist Catherine Glidden 6/27/95). [Walsh and Hammatt 1995:54]

Walsh and Hammatt (1995) recommended SIHP # -19954 eligible for the National and State Registers of Historic Places under criterion D for its information relevant to prehistory and history. The site was recommended for data recovery by Walsh and Hammatt (1995); however, the final archaeological treatment plan (1999) called for "interim protection" only with no data recovery.

Mitigation Measures

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, some ten trails that were going to be impacted (including SIHP # -19954) now will not be impacted. The mitigation for these trails will be the same data recovery "Archival Research & Preservation" inasmuch as the archival research will be done for all trails anyway. Preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides except the northeast side where the buffer zone will be 1.5 m.

Proposed preservation buffers for SIHP # -19954 are depicted in Figure 56. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction which would be fortified with a portable construction barrier for added protection). See Section 5 for preservation measures.



Figure 53. Photograph of SIHP # -19954, showing *pāhoehoe* stepping stones, view to northeast (scale is 2 m long)



Figure 54. Detail (section) of SIHP # -19954 showing stepping stones, view to southwest

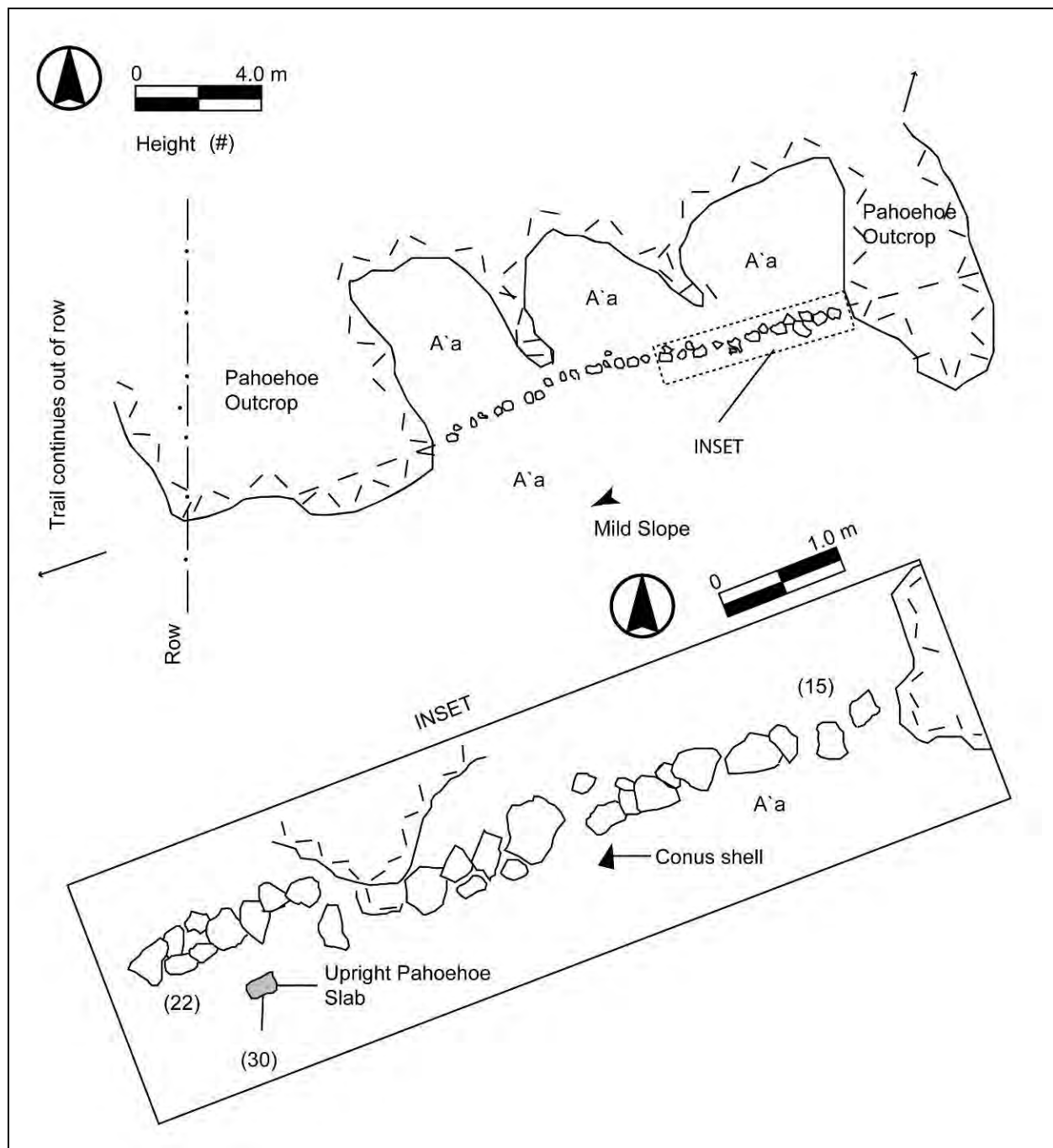


Figure 55. Plan view map of SIHP # -19954, showing trail segment within the project area and close-up inset of stepping stones

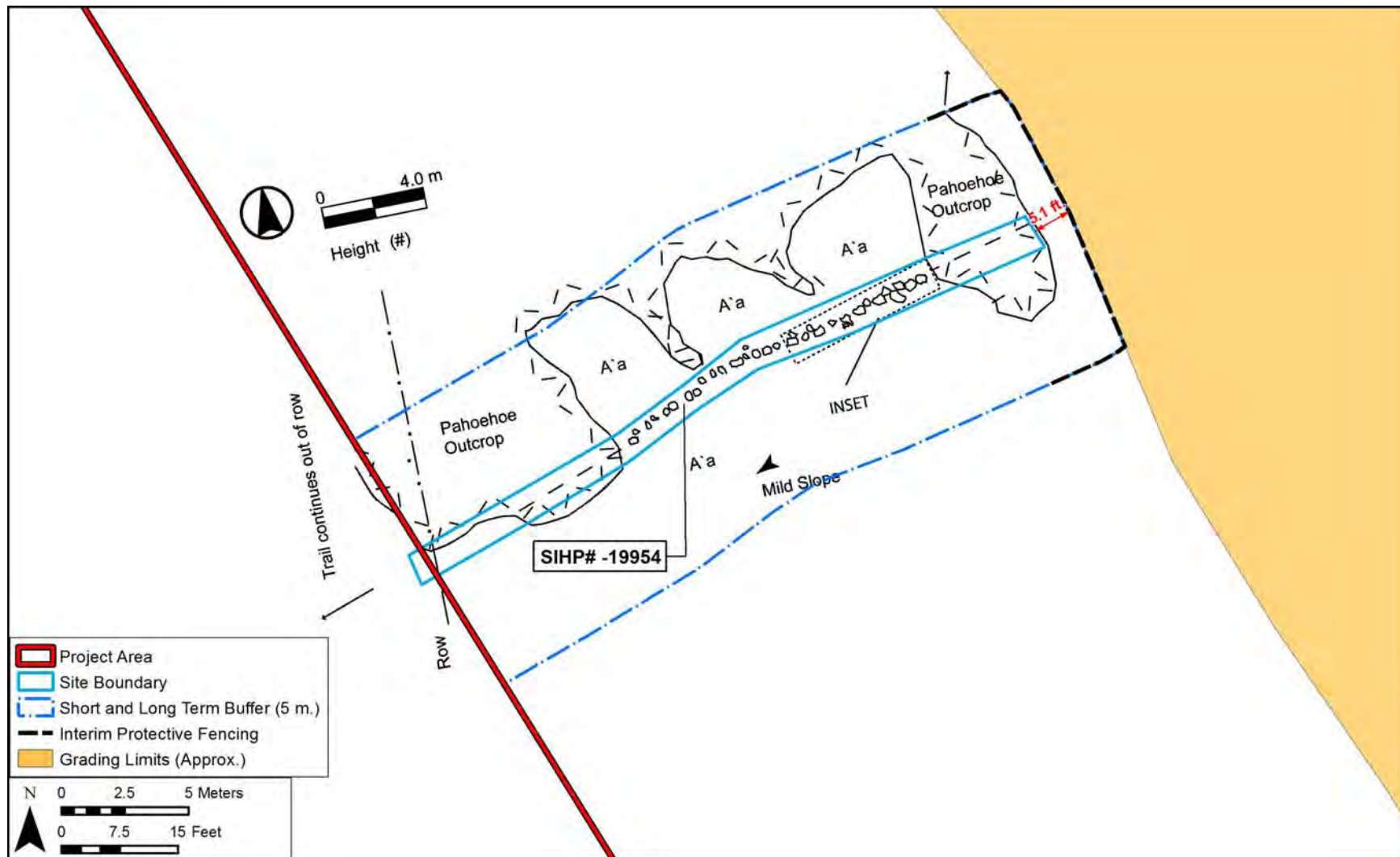


Figure 56. Preservation buffers for SIHP # 19954

3.1.9 SIHP # 50-10-27-22417 Modified Lava Blister

This modified lava blister interior has been cleared of all cobble- and boulder-sized debris and consists of a layer of sediment interspersed with pebbles and organic debris that supports the growth of several *koa haole* saplings. The interior of the lava blister measures 2.8 m north/south by 3.2 m east/west and is located 1.2 m below the overlying ground surface.

The proposed approach for data recovery was 100% excavation of the floor of this blister. The excavation shape would thus be irregular. Because of the number of *koa haole* saplings this would be a challenge. CSH estimated three archaeologist days to accomplish this fieldwork.

Temp. Site No.: Tube 1 (Monahan et al. 2012), 157-5 (Nelson and Gmirkin 2001)

Site Type: Modified lava blister

No. of Features: 1

Functional Interpretation: Agriculture/planting pit

Probable Age: Prehistoric (pre-Contact)

Overall Dimensions: 2.8 m N/S by 3.2 m E/W

Topography: Level *pāhoehoe* flow

Elevation: 30 ft (9 m) AMSL

Description:

SIHP # 50-10-27-22417 is a modified lava blister located approximately 200 m south of the Kaloko-Honokōhau National Historical Park visitor center entrance within the portion of the project area adjacent to the Kaloko-Honokōhau National Historical Park (Figure 57 and Figure 58). The lava blister has formed beneath a relatively thin, level *pāhoehoe* surface and consists of a central, vertical opening that has been deliberately expanded through the excavation of cobble-sized portions of *pāhoehoe* bedrock. The edges of the lava blister opening are scalloped. The opening of the lava blister measures 1.0 m north/south by 1.6 m east/west. Excavated material from the edges of the blister opening has been removed and displaced. The interior of the lava blister has been cleared of all cobble- and boulder-sized debris and consists of a layer of sediment interspersed with pebbles and organic debris that supports the growth of several *koa haole* saplings. The interior of the lava blister measures 2.8 m north/south by 3.2 m east/west and is located 1.2 m below the overlying ground surface. No artifacts or midden were observed in the area.

SIHP # -22417 is interpreted as a planting pit feature likely dating from prehistoric (pre-Contact) times. The sediment layer within the lava blister could have supported various dryland cultivars. The opening of the lava blister was likely expanded in order to increase the light zone and usable planting surface on the floor of the blister.

Mitigation Measures

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, this site is recommended for interim preservation with protection behind a continuous barrier on the highway (east) side during highway widening work with a commitment to the previously agreed-to mitigation (excavation) prior to any future land disturbance in the immediate vicinity. Interim preservation will be through avoidance and protection (conservation). Proposed preservation buffers for SIHP # -22417 describe a circle 5 m in diameter centered on the middle of the historic property as depicted in Figure 59. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side). See Section 5 for preservation measures.



Figure 57. Photograph of SIHP # -22417, view to south

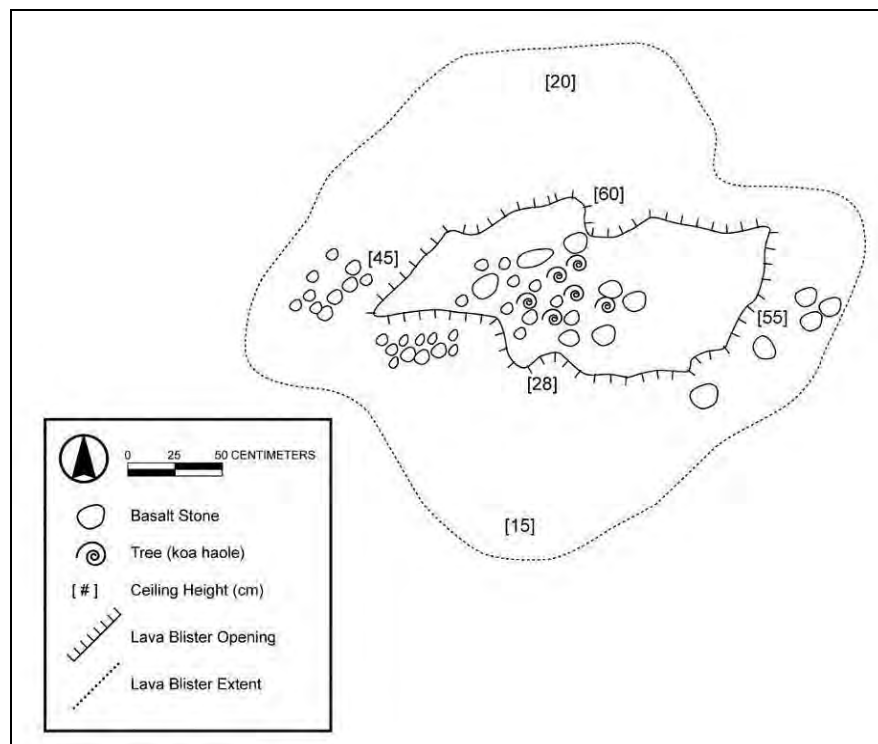


Figure 58. Plan view map of SIHP # -22417; 100% areal excavation of the interior recommended

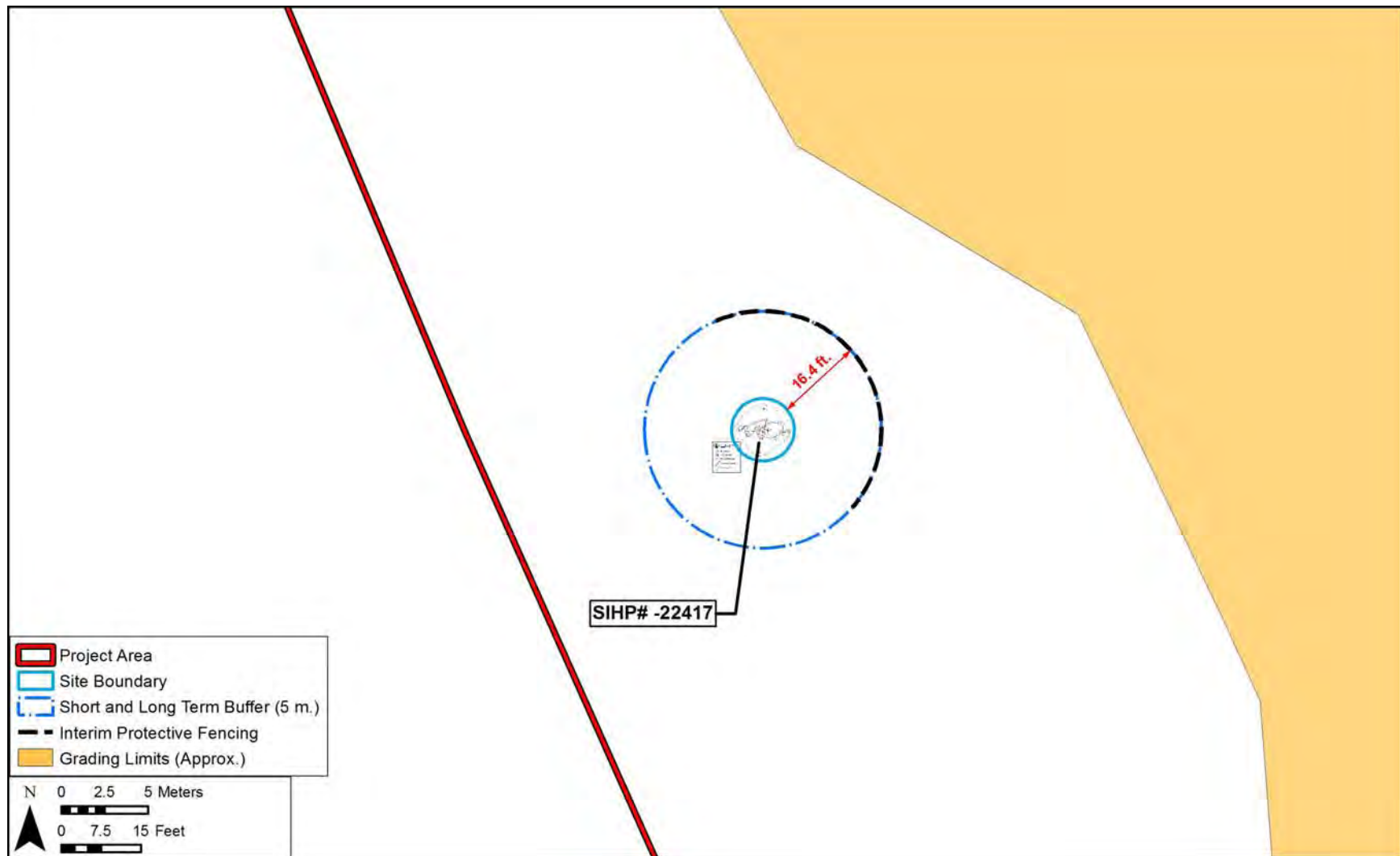


Figure 59. Preservation buffers for SIHP # -22417

3.1.10 SIHP # 50-10-27-22418 Trail (*mauka-makai*)

This site is recommended for data recovery (archival research) and preservation.

Temp. Site No.: Trail 3 (Monahan et al. 2012), 157-6A (Nelson and Gmirkin 2001)

Site Type: Trail

No. of Features: 1

Functional Interpretation: Transportation

Probable Age: Indeterminate

Overall Dimensions: Approximately 22.6 m long (in the ROW)

Topography: Undulating *pāhoehoe* flow, level to moderately sloping

Elevation: 36 ft (11 m) AMSL

Description:

SIHP # 50-10-27-22418 is a trail located approximately 200 m southeast of the Kaloko-Honokōhau National Historical Park visitor center entrance within the portion of the project area adjacent to the Kaloko-Honokōhau National Historical Park. The trail is roughly oriented east/west and measures 22.6 m long within the project area (Figure 60 and Figure 61). Within the project area, the trail lacks any formal construction features such as stepping stones or curbing. The trail can be recognized within the project area by observing subtle wear pattern/color variation on the lava flow. NPS staff have pointed out that trails such as this one, even though lacking formal attributes within the subject project area, may exhibit formal features elsewhere (i.e., outside of the project area).

Nelson and Gmirkin (2001:21) previously identified this trail, designating it SIHP # -22418, and pointed out that it parallels and crosses/merges with SIHP # -18099 outside of the current project area, in keeping with other historic trails in the region.

Mitigation Measures

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, some ten trails that were going to be impacted (including SIHP # -22418) now will not be impacted. The mitigation for these trails will be the same data recovery “Archival Research & Preservation” inasmuch as the archival research will be done for all trails anyway. Preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides of the site. Proposed preservation buffers for SIHP # -22418 are depicted in Figure 62. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). See Section 5 for preservation measures.



Figure 60. Photograph of SIHP # -22418, showing trail traversing pāhoehoe outcrop, visible as subtle wear pattern and color variation, view to east

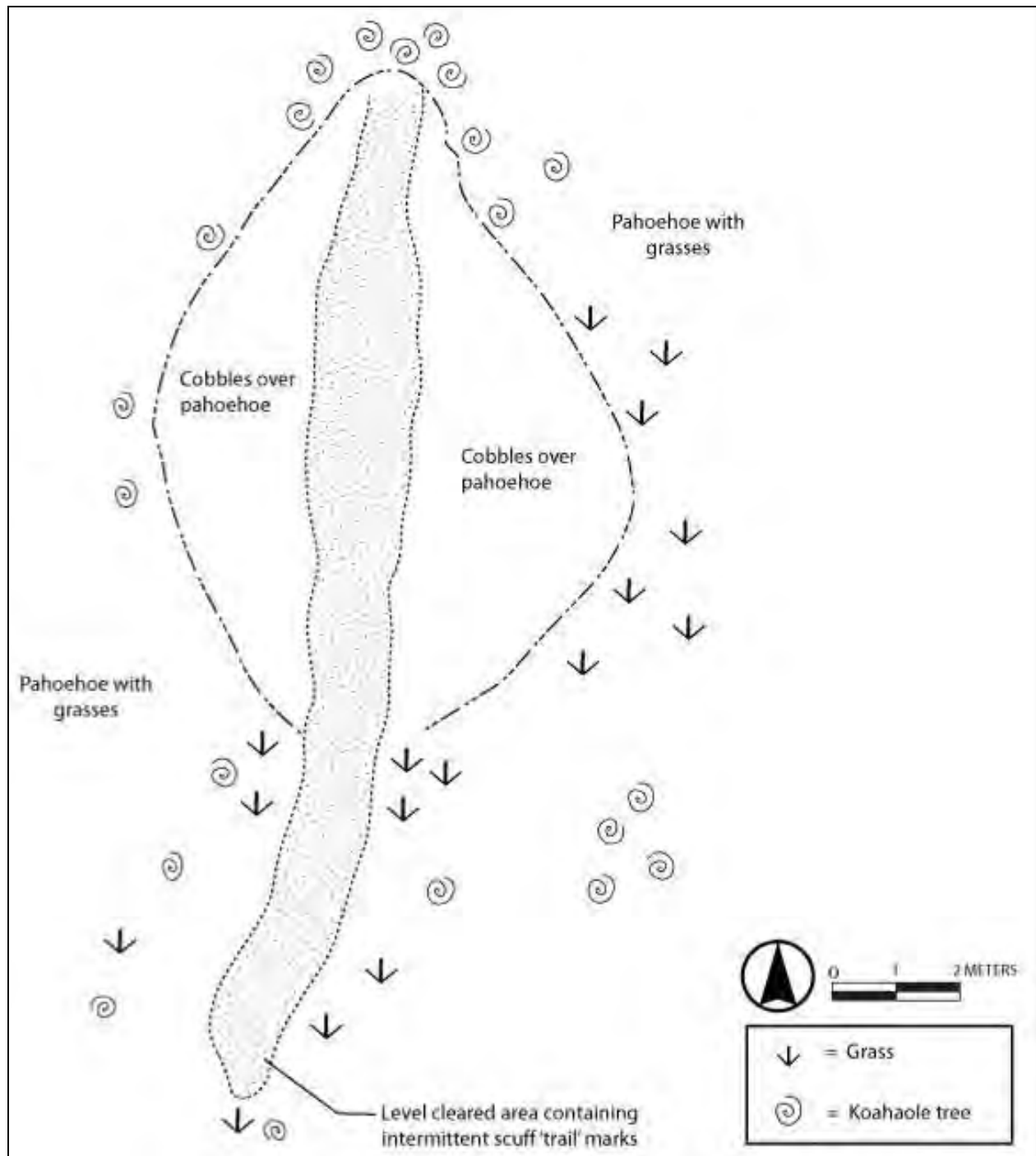


Figure 61. Plan view map of SIHP # -22418

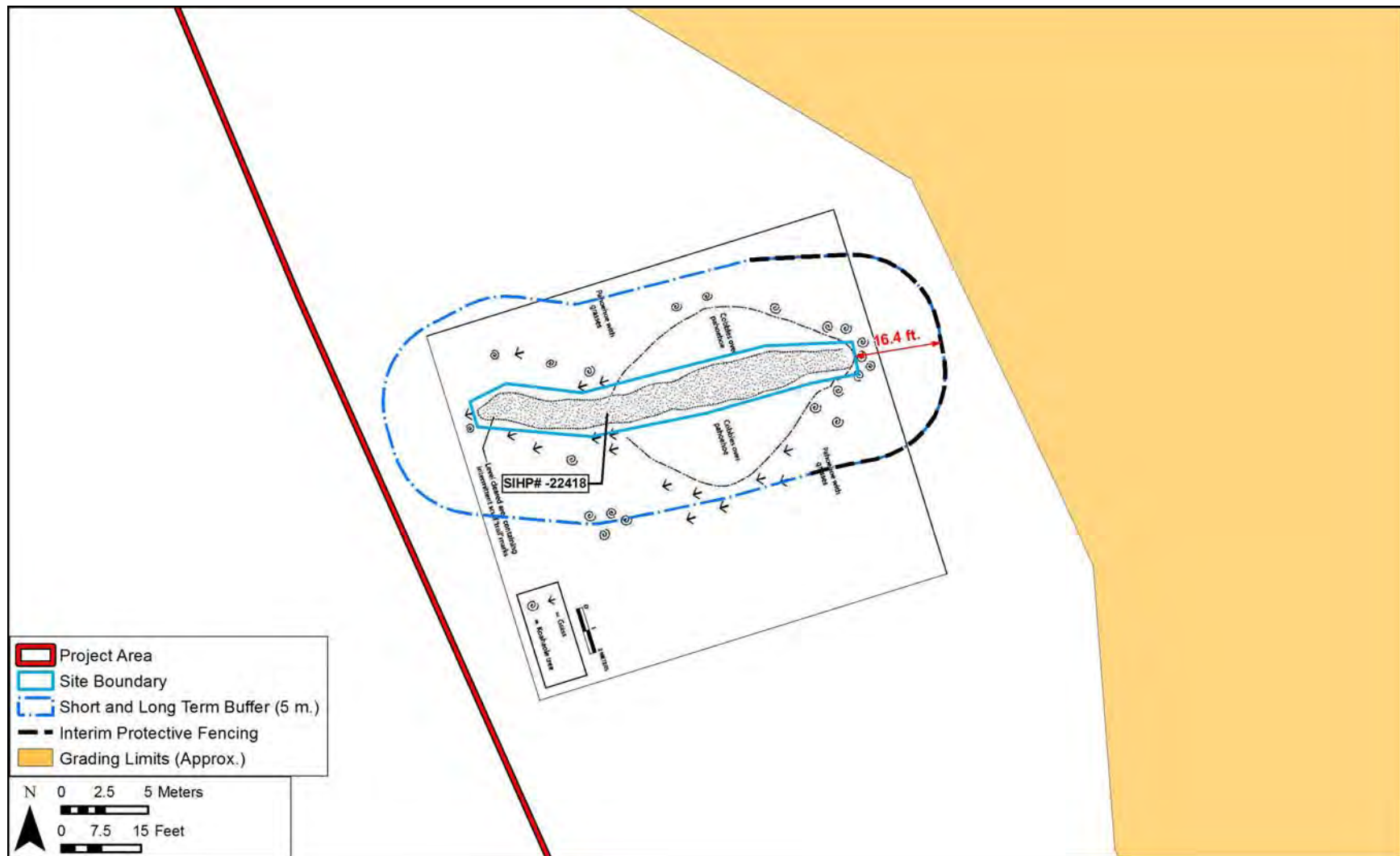


Figure 62. Preservation buffers for SIHP # -22418

3.1.11 SIHP # 50-10-27-22507 Trail (*mauka-makai*)

This site is recommended for data recovery (archival research) and preservation.

Temp. Site No.: Trail 2 (Monahan et al. 2012), 157-16 (Nelson and Gmirkin 2001)

Site Type: Trail

No. of Features: 1

Functional Interpretation: Transportation

Probable Age: Indeterminate

Overall Dimensions: Approximately 16.1 m long (in the ROW)

Topography: Undulating *pāhoehoe* flow, level to moderately sloping

Elevation: 36 ft (11 m) AMSL

Description:

SIHP # 50-10-27-22507 is a trail located approximately 325 m southeast of the Kaloko-Honokōhau National Historical Park visitor center entrance within the portion of the project area adjacent to the Kaloko-Honokōhau National Historical Park. The trail is roughly oriented east/west and measures 16.1 m long (Figure 63 and Figure 64). The trail terminates to the west along the edge of a modern gravel road. The trail can be recognized within the project area by observing subtle wear pattern/color variation on the lava flow. NPS staff have pointed out that trails such as this one, even though lacking formal attributes within the subject project area, may exhibit formal features elsewhere (i.e., outside of the project area).

Mitigation Measures

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, some ten trails that were going to be impacted (including SIHP # -22507) now will not be impacted. The mitigation for these trails will be the same data recovery “Archival Research & Preservation” inasmuch as the archival research will be done for all trails anyway. Preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides of the site. Proposed preservation buffers for SIHP # -22507 are depicted in Figure 65. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). See Section 5 for preservation measures.



Figure 63. Photograph of SIHP # -22507, showing trail traversing *pāhoehoe* outcrop, visible as subtle wear pattern and color variation, view to west

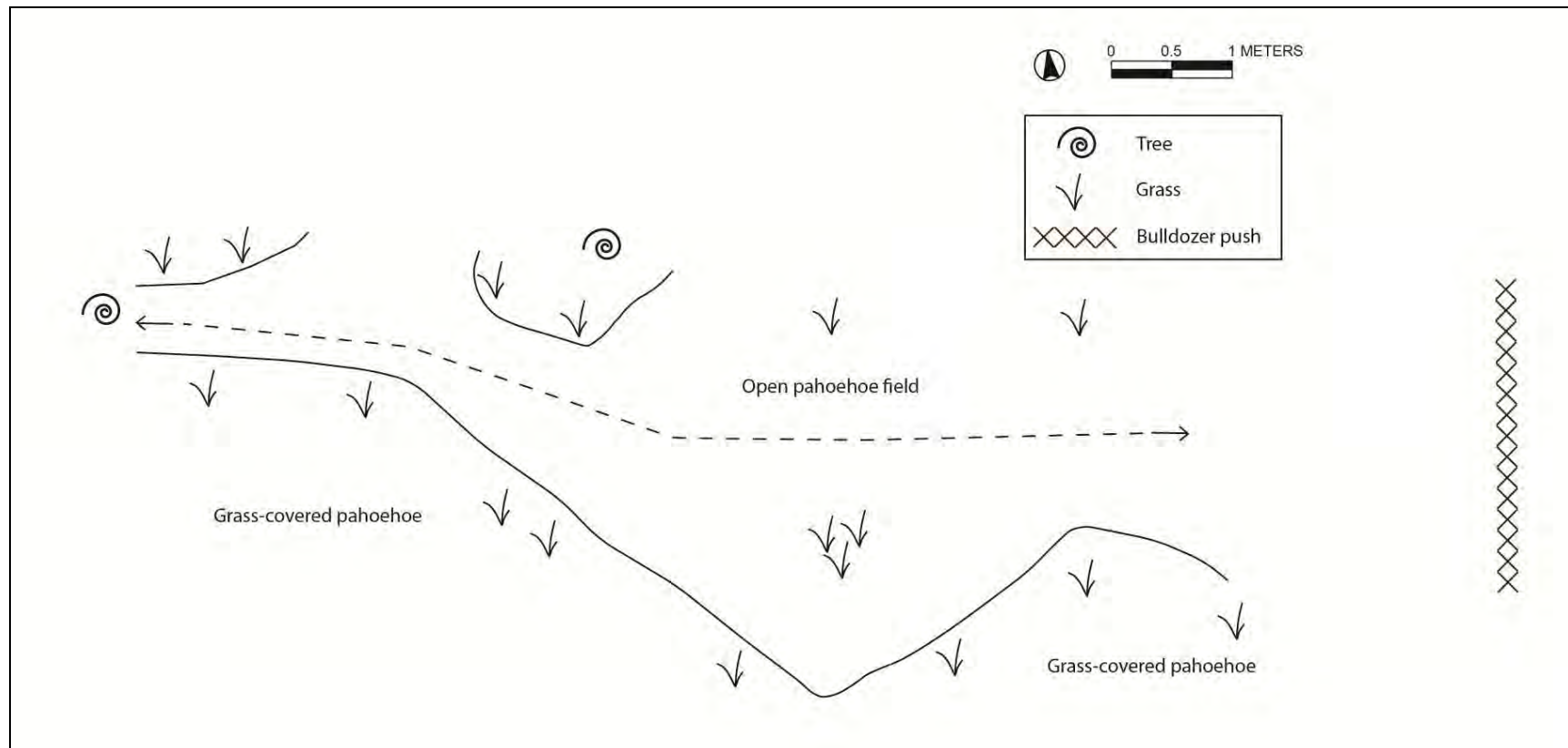


Figure 64. Plan view map of SIHP # -22507

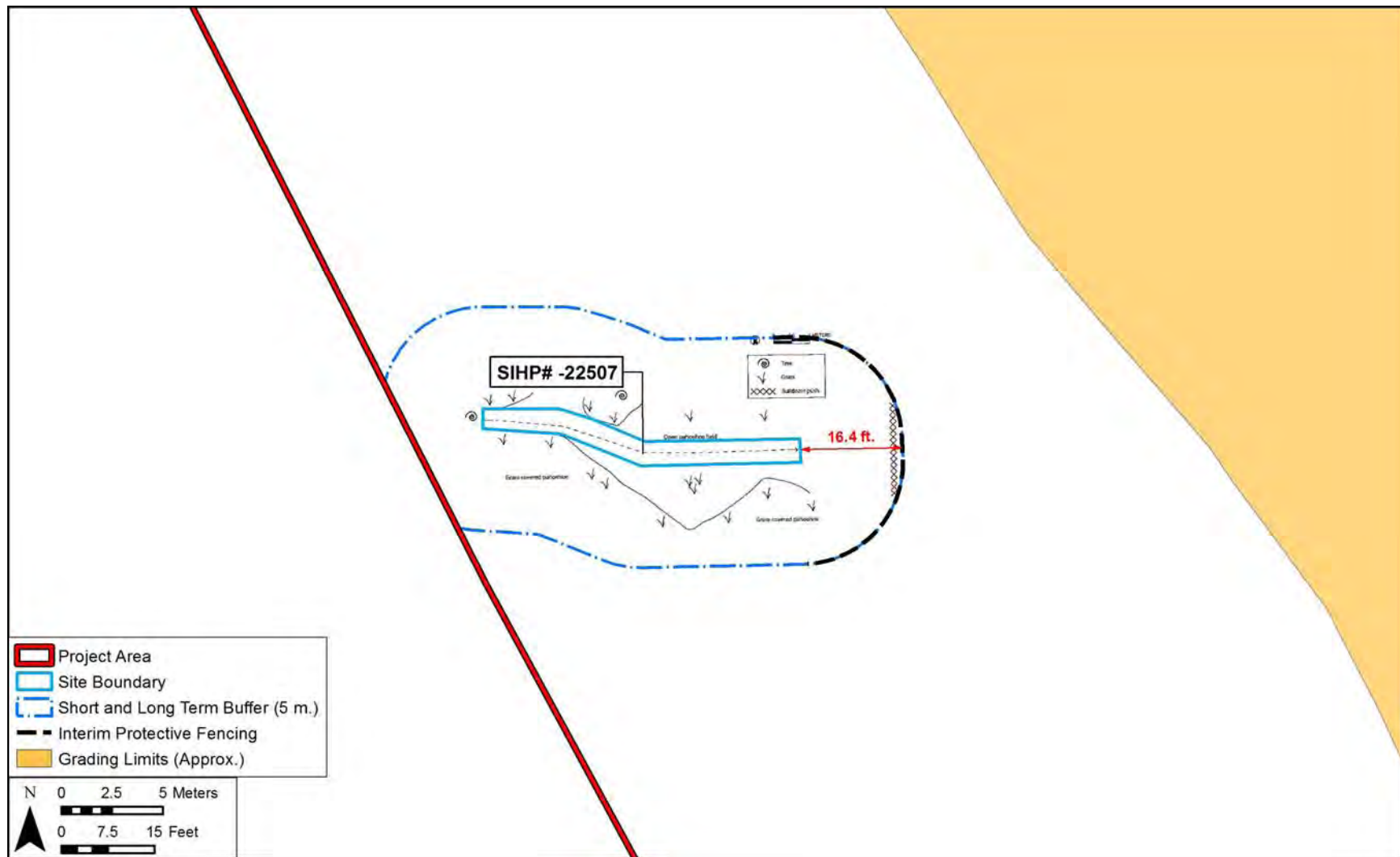


Figure 65. Preservation buffers for SIHP # -22507

3.1.12 SIHP # 50-10-27-28774 Trail (*mauka-makai*)

This site is recommended for data recovery (archival research) and preservation.

Temp. Site No.: Trail 1 (Monahan et al. 2012)

Site Type: Trail

No. of Features: 1

Functional Interpretation: Transportation

Probable Age: Indeterminate

Overall Dimensions: Approximately 40.9 m long (in the ROW)

Topography: Undulating *pāhoehoe* flow, level to moderately sloping

Elevation: 45 ft (14 m) AMSL

Description:

SIHP # 50-10-27-28774 is a trail located approximately 515 m southeast of the Kaloko-Honokōhau National Historical Park visitor center entrance within the portion of the project area adjacent to the Kaloko-Honokōhau National Historical Park. The trail extends along the northeastern edge of an area of modern disturbance. The trail measures 40.9 m long in the ROW. This trail is one of several pointed out to CSH by NPS staff. The trail can be recognized within the project area by observing subtle wear pattern/color variation on the lava flow (Figure 66 and Figure 67). NPS staff have pointed out that trails such as this one, even though lacking formal attributes within the subject project area, may exhibit formal features elsewhere (i.e., outside of the project area).

In a letter dated 25 April 2012, in reference to the recent supplemental archaeological survey work in the south segment of the current project area (cf. Monahan and Yucha 2012), NPS archaeologists stated that another undocumented *mauka/makai* trail was located in this general area. On 1 May 2012, CSH archaeologist Oli Bautista and NPS archaeologist Tyler Paikuli-Campbell traced this trail out, starting from within the national park to the west (*makai*) of the ROW; the trail was recorded using a survey-grade GPS device. In the field, moving in an easterly (*mauka*) direction, the trail was found to terminate in a disturbed area before reaching the ROW boundary. Therefore, according to the survey-grade GPS, the trail segment was not located in the current project area. When the data was processed in the laboratory the following day, it became clear the newly traced trail segment is very close to the previously identified SIHP # -28774. It is possible the trail segment mapped on 1 May 2012, and found to be outside of the current project area, represents another portion of this same trail.

In follow-up fieldwork on 9 July 2012, the trail area was relocated but, as was the case for the NPS, the trail could not be followed with certainty in the project area. Discolored *pāhoehoe* was found in several directions. It may be the trail was always quite braided and ill-defined in this area. Because of these difficulties in tracing the trail on the ground, no plan view was generated (the SHPD review of 9 July 2012 specifies “a plan view map is not necessary”). CSH could not follow this trail with any certainty.

Mitigation Measures

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, some ten trails that were going to be impacted (including SIHP # -

28774) now will not be impacted. The mitigation for these trails will be the same data recovery “Archival Research & Preservation” inasmuch as the archival research will be done for all trails anyway. Preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides of the site. Proposed preservation buffers for SIHP # -28774 are presented in Figure 68. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). See Section 5 for preservation measures.



Figure 66. Photograph of SIHP # -28774, showing trail traversing *pāhoehoe* outcrop, visible as subtle wear pattern and color variation, view to east



Figure 67. Close-up of SIHP # -28774, showing subtle wear pattern and color variation, view to east

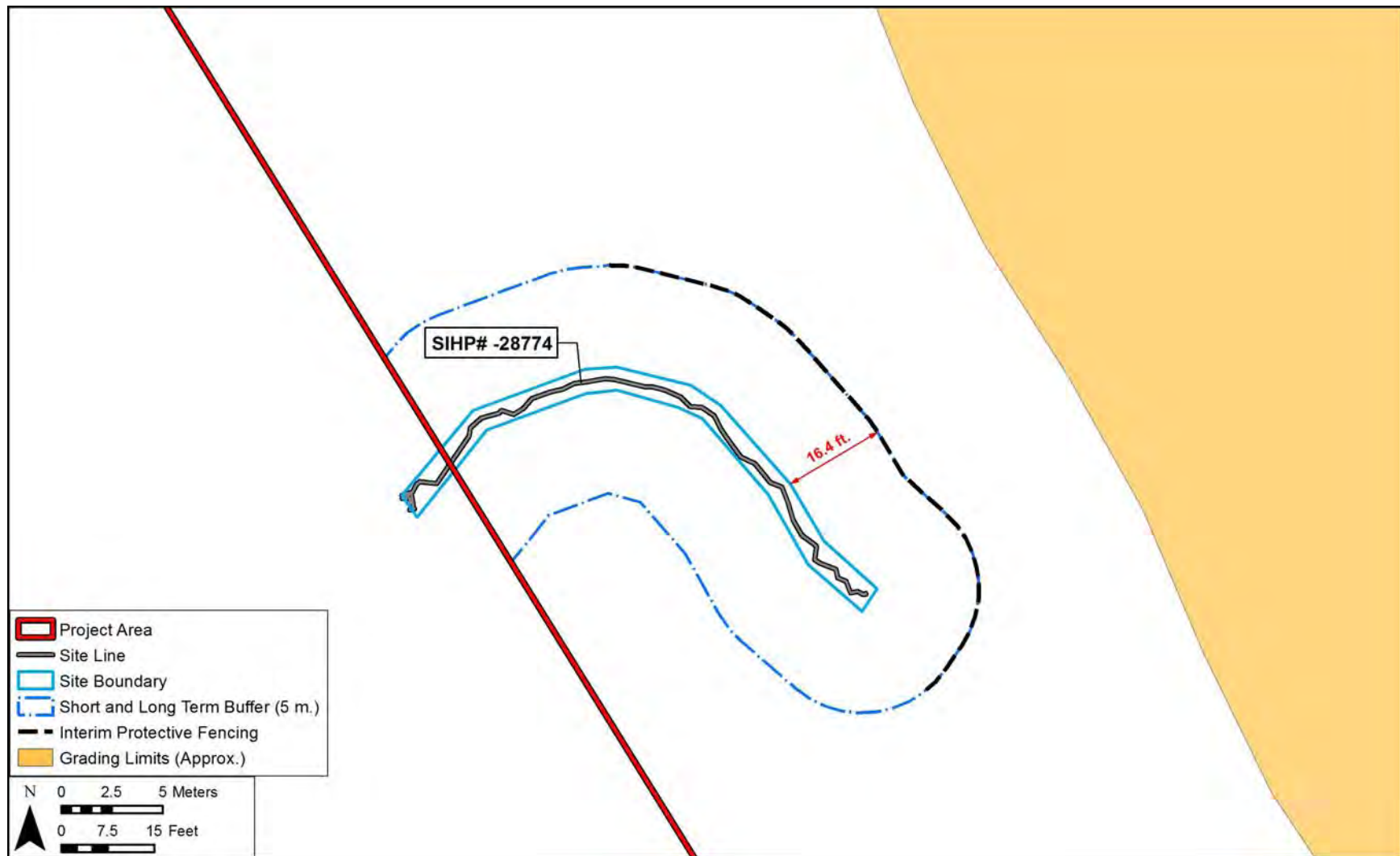


Figure 68. Preservation buffers for SIHP # -28774

3.1.13 SIHP # 50-10-27-28782 Trail (*mauka-makai*)

This site is recommended for data recovery (archival research) and preservation.

Temp. Site No.: Trail 6 (Monahan et al. 2012)

Site Type: Trail

No. of Features: 1

Functional Interpretation: Transportation

Probable Age: Indeterminate

Overall Dimensions: 42.4 m long E/W by 0.5 to 0.75 m wide N/S within the ROW

Topography: 'A 'ā flow and adjacent 'a 'ā tumulus, level to moderately sloping

Elevation: 79 ft (24 m) AMSL

Description:

SIHP # 50-10-27-28782 is a trail which extends roughly east/west through the project area approximately 424 m north of the Kaloko-Honokōhau National Historical Park visitor center entrance within the portion of the project area adjacent to the Kaloko-Honokōhau National Historical Park (Figure 69 through Figure 72). The trail consists of a partially cleared, well-trodden 'a 'ā pebble and cobble surface located along the north side of the base of an 'a 'ā tumulus. A concentration of weathered coral pebbles and cobbles was observed along the edge of the trail beneath several large 'a 'ā boulders. The coral concentration may have served as a trail marker. No artifacts or midden were observed in the area. Unlike most other trails in the project area, this one is clearly observable and relatively well-defined.

Mitigation Measures

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, some ten trails that were going to be impacted (including SIHP # -28782) now will not be impacted. The mitigation for these trails will be the same data recovery "Archival Research & Preservation" inasmuch as the archival research will be done for all trails anyway. Preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides except the east side where the buffer zone will be 1.3 m. Proposed preservation buffers for SIHP # -28782 are depicted in Figure 73. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction which would be fortified with a portable construction barrier for added protection). See Section 5 for preservation measures.



Figure 69. Photograph of central portion of SIHP # -28782, showing 'a'ā ridge on right, view to east



Figure 70. Detail of coral concentration observed along the edge of SIHP # -28782, view to southeast

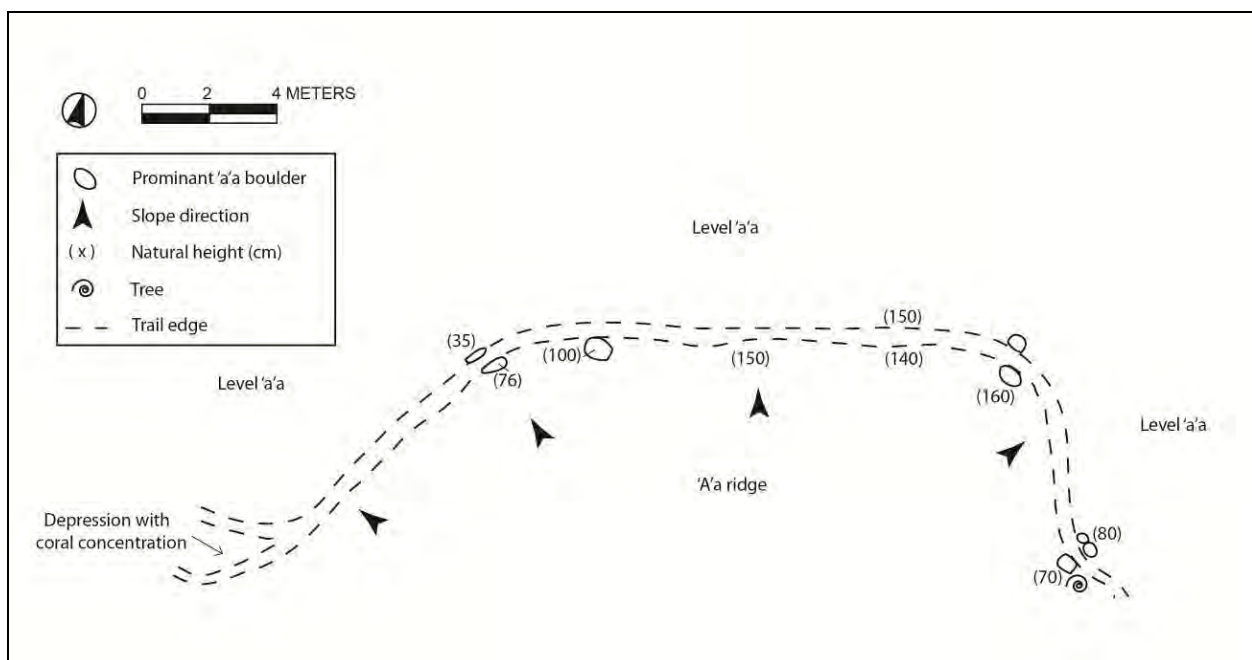


Figure 71. Plan view map of SIHP # -28782

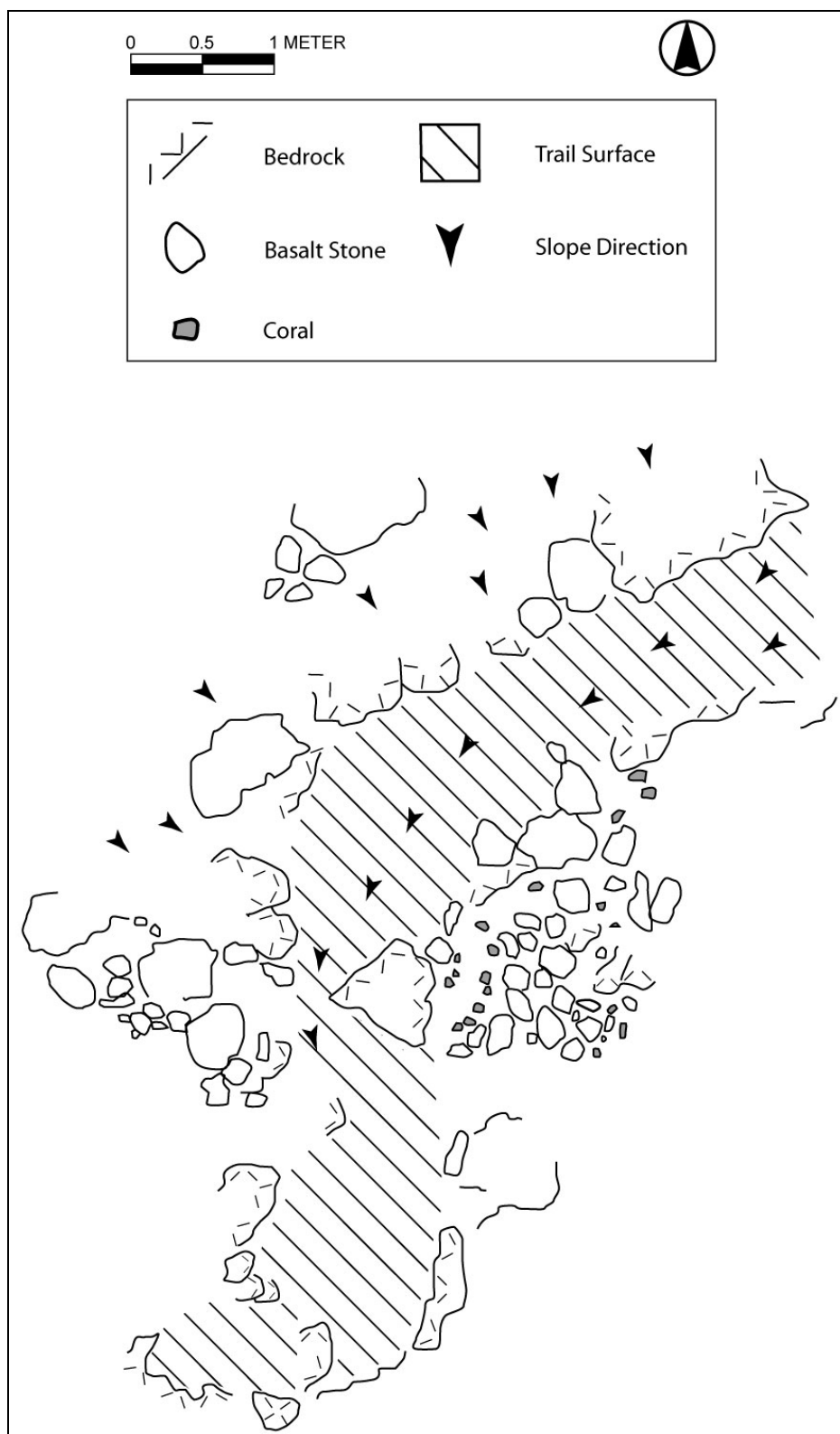


Figure 72. Plan view map of a portion of SIHP # -28782, showing the coral concentration observed along the edge of the trail

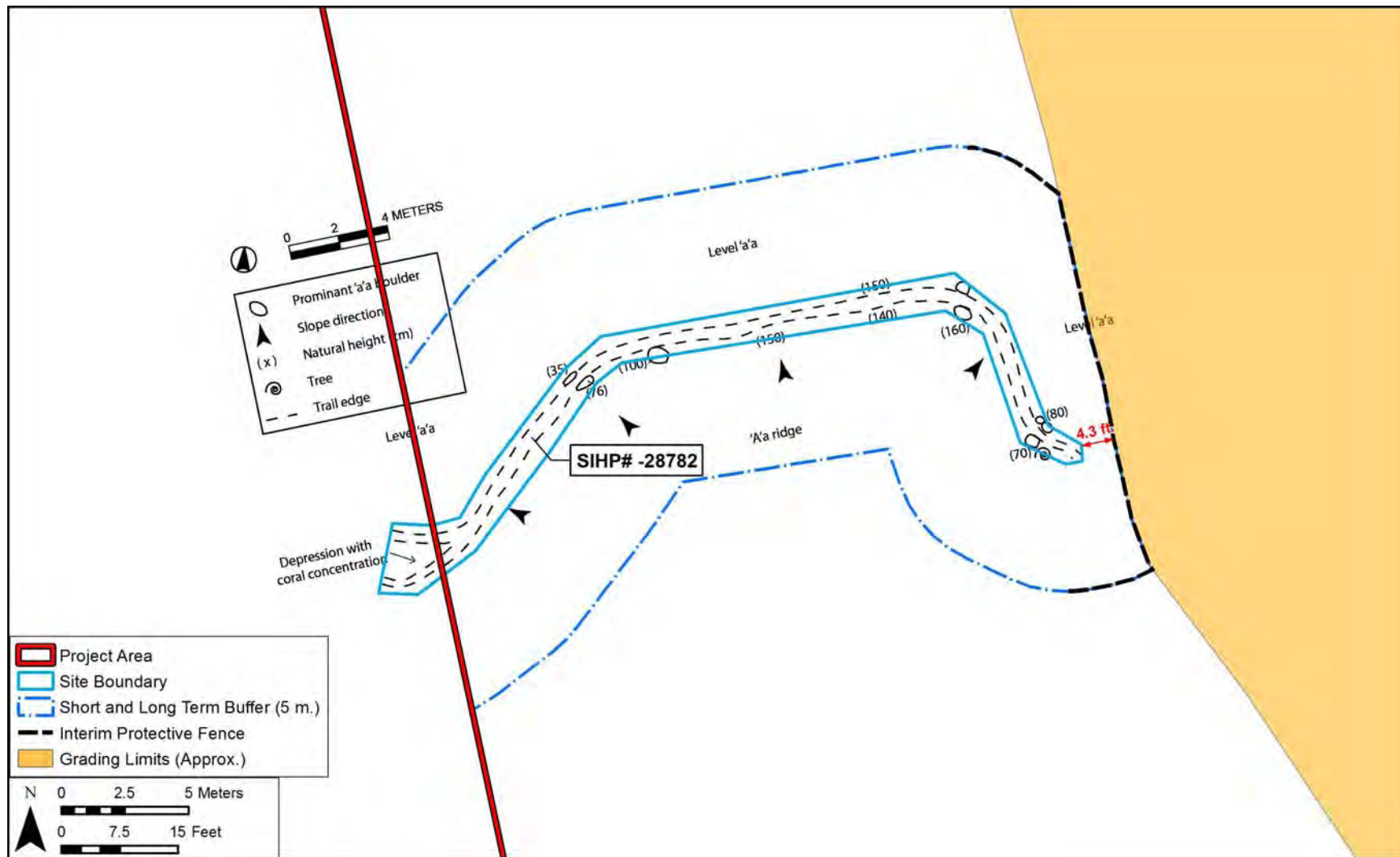


Figure 73. Preservation buffers for SIHP # -28782

3.1.14 SIHP # 50-10-27-28783 Agricultural Complex

SIHP # -28783 consists of six 'a'ā excavations within a low area of undulating 'a'ā. In general, the interior of each excavation consists of relatively thick layers of sediment and organic debris that presently support the growth of large Christmas berry trees.

Temp. Site No.: T-080510-10 to -14a (Monahan et al. 2012)

Site Type: Excavated 'a'ā complex

No. of Features: 6

Functional Interpretation: Agriculture

Probable Age: Prehistoric (pre-Contact)

Overall Dimensions: 132.0 m N/S by 40.0 m E/W

Topography: Undulating 'a'ā flow, level to slightly sloping

Elevation: 61-76 ft (19-23 m) AMSL

Description:

SIHP # 50-10-27-28783 is a complex consisting of six features (Features A through F) located south of Huehue Road within a portion of the project area adjacent to the Kaloko-Honokōhau National Historical Park. SIHP # -28783 consists of six 'a'ā excavations within a low area of undulating 'a'ā (Figure 74 through Figure 79). In general, the interior of each excavation consists of relatively thick layers of sediment and organic debris that presently support the growth of large Christmas berry trees. Detailed documentation of Feature A and Feature B is provided below and is representative of the remainder of the features of SIHP # -28783.

Feature A is an 'a'ā excavation comprised of a low, natural depression within the 'a'ā flow that has been cleared to a level bedrock surface, which supports a thick deposit of sediment and organic debris. The excavation is oval-shaped and measures 3.2 m north/south by 5.0 m east/west with a maximum depth of 0.7 m beneath the surrounding 'a'ā flow. Stacking was observed along the north and northwestern sides of the excavation, which consisted of two to three courses of small- to medium-sized 'a'ā boulders. The south and southwestern sides of the excavation consist of natural eroding bedrock. The eastern side of the excavation has been covered, and potentially impacted, by massive basalt “blue-rock” boulders likely pushed into the site during initial construction of the Queen Ka'ahumanu Highway. A large Christmas berry tree grows from the southwestern edge of the sediment surface within the 'a'ā excavation. No artifacts or midden were observed in the area.

Feature B is an 'a'ā excavation comprised of several adjacent and partially interconnected areas that have been cleared to a level bedrock surface. The cleared areas consist of a layer of sediment and organic debris of varying thickness that presently supports the growth of Christmas berry trees and grasses. The cleared areas are irregularly shaped and enclosed by a combination of unmodified 'a'ā flow and roughly stacked 'a'ā cobbles and small boulders. Modern garbage, including aluminum cans, bottles, mattresses, and food containers, is scattered throughout Feature B. The eastern side of the excavation has been covered, and potentially impacted, by massive basalt “blue-rock” boulders likely pushed into the site during initial construction of the Queen Ka'ahumanu Highway. No artifacts or midden were observed in the area.



Figure 74. Photograph of SIHP # -28783 Feature A, view to south

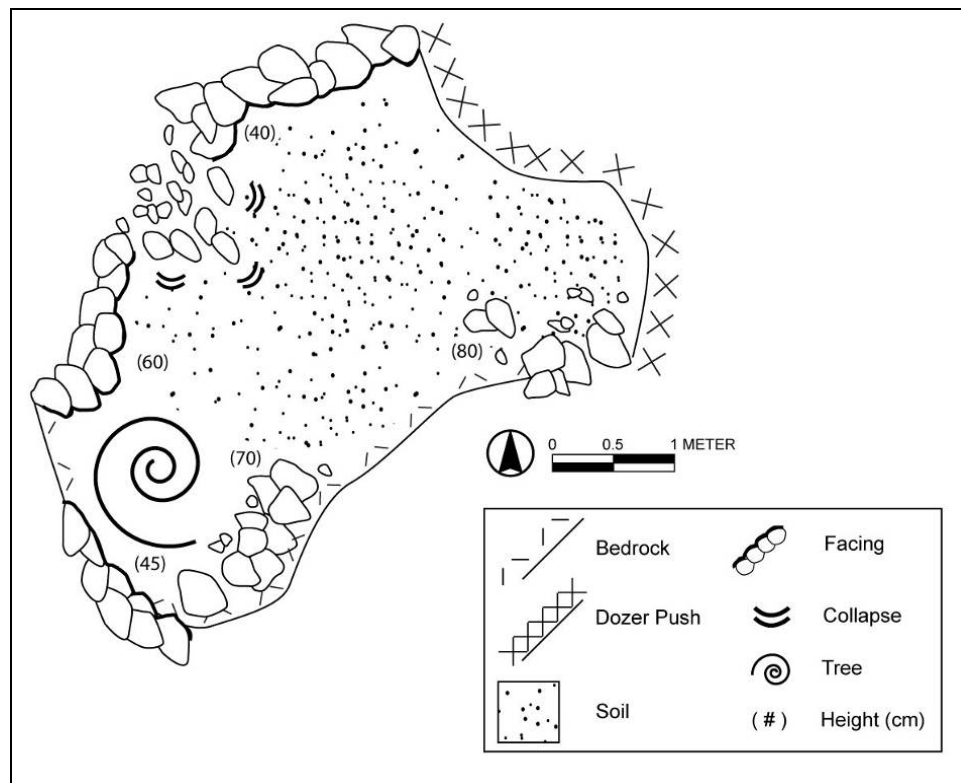


Figure 75. Plan view map of SIHP # -28783 Feature A



Figure 76. Panoramic photograph of SIHP # -28783 Feature B, view to south



Figure 77. Western portion of SIHP # -28783 Feature B, view to south



Figure 78. Eastern portion of SIHP # -28783 Feature B, view to south

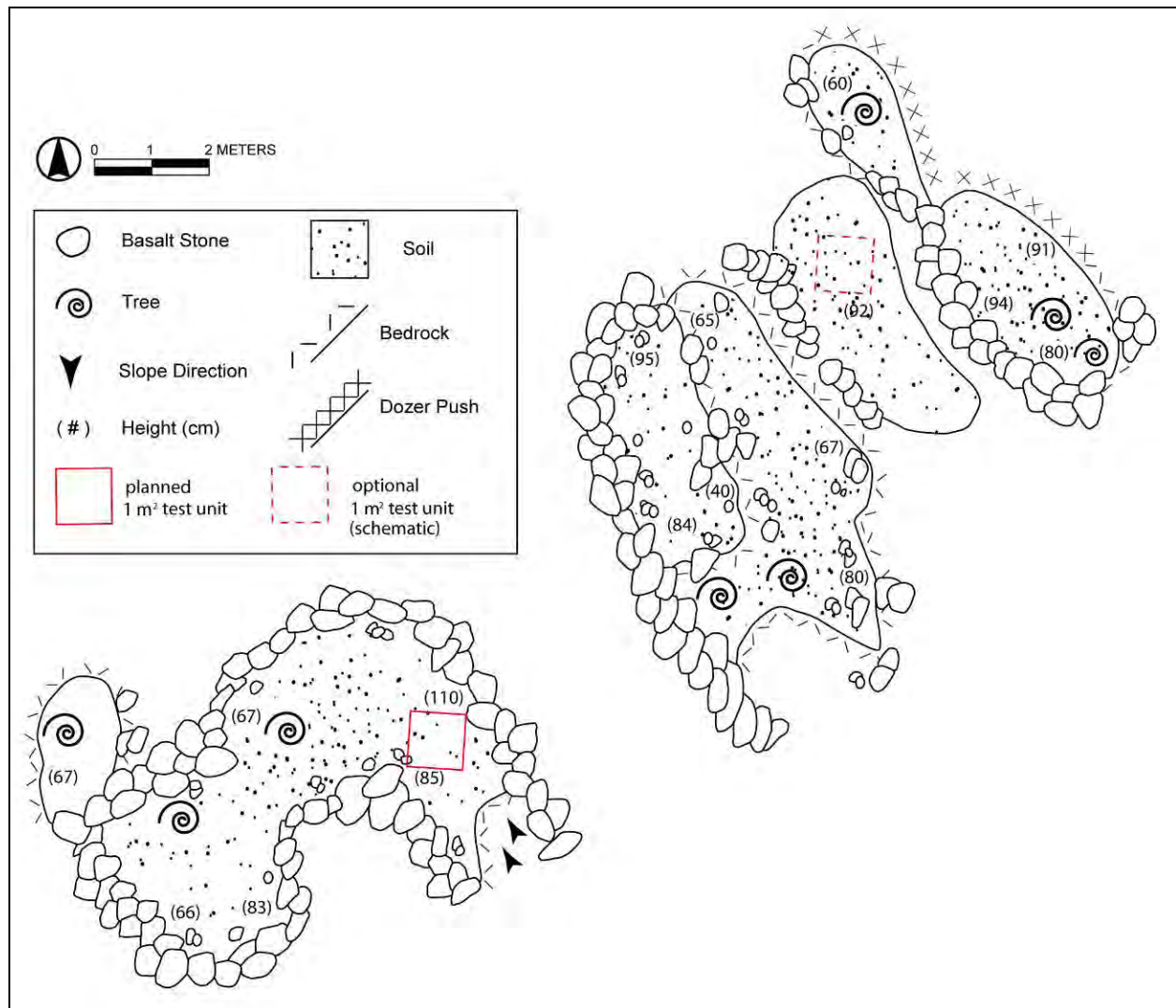


Figure 79. Plan view map of SIHP # -28783 Feature B; a 1-sq-m excavation with an option for a second 1-sq-m excavation (if there are finds in the first excavation) recommended

SIHP # -28783 is interpreted as an agricultural complex likely dating from prehistoric (pre-Contact) times. The sediment surfaces within each 'a'ā excavation could have supported various dryland cultivars.

Mitigation Measures

Data recovery excavation was recommended at Feature B. A 1-sq-m excavation would be conducted in a location that appears promising. Should there be any significant quantity of midden or any artifacts other than a small quantity of basalt waste flakes, a second 1-sq-m excavation would be undertaken. CSH anticipated two to four archaeologist days to accomplish this fieldwork. In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, this site is recommended for interim preservation with protection behind a continuous barrier on the highway (east) side during highway widening work with a commitment to the previously agreed-to mitigation (excavation) prior to any future land disturbance in the immediate vicinity. Interim preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides of the site except the *mauka* side where it would be 3.6 m. Proposed preservation buffers for SIHP # -28783 are depicted in Figure 80. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). Preservation for Features A and C through F is indicated. See Section 5 for preservation measures.

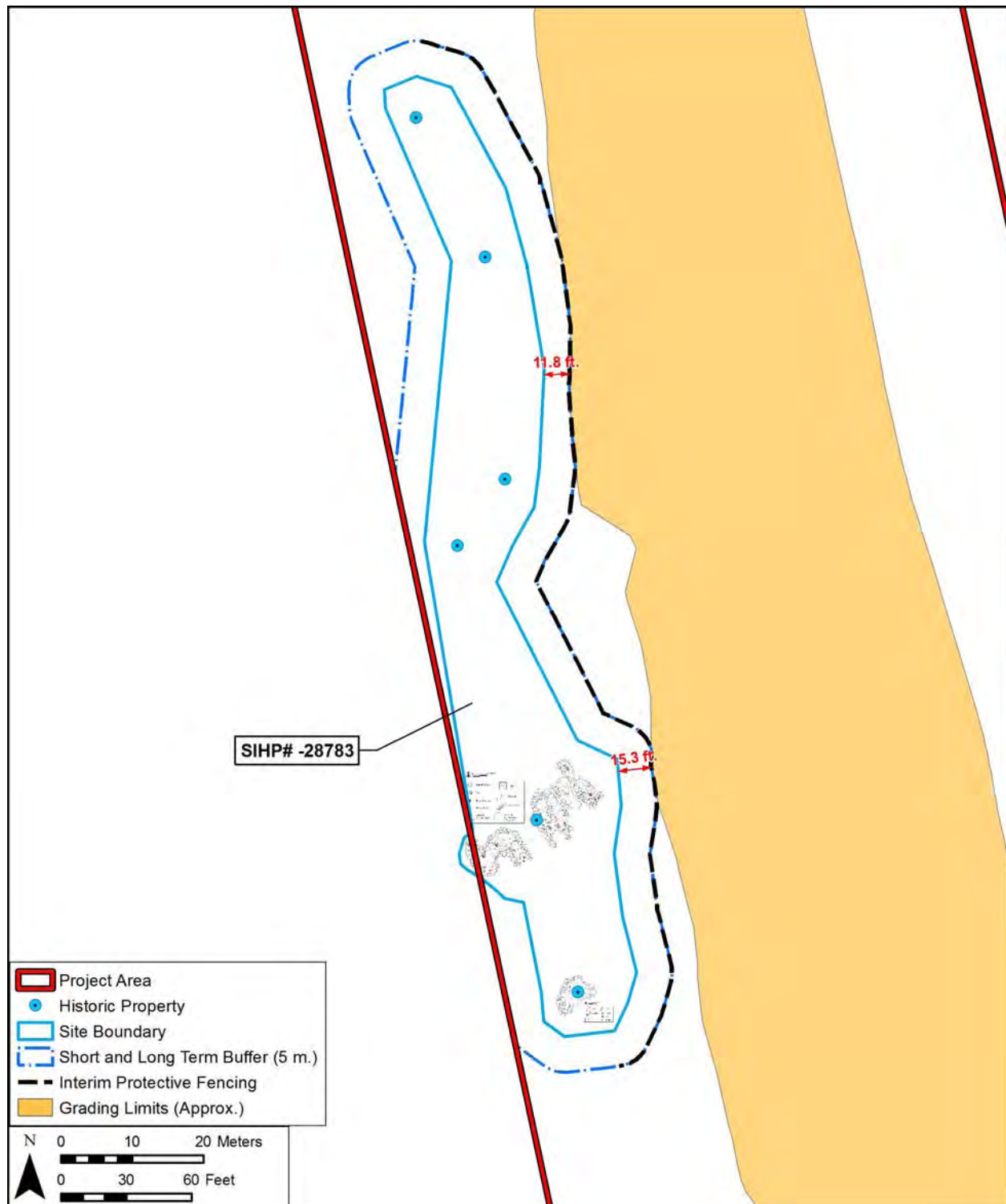


Figure 80 Preservation buffers for SIHP # -28783

3.1.15 SIHP # 50-10-27-28800 *Pāhoehoe* Excavation

SIHP # -28800 is a small (0.6 m by 0.8 m) *pāhoehoe* excavation.

Temp. Site No.: T-091010-13 (Monahan et al. 2012)

Site Type: *Pāhoehoe* excavation

No. of Features: 1

Functional Interpretation: Quarrying

Probable Age: Prehistoric (pre-Contact)

Overall Dimensions: 0.6 m N/S by 0.8 m E/W

Topography: Level *pāhoehoe* flow

Elevation: 84 ft (26 m) AMSL

Description:

SIHP # 50-10-27-28800 is a *pāhoehoe* excavation located approximately 314 m northwest of the intersection of Hina Lanī Street and the Queen Ka'ahumanu Highway within the portion of the project area adjacent to the Kaloko-Honokōhau National Historical Park (Figure 81 and Figure 82). The *pāhoehoe* excavation consists of an area where an overlying, uplifted sheet of *pāhoehoe* has been quarried and removed exposing a lower *pāhoehoe* surface. Quarry marks and scalloping were observed along the edges of the excavation. The interior surface of the *pāhoehoe* excavation consists of bare *pāhoehoe* bedrock with no sediment accumulation. The material (*pāhoehoe* cobbles and small boulders) removed from the *pāhoehoe* excavation scatters the surface near the excavation opening. The *pāhoehoe* excavation measures 0.6 m north/south by 0.8 m east/west. No artifacts or midden were observed in the area.

SIHP # -28800 is interpreted as a possible raw material quarrying locality likely dating from prehistoric (pre-Contact) times. The *pāhoehoe* excavation lacks substantial sediment accumulation that would indicate potential agricultural use.

Mitigation Measures

A 100% areal excavation was recommended. One archaeologist day was estimated for the fieldwork.

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, this site is recommended for interim preservation with protection behind a continuous barrier on the highway (east) side during highway widening work with a commitment to the previously agreed to mitigation (excavation) prior to any future land disturbance in the immediate vicinity. Interim preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides of the site. Proposed preservation buffers for SIHP # -28800 are depicted in Figure 83. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). See Section 5 for preservation measures.



Figure 81. Photograph of SIHP # -28800, view to north

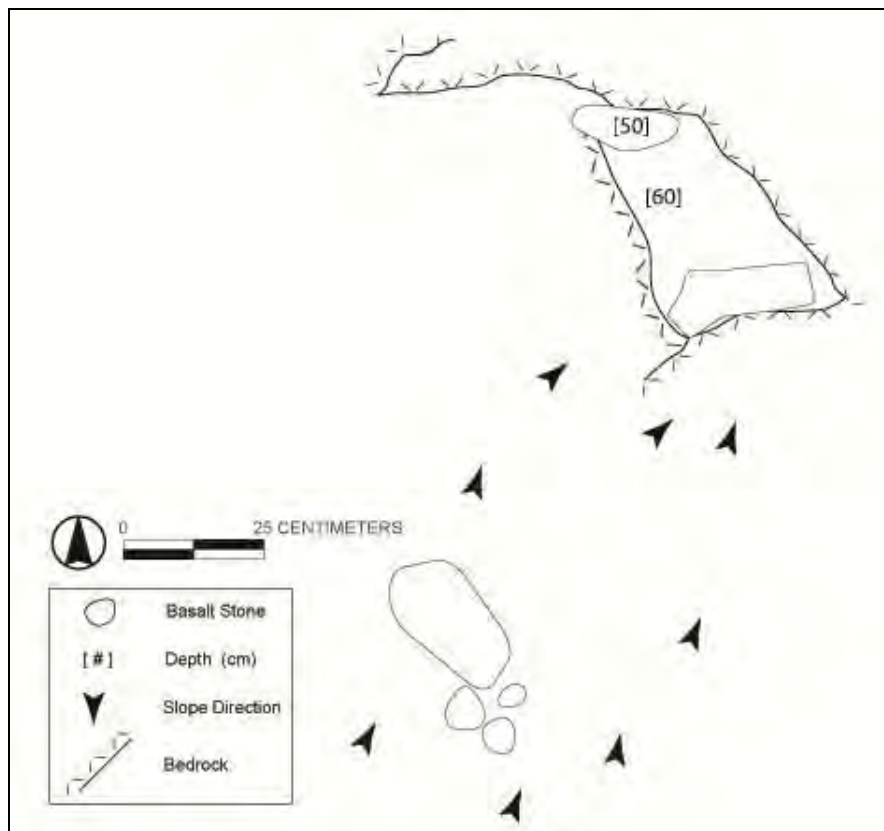


Figure 82. Plan view map of SIHP # -28800; 100% areal excavation recommended

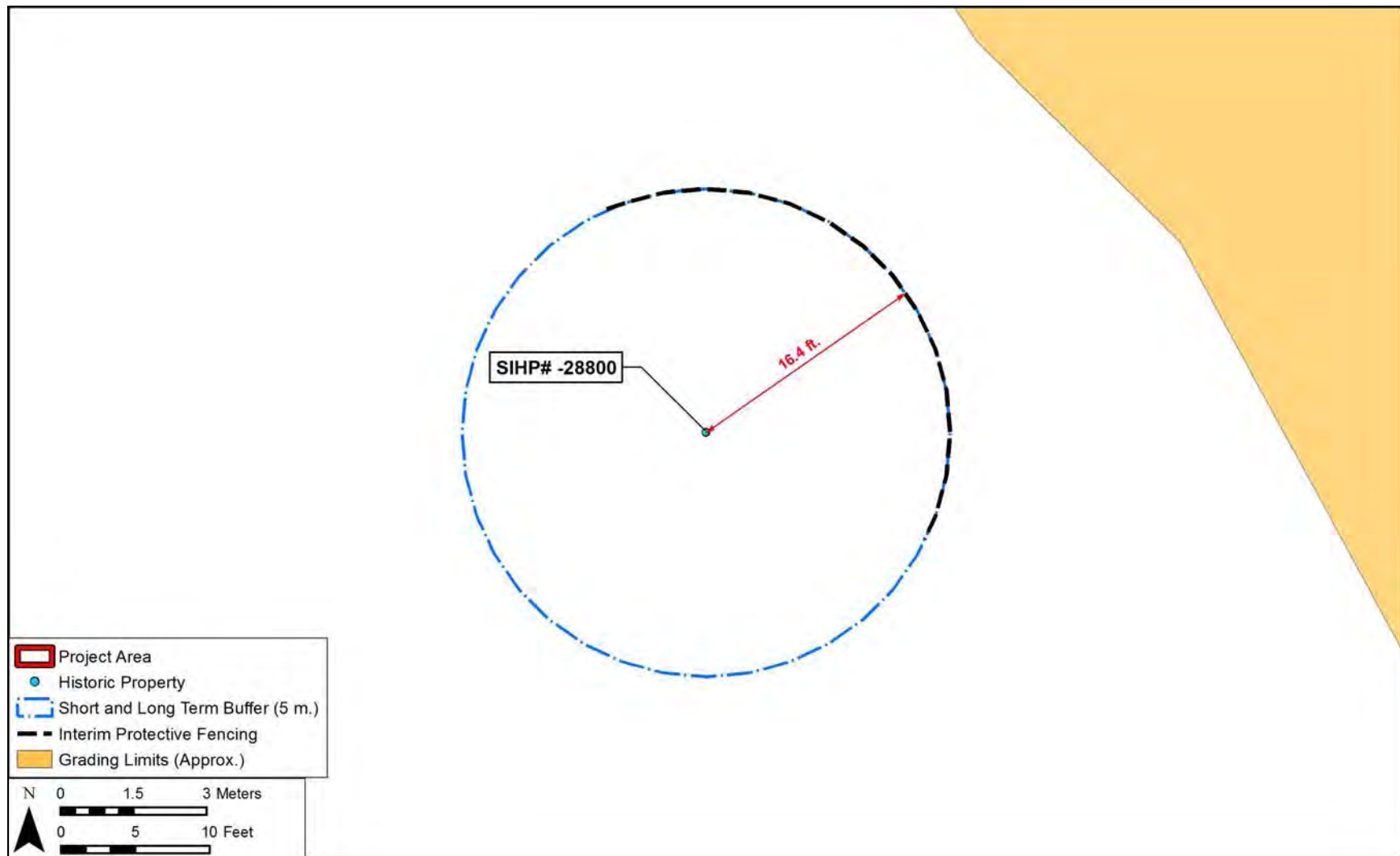


Figure 83. Preservation buffers for SIHP # -28800

3.1.16 SIHP # 50-10-27-28811 *Pāhoehoe* Excavation

SIHP # -28811 is a *pāhoehoe* excavation measuring 3.0 m by 4.0 m.

Temp. Site No.: T-092110-10 (Monahan et al. 2012)

Site Type: *Pāhoehoe* excavation

No. of Features: 1

Functional Interpretation: Quarrying

Probable Age: Prehistoric (pre-Contact)

Overall Dimensions: 3.0 m N/S by 4.2 m E/W

Topography: Level *pāhoehoe* flow

Elevation: 114 ft (35 m) AMSL

Description:

SIHP # 50-10-27-28811 is a *pāhoehoe* excavation approximately 715 m south of the intersection of OTEC Road and the Queen Ka'ahumanu Highway (Figure 84 and Figure 85). It consists of an area where an overlying, uplifted sheet of *pāhoehoe* has been quarried and removed, exposing a lower *pāhoehoe* surface. Quarry marks and scalloping were observed along the edges of the excavation. Most of the excavated material (medium boulder-sized *pāhoehoe* slabs) has been overturned and placed along the northern side of the excavation. The interior surface of the excavation consists of scattered *pāhoehoe* pebbles on solid *pāhoehoe* bedrock. The excavated area lacks substantial soil deposition. The *pāhoehoe* excavation measures 3.0 m north/south by 4.2 m east/west with a maximum depth of 0.6 m below the adjacent ground surface. No artifacts or midden were observed in the area.

SIHP # -28811 is interpreted as a possible raw material quarrying locality likely dating from prehistoric (pre-Contact) times. The *pāhoehoe* excavation lacks substantial sediment accumulation that would indicate potential agricultural use.

Mitigation Measures

A 100% areal excavation was recommended. Two archaeologist days were estimated for the fieldwork.

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, this site is recommended for interim preservation with protection behind a continuous barrier on the highway (east) side during highway widening work with a commitment to the previously agreed to mitigation (excavation) prior to any future land disturbance in the immediate vicinity. Interim preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides of the site except for the *mauka* side where it will be 2.2 m. Proposed preservation buffers for SIHP # -28811 are depicted in Figure 86. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction which would be fortified with a portable construction barrier for added protection). See Section 5 for preservation measures.



Figure 84. Photograph of SIHP # -28811, view to west

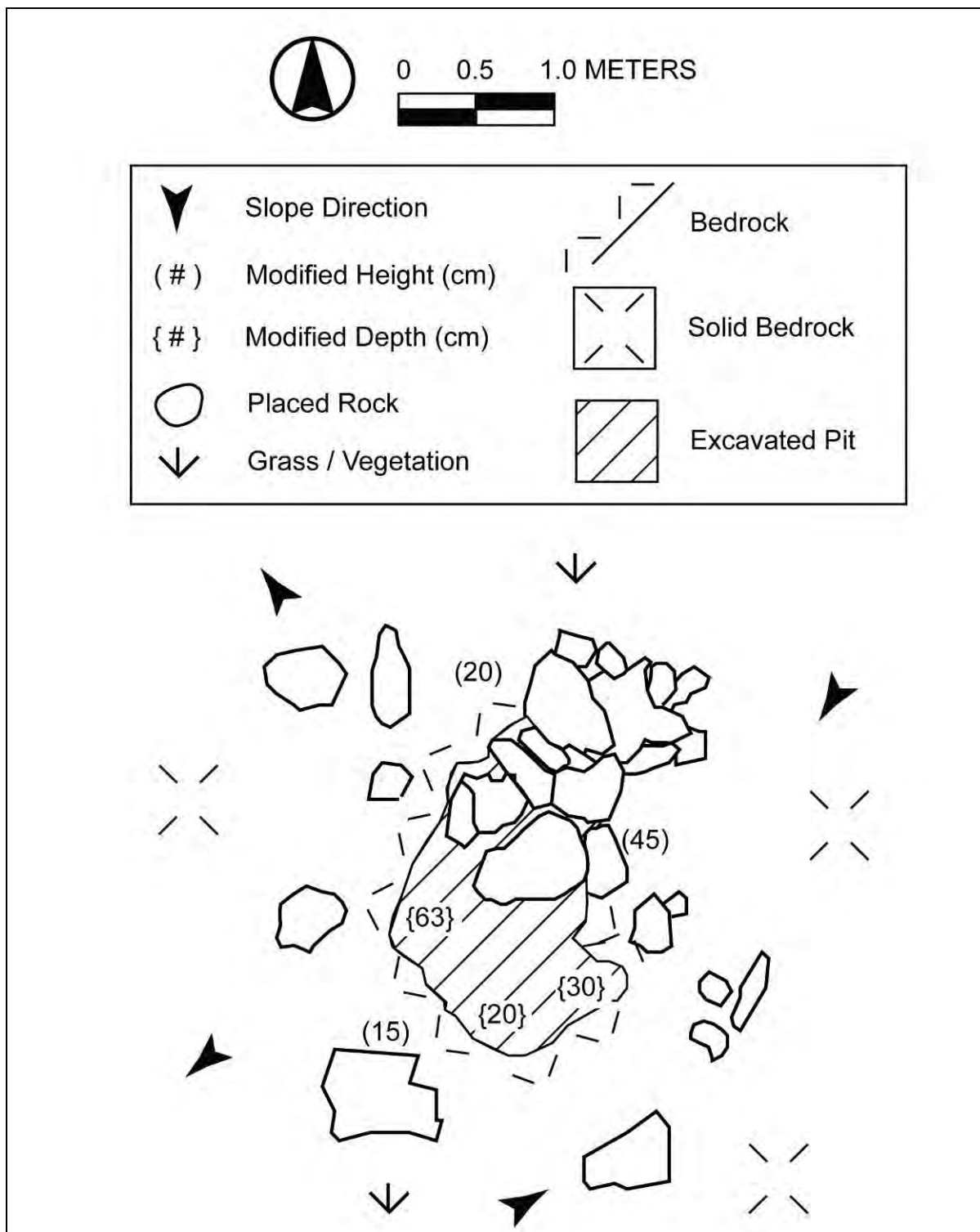


Figure 85. Plan view of SIHP # -28811; 100% areal excavation recommended

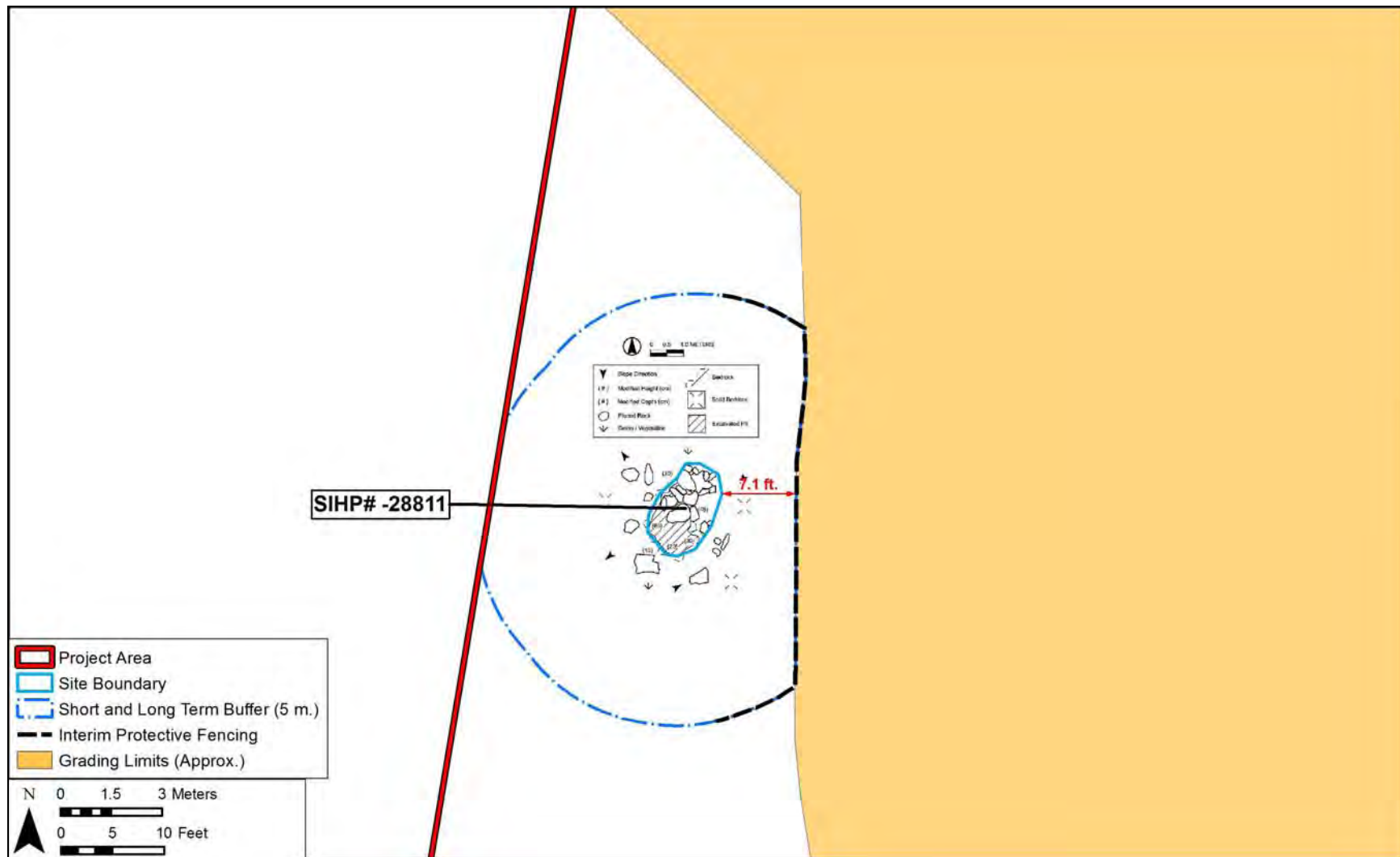


Figure 86. Preservation buffers for SIHP # -28811

3.1.17 SIHP # 50-10-27-29272 Level Area in 'A'ā with Trail (*mauka/makai*)

This site is recommended for data recovery (archival research) and preservation (Feature B, trail portion) and data recovery (excavation) (Feature A, level area).

SIHP # 50-10-27-29272 appears to be a constructed ramp to allow for travel across uneven terrain with a primary function of transportation. It may also have been used as a small resting place. Three 1-sq-m test units were excavated here during the archaeological inventory survey. Two additional 1-sq-m test units are recommended for the data recovery work. Two archaeologist days are estimated to complete the fieldwork.

Temp. Site Designation: Coral frags (Harp 2011)

Site Type: Level area (Feature A) with *mauka/makai* trail (Feature B)

No. of Features: 2

Functional Interpretation: Possible resting place (Feature A)/transportation (Feature B)

Probable Age: Indeterminate

Overall Dimensions: 6.5 m E/W by 5.5 m N/S (level area)

Topography: Undulating *pāhoehoe* terrain sloping gently *makai*

Elevation: 114 ft (36 m) AMSL

Description:

SIHP # 50-10-27-29272 is a level area (Feature A) of rounded but “fresh” looking basalt cobbles and small boulders with some rounded coral pieces (mostly less than 5 cm) in a low area at the edge of a *pāhoehoe* outcrop (Figure 87 through Figure 93). Pieces of cowrie and ‘*opihi*’ shell are on the surface of the level area. Some 1970s-era bottles and beverage cans and other trash are scattered around the site area, as well as a single, rusted horseshoe. The western side of the feature has a clear but informal edge about 30 cm high. Grasses surround the site. This site was pointed out to CSH by Isaac Harp, and was inspected and assessed as part of the supplemental survey of the north segment of the current project area (Monahan and Wilkinson 2012).

While working with CSH archaeologists, Isaac Harp identified a relatively faint trail oriented *mauka* to *makai* leading into the site area from the west. CSH archaeologists were skeptical about this trail, which they considered to be relatively difficult to observe in the field; nonetheless, GPS coordinates for the trail were obtained in order to map its location. It is important to note that, subsequent to CSH’s fieldwork with Isaac Harp, the SHPD informed CSH that a more formal section of this trail had been identified by another firm (Dr. Robert Rechtman) in an adjacent project area to the west. The site number obtained by Rechtman for this trail has been used for the current project area, but the report is still in draft form and is not available for citation at this time.

In order to explore the possible function and age of the site more fully, two test units were excavated within the main level area (Feature A). Test Unit 1 (TU-1) was relatively shallow and was sterile. Test Unit 2 (TU-2) contained a small amount of midden. A third excavation, Test Unit 3 (TU-3), was placed in a nearby area of the site thought to be possibly a “filled in” area by Isaac Harp. This test unit was sterile.

This site appears to be a constructed ramp to allow for travel across uneven terrain with a primary function of transportation. It may also have been used as a small resting place (the level area designated Feature A) associated with a *mauka/makai* trail (Feature B). The age of the site is currently indeterminate.

Mitigation Measures

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, some ten trails that were going to be impacted (including SIHP # -29272) now will not be impacted. The mitigation for these trails will be the same data recovery “Archival Research & Preservation” inasmuch as the archival research will be done for all trails anyway. There will be a buffer zone of 5 m on all sides of the site except for the *mauka* side where the buffer zone will be 0.6 m. Proposed preservation buffers for SIHP # -29272 (Feature B only, which is the trail portion of the site) are presented in Figure 94. Interim preservation will be through avoidance and protection (conservation). The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction which would be fortified with a portable construction barrier for added protection). See Section 5 for preservation measures.

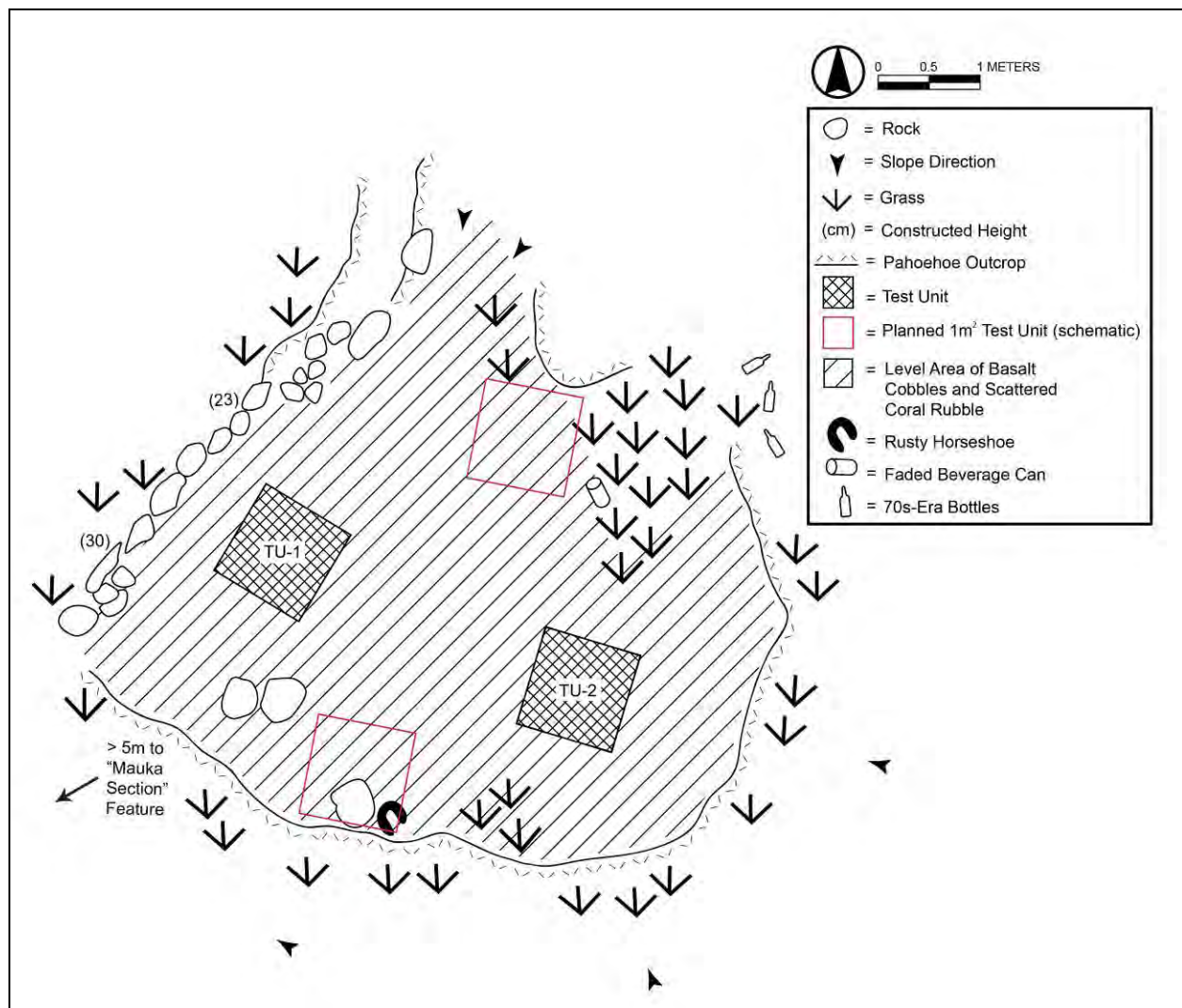


Figure 87. Plan view sketch map of SIHP # -29272 Feature A (two additional 1-sq-m test units are recommended for the data recovery work)



Figure 88. Level area of cobbles with coral (SIHP # - 29272 Feature A), view to northwest



Figure 89. Section of trail (SIHP # -29272 Feature B) identified by Isaac Harp leading to Feature A, view to west



Figure 90. Post-excavation of TU-1 at SIHP # -29272 Feature A, view to east



Figure 91. Post-excavation of TU-2 at SIHP # -29272 Feature A, view to southeast

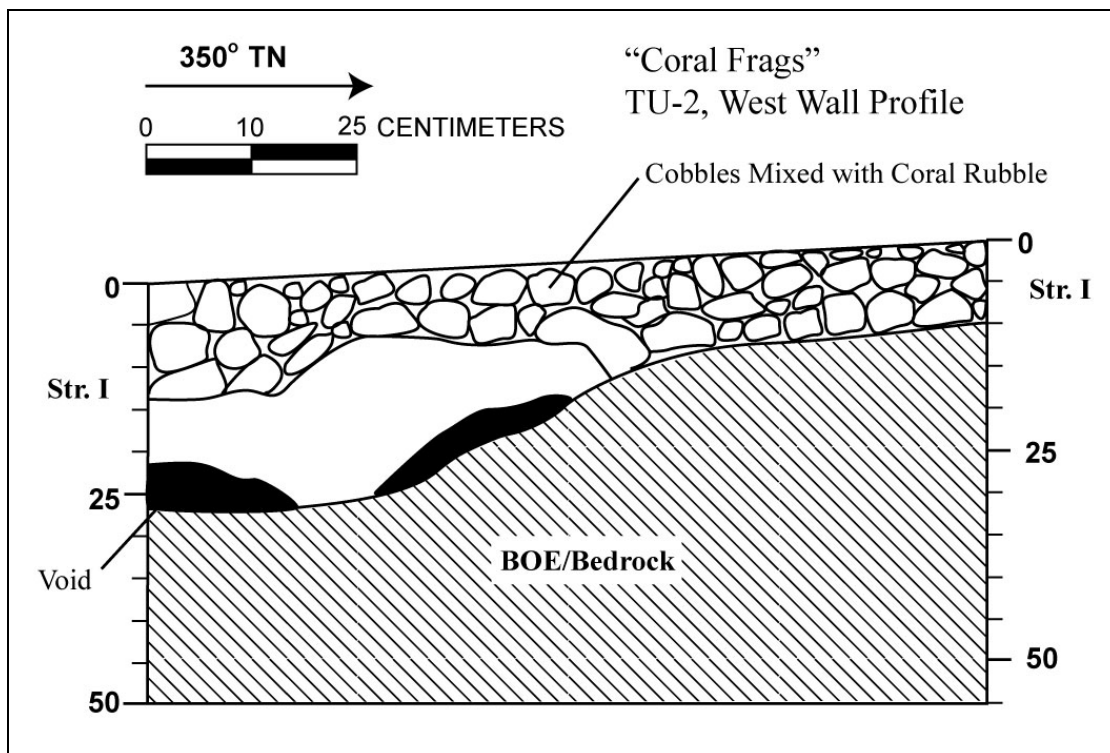


Figure 92. Stratigraphic profile of TU-2 (SIHP # -29272 Feature A)



Figure 93. Post-excavation of TU-3, view to east

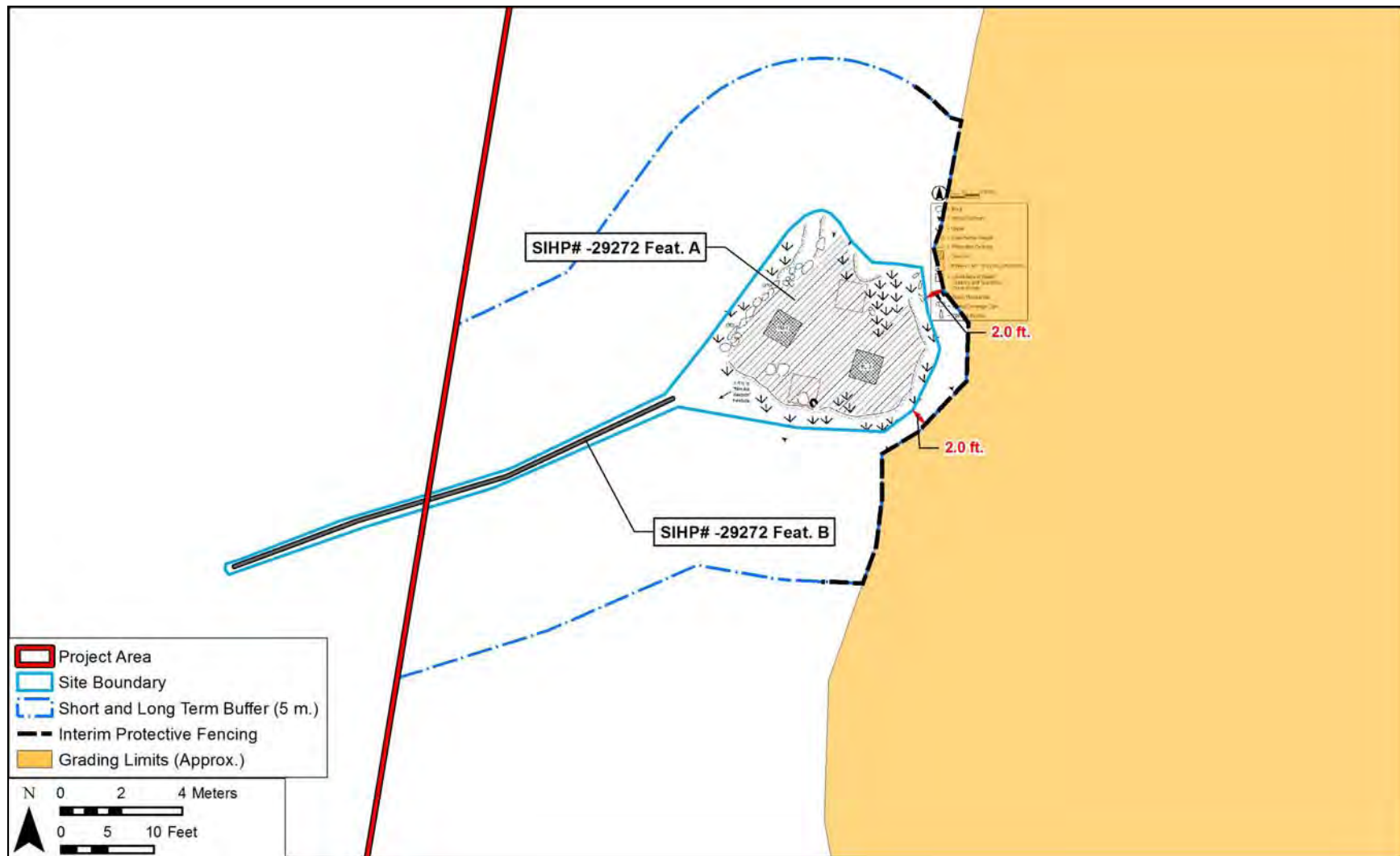


Figure 94. Preservation buffers for SIHP # -29272 (Feature B only, which is the trail portion of the site)

3.1.18 SIHP # 50-10-27-29333 Rock Stacking

SIHP # -29333 is a very small pile of *pāhoehoe* slabs.

Temp. Site No.: NPS 3 (Monahan et al. 2012)

Site Type: Rock stacking (possible *ahu*)

No. of Features: 1

Functional Interpretation: Indeterminate

Probable Age: Indeterminate

Overall Dimensions: Approximately 1.35 m E/W by 1.2 m N/S

Topography: Mix of *pāhoehoe* and 'a'ā flow

Elevation: 84 ft (26 m) AMSL

Description:

SIHP # 50-10-27-29333 is a very small pile of loosely stacked *pāhoehoe* slabs on a large 'a'ā boulder (Figure 95 and Figure 96). The site is within a slight depression on a *pāhoehoe* and 'a'ā outcrop near the existing highway. This site was pointed out to CSH by NPS archaeologist Tyler Paikuli-Campbell on 1 May 2012.

A small, culturally sterile blister is approximately 1.0 m northwest of this possible *ahu*. The blister is within a moderately sized *pāhoehoe* outcrop. The area surrounding the site is completely devoid of vegetation. The stacked-rock feature measures 1.35 m long east/west by 1.2 m wide north/south with a maximum height on its west side of 70 cm above ground surface. The stacked *pāhoehoe* slabs constitute the upper 25 to 30 cm of the feature's total height. No artifacts or cultural materials, other than the stacked rocks, were observed at the site. The site is in excellent physical condition.

The age of this site is difficult to interpret; the constituent material shows no signs of bulldozer scarring or damage. It is possible this site dates to prehistoric (pre-Contact) times, but, again, it is difficult to make this interpretation given the available evidence. It seems reasonable that the function of this site is a marker of some type, but it is difficult to conclusively make this interpretation.

Mitigation Measures

A 100% areal excavation was recommended. A total of one archaeologist day was estimated for this fieldwork.

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, this site is recommended for interim preservation with protection behind a continuous barrier on the highway (east) side during highway widening work with a commitment to the previously agreed to mitigation (excavation) prior to any future land disturbance in the immediate vicinity. Interim preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides except that nearest the Queen Ka'ahumanu Highway where the buffer zone will be 1.4 m. Proposed preservation buffers for SIHP # -29333 are depicted in Figure 97. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction which would be fortified with a portable construction barrier for added protection). See Section 5 for preservation measures.



Figure 95. Photograph of SIHP # -29333, view to east

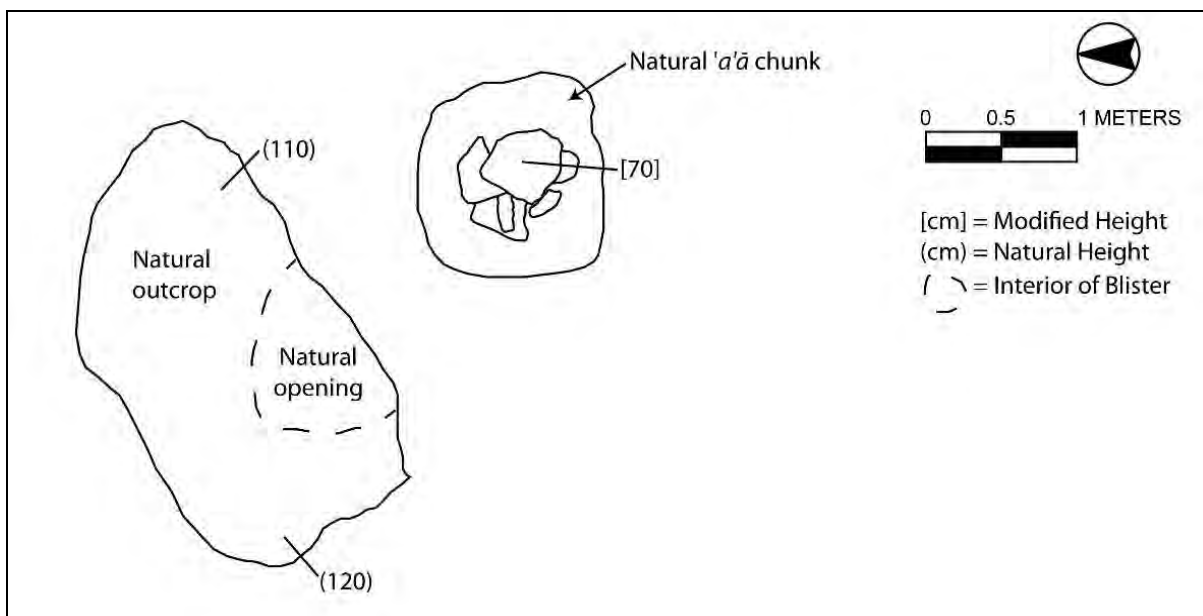
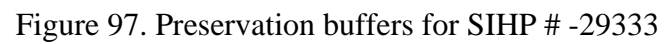


Figure 96. Plan view map of SIHP # -29333; 100% areal excavation recommended.



3.1.19 SIHP # 50-10-27-29334 Rock Mound

SIHP # -29334 is a mound of *pāhoehoe* cobble- and boulder-sized clasts within a naturally formed *pāhoehoe* depression of approximately 12.0 m by 8.0 m. The small *koa haole* trees within the depression will present a challenge for data recovery.

Temp. Site Designation: Depression 0 (Monahan and Yucha 2012)

Site Type: Rock mound within a naturally formed *pāhoehoe* depression

No. of Features: 1

Functional Interpretation: Indeterminate, possible burial

Probable Age: Indeterminate

Overall Dimensions: 12.0 m E/W by 8.0 m N/S

Topography: Undulating terrain of *pāhoehoe* adjacent to 'a'ā

Elevation: 43 ft (13 m) AMSL

Description:

SIHP # 50-10-27-29334 is a loosely piled mound of *pāhoehoe* cobble- and boulder-sized clasts within a naturally formed depression of *pāhoehoe*. This site was pointed out to CSH by NPS archaeologists in the supplemental survey of the south segment (Monahan and Yucha 2012). Vegetation in the immediate area consists of introduced grasses and *haole koa* (*Leucaena glauca*). Many of the piled rocks have a distinctive reddish color.

The naturally formed *pāhoehoe* depression measures approximately 12.0 m long by 8.0 m wide by 1.2 m maximum depth (Figure 98 through Figure 100). The mound of reddish *pāhoehoe* rocks measures approximately 2.0 m long east/west by 0.60 m wide north/south by 0.15-0.35 m high. The mound has a roughly linear shape oriented east-to-west. There is very little soil/sedimentary deposition at or adjacent to the mound. No portable cultural materials, other than the piled rocks, were observed by CSH archaeologists.

The site appears to be older than 50 years of age, but it is difficult to date it more precisely or interpret its function. In a letter dated 25 April 2012, in reference to the recent supplemental archaeological survey work in the south segment of the current project area (cf. Monahan and Yucha 2012), NPS archaeologists hypothesized that this site may represent a burial. During the current project, CSH tested five features and found only one of them, a formally constructed boulder platform (SIHP # -22415), to contain human skeletal remains. The remaining four are informally constructed features (SIHP #s -28781, -28794, -28803, and -28804) that did not contain human skeletal remains. Therefore, CSH believes it is unlikely this site represents a burial. However, in consultation with the SHPD and NPS this site is now regarded as a possible burial site. Based on the NPS review letter dated 25 April 2012, CSH conducted additional fieldwork on 1 May 2012, to further document this site. The latest fieldwork, however, did not include excavation or dismantling of the site.

Interim Preservation Measures

Excavation of three 1 m by 2 m test excavations (total of 6 sq m) focused in the northwestern mound area and the central and eastern areas of scattered cobbles and boulders was recommended. A total of six archaeologist days was estimated for the fieldwork. In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*.



Figure 98. Overview of SIHP # -29334, loosely piled rock mound on a naturally formed *pāhoehoe* depression, view to south



Figure 99. Photograph of SIHP # -29334, mound of loosely piled reddish *pāhoehoe* rocks, view to south

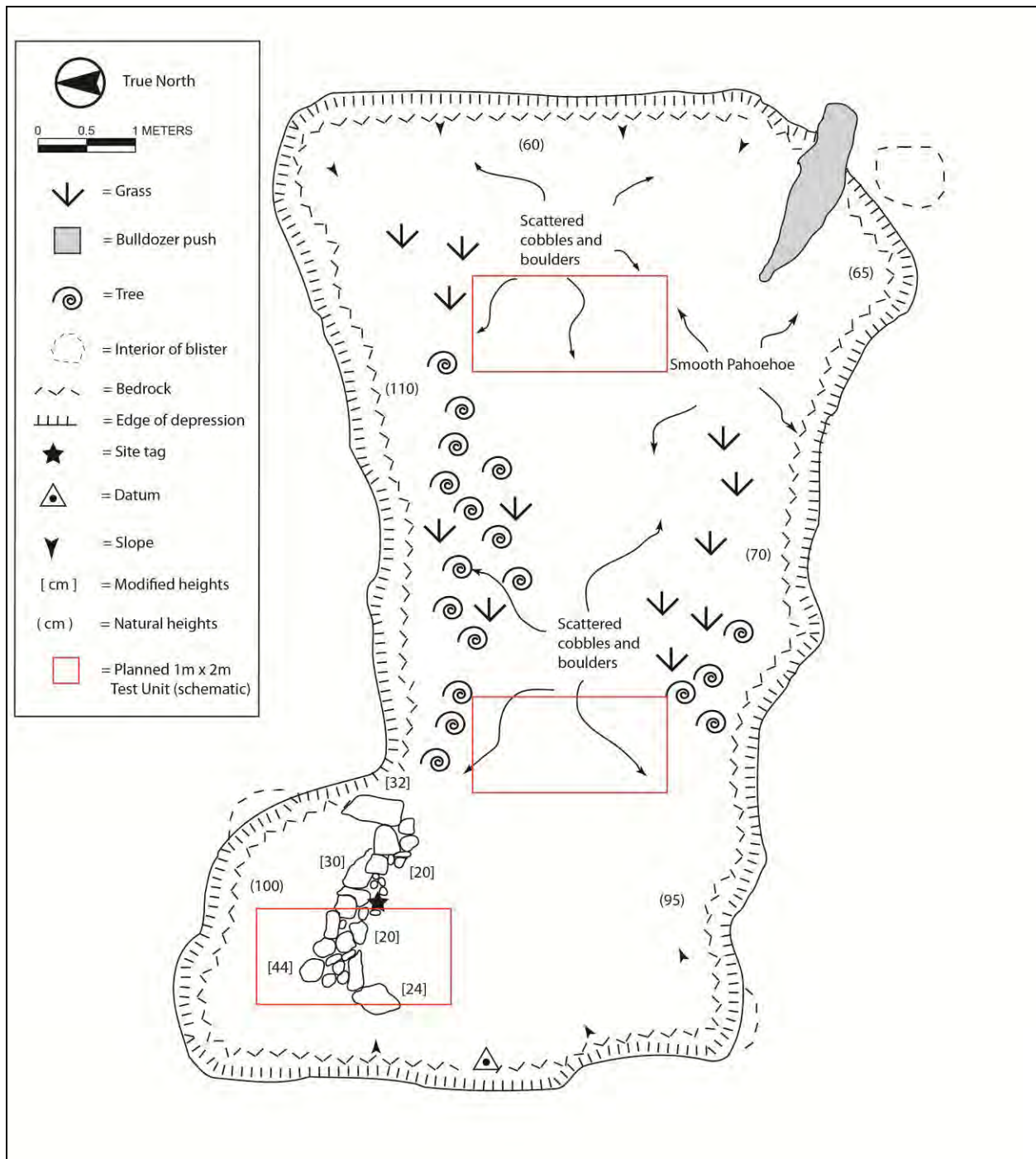


Figure 100. Plan view map of SIHP # -29334; excavation of three 1 m by 2 m test excavations (total of 6 sq m) recommended

As a result, this site is recommended for interim preservation with protection behind a continuous barrier on the highway (east) side during highway widening work with a commitment to the previously agreed to mitigation (excavation) prior to any future land disturbance in the immediate vicinity. Interim preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides of the site. Proposed preservation buffers for SIHP # -29334 are depicted in Figure 101. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). See Section 5 for preservation measures.

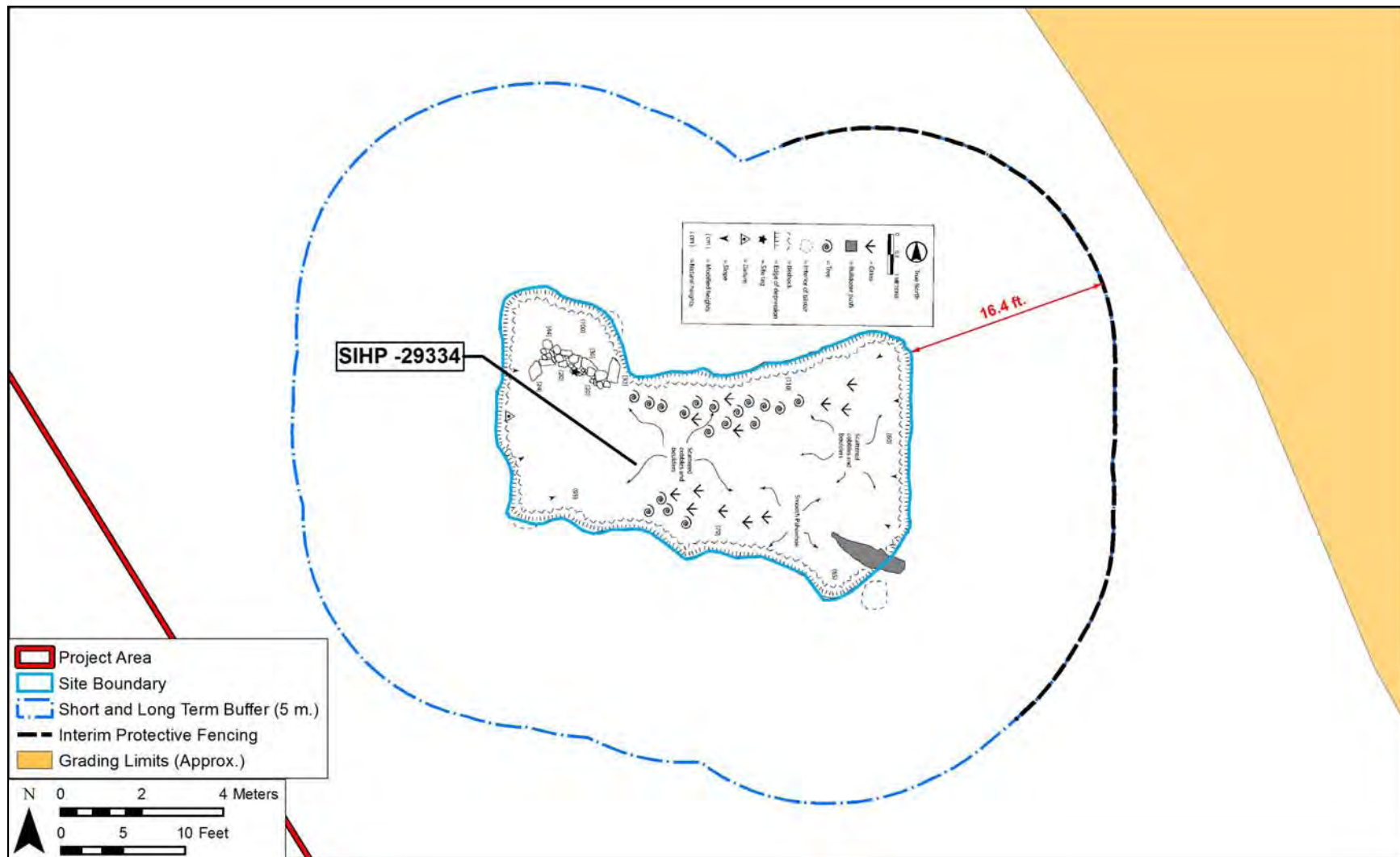


Figure 101. Preservation buffers for SIHP # -29334

3.1.20 SIHP # 50-10-27-29336 Rock Terrace

SIHP # -29336 is a rock terrace measuring approximately 2.0 m long by 1.0 m wide.

Temp. Site No.: Terrace 0 (Monahan and Yucha 2012)

Site Type: Rock terrace

No. of Features: 1

Functional Interpretation: Indeterminate, possible burial

Probable Age: Indeterminate

Overall Dimensions: 2.0 m long E/W by 1.0 m wide N/S

Topography: Southern slope of an 'a'ā ridge

Elevation: 41 ft (12 m) AMSL

Description:

SIHP # 50-10-27-29336 is located approximately 15 m northeast of the burial site designated SIHP # -22415, south of the entrance to the visitor center at the national historical park. It is on the southern face of an 'a'ā ridge sloping up to the north. The 'a'ā hill slope is mostly devoid of vegetation, and is completely bare at the location of this site. This site was pointed out to CSH by NPS archaeologists in the supplemental survey of the south segment (Monahan and Yucha 2012).

The terrace is constructed of dry-stacked 'a'ā boulders and cobbles two courses high forming low retaining features on the south and west sides (Figure 102 through Figure 104). These two cobble and boulder stackings create a small, nearly level area on the upslope (north) side filled in with pebble- and cobbled-sized 'a'ā clasts. The surface of the nearly level area slopes slightly down to the south. The site measures approximately 2.0 m long east/west by 1.0 m wide north/south by 0.40 m high (i.e., maximum height of the stacked cobbles and boulders).

There is no soil/sedimentary deposition at or adjacent to the rock terrace. No portable cultural materials, other than the stacked and filled-in rocks, were observed by CSH archaeologists.

Other than the fact that it appears to be older than 50 years of age, the function and age of this site was regarded by CSH as indeterminate. However, in consultation with the NPS and the SHPD, it is agreed the site may be a possible burial site. CSH has recommended data recovery including excavation for this site.

Mitigation Measures

A 100% areal excavation was recommended. Two archaeologist days were estimated for this fieldwork.

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, this site is recommended for interim preservation with protection behind a continuous barrier on the highway (east) side during highway widening work with a commitment to the previously agreed to mitigation (excavation) prior to any future land disturbance in the immediate vicinity. Interim preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides of the site. Proposed preservation buffers for SIHP # -29336 are depicted in Figure 105. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). See Section 5 for preservation measures.



Figure 102. Photograph showing the location of SIHP # -29336, view to east



Figure 103. Detail of SIHP # -29336, showing formal western side of stacked-rock facing under the tape measure and filled, nearly level area behind it, view to east

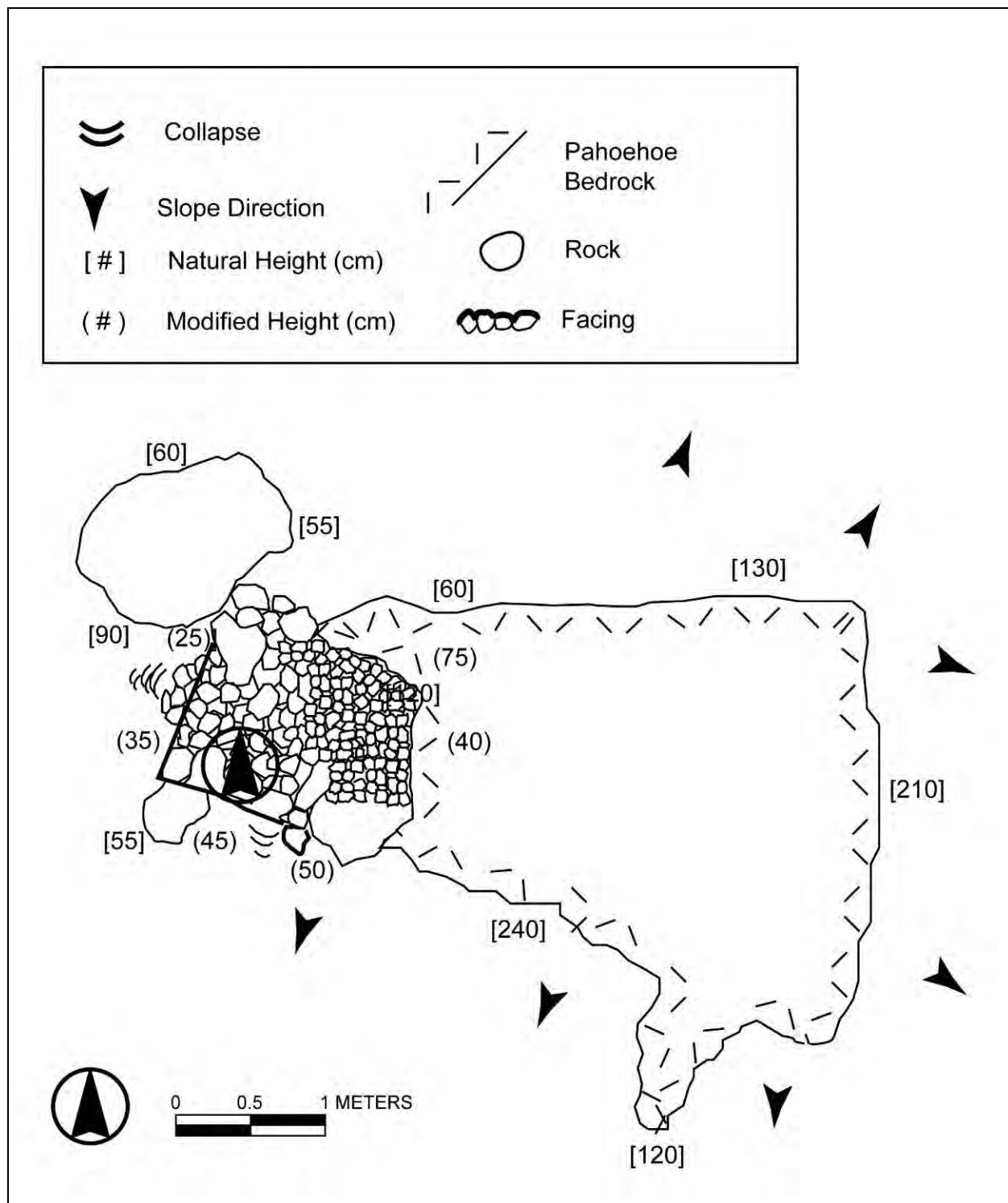


Figure 104. Plan view map of SIHP # -29336; 100% areal excavation recommended

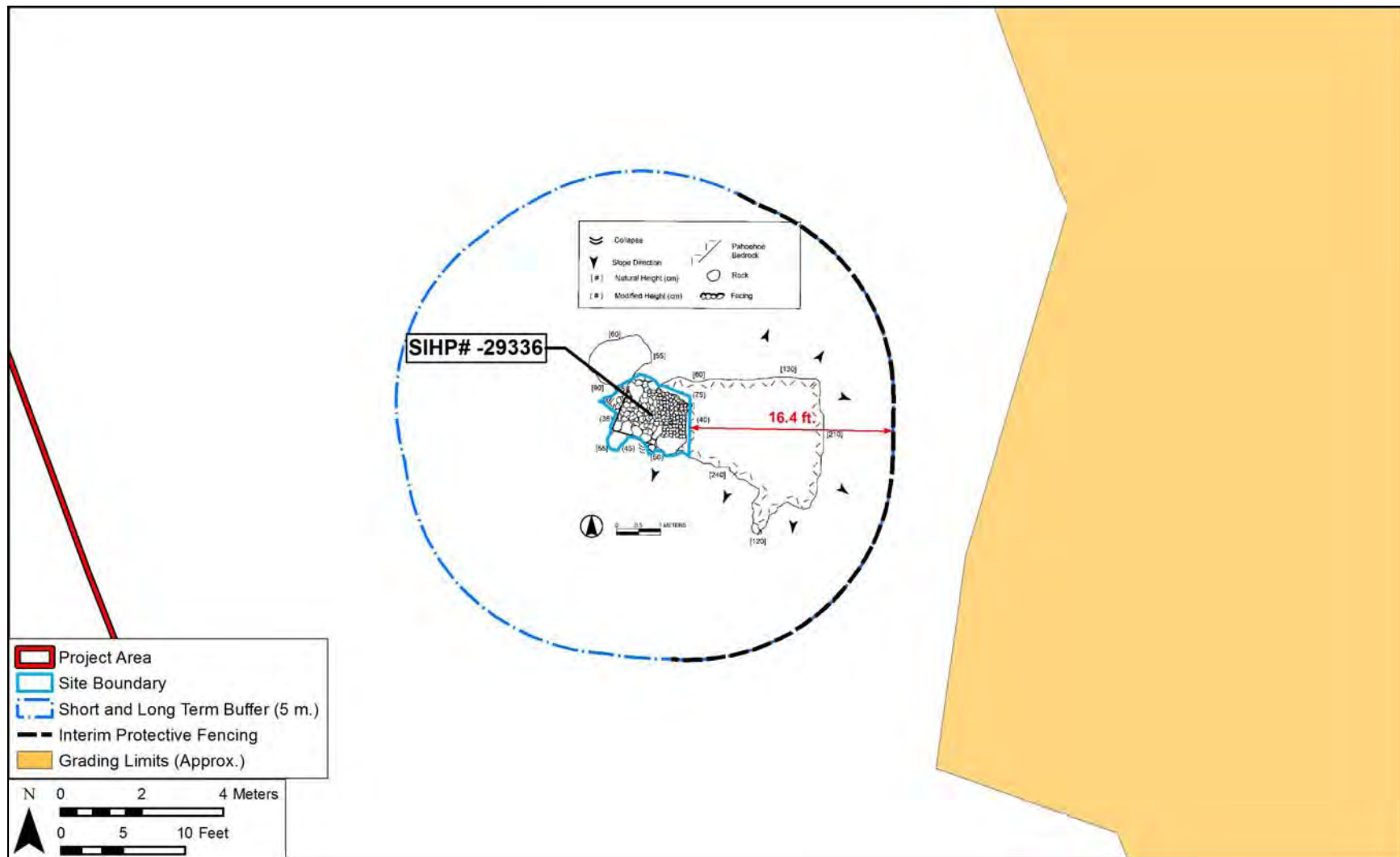


Figure 105. Preservation buffers for SIHP #-29336

3.1.21 SIHP # 50-10-27-29339 Rock Wall Segment

SIHP # -29339 is a rock wall segment measuring approximately 1.10 m long by 0.45 m wide.

Temp. Site Designation: Wall 1 (Monahan and Yucha 2012)

Site Type: Rock wall segment

No. of Features: 1

Functional Interpretation: Indeterminate

Probable Age: Indeterminate

Overall Dimensions: 1.10 m long (NE/SW) by 0.45 m wide

Topography: 'A 'ā flow

Elevation: 53 ft (17 m) AMSL

Description:

SIHP # 50-10-27-29339 is a very short segment of dry-stacked rock wall on an 'a 'ā flow. The wall is oriented in a roughly northeast-to-southwest direction up against a very large 'a 'ā boulder. This is part of a cluster of sites pointed out to CSH by NPS archaeologists in the supplemental survey of the south segment (Monahan and Yucha 2012), along with SIHP #s -29338, -29340, and -29341.

There is no vegetation or soil/sedimentary matrix in or immediately adjacent to the wall segment. No portable cultural materials, other than the placed rocks, were observed by CSH archaeologists.

The very short wall segment is constructed of loosely piled 'a 'ā cobbles and small boulders stacked up to two courses high. The wall measures approximately 1.10 m long (northeast/southwest) by 0.45 m wide by 0.65 m high (maximum) (Figure 106 through Figure 108).

Consultation with the SHPD led to reconsideration of possible interpretations of form and function of this site.

Other than the fact that it appears to be older than 50 years of age, the function and age of this site is indeterminate. It is not clear what such a short section of low wall at this location may be marking.

Mitigation Measures

This historic property will be subject to interim preservation with a commitment to data recovery as per the SHPD review of 28 October 2013. Interim preservation will be through avoidance and protection (conservation). Proposed preservation buffers for SIHP # -29339 are 5 m and are depicted in Figure 109. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). See Section 5 for preservation measures.



Figure 106. Photograph of SIHP # -29339, very short segment of 'a'ā wall, view to south



Figure 107. SIHP # -29339, very short segment of 'a'ā wall, view to south

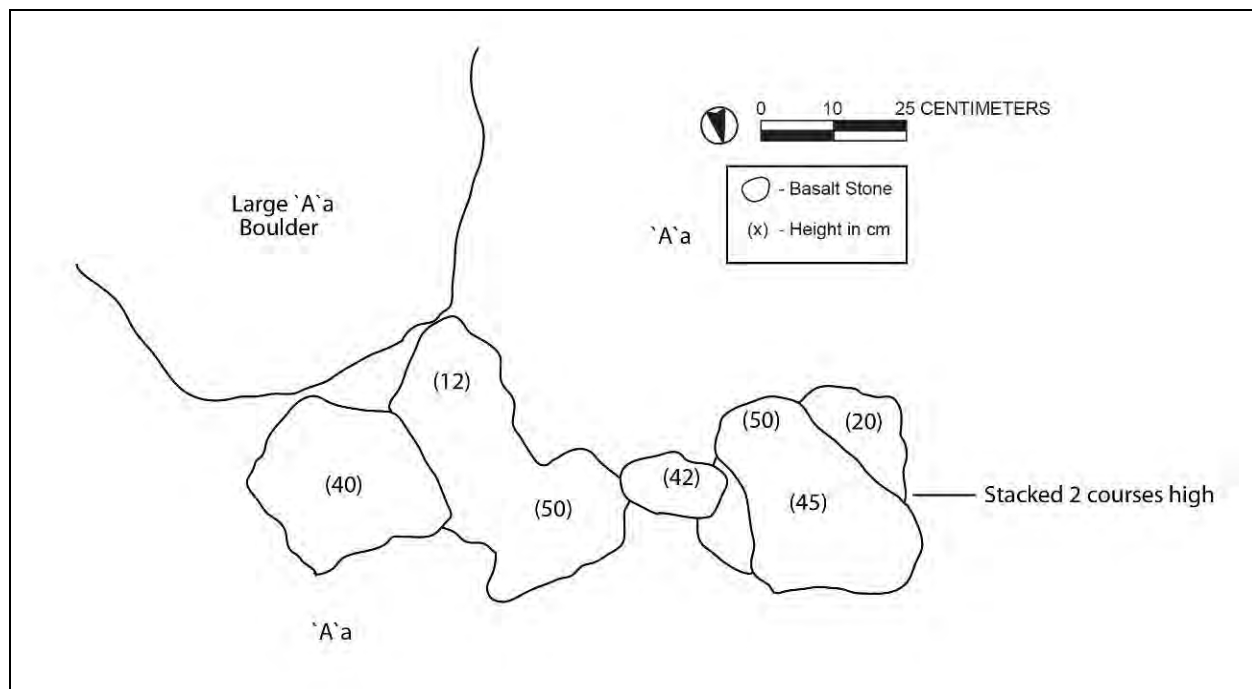


Figure 108. Plan view map of SIHP # -29339; 100% areal excavation recommended

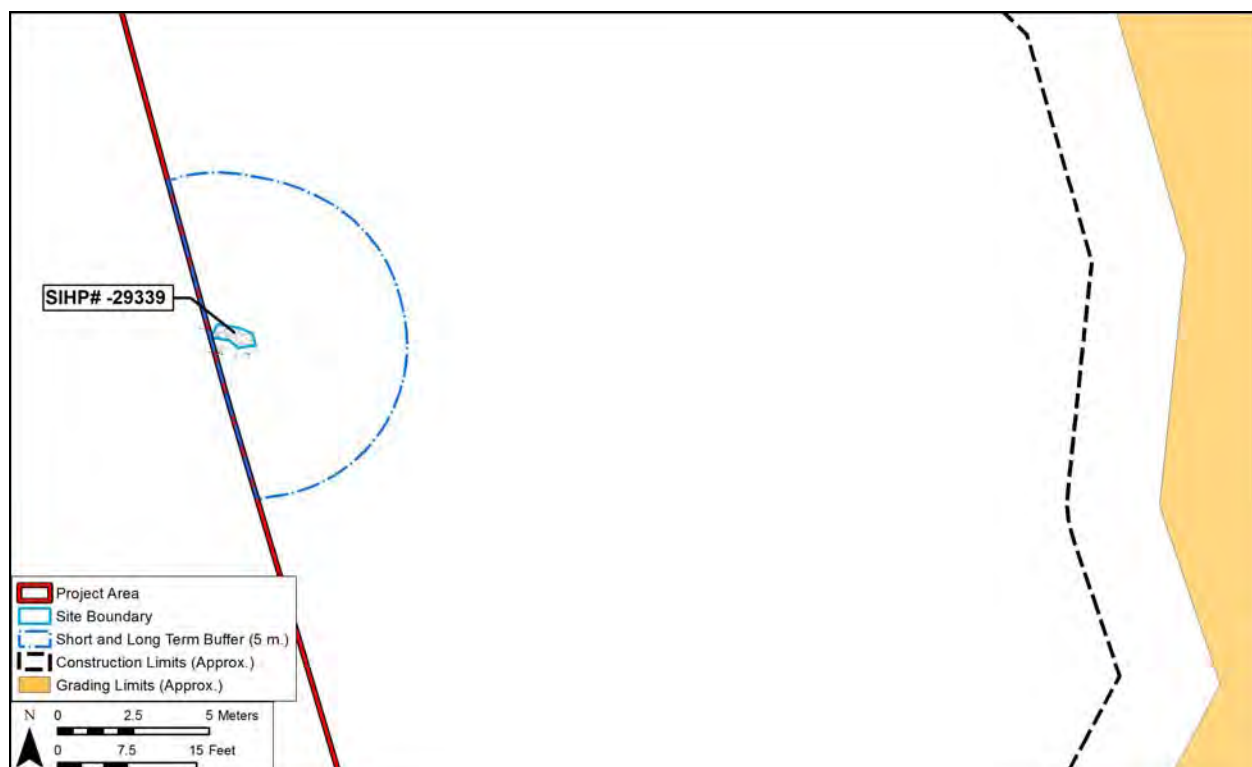


Figure 109. Preservation buffers (5 m in radius) for SIHP # -29339

3.1.22 SIHP # 50-10-27-29340 Rock Mound

SIHP # -29340 is a mound of 'a'ā cobbles approximately 3.0 m by 3.0 m.

Temp. Site Designation: Mound 0 (Monahan and Yucha 2012)

Site Type: Rock mound

No. of Features: 1

Functional Interpretation: Indeterminate, possible burial

Probable Age: Indeterminate

Overall Dimensions: 3.0 m by 3.0 m

Topography: 'A'ā flow

Elevation: 53 ft (16 m) AMSL

Description:

SIHP # 50-10-27-29340 is located north of the entrance to the visitor center at the national historical park. This is part of a cluster of sites pointed out to CSH by NPS archaeologists in the supplemental survey of the south segment (Monahan and Yucha 2012), along with SIHP #s -29338, -29339, and -29341.

The site is a loosely piled mound of 'a'ā cobbles on 'a'ā bedrock. The mound measures approximately 3.0 m long by 3.0 m wide by 1.1 m high. It has a roughly circular shape (Figure 110 through Figure 112).

There is no vegetation or soil/sedimentary matrix in or immediately adjacent to these pits. No portable cultural materials, other than the removed rocks, were observed by CSH archaeologists.

The site appears to be older than 50 years of age, but it is difficult to date it more precisely or interpret its function. In a letter dated 25 April 2012, in reference to the recent supplemental archaeological survey work in the south segment of the current project area (cf. Monahan and Yucha 2012), during the current project CSH tested five features and found only one of them, a formally constructed boulder platform (SIHP # -22415), to contain human skeletal remains. The remaining four are informally constructed features (SIHP #s -28781, -28794, -28803, and -28804) that did not contain human skeletal remains. Therefore, CSH believes it unlikely this site represents a burial. Based on the NPS review letter dated 25 April 2012, CSH conducted additional fieldwork on 1 May 2012, to further document this site. The latest fieldwork, however, did not include excavation or dismantling of the site. Consultation with Mike Vitousek of the SHPD and NPS archaeologist Tyler Paikuli-Campbell has led to a revised description of this site as a possible burial. This site is *not* located within the project grading limits or construction limits, and it will not be physically impacted by the project.

Mitigation Measures

This historic property will be subject to interim preservation with a commitment to data recovery as per the SHPD directive of 28 October 2013. Interim preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides of the site. Proposed preservation buffers for SIHP # -29340 are depicted in Figure 113. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). See Section 5 for preservation measures.



Figure 110. Photograph of SIHP # -29340, view to southeast



Figure 111. SIHP # -29340, view to southeast

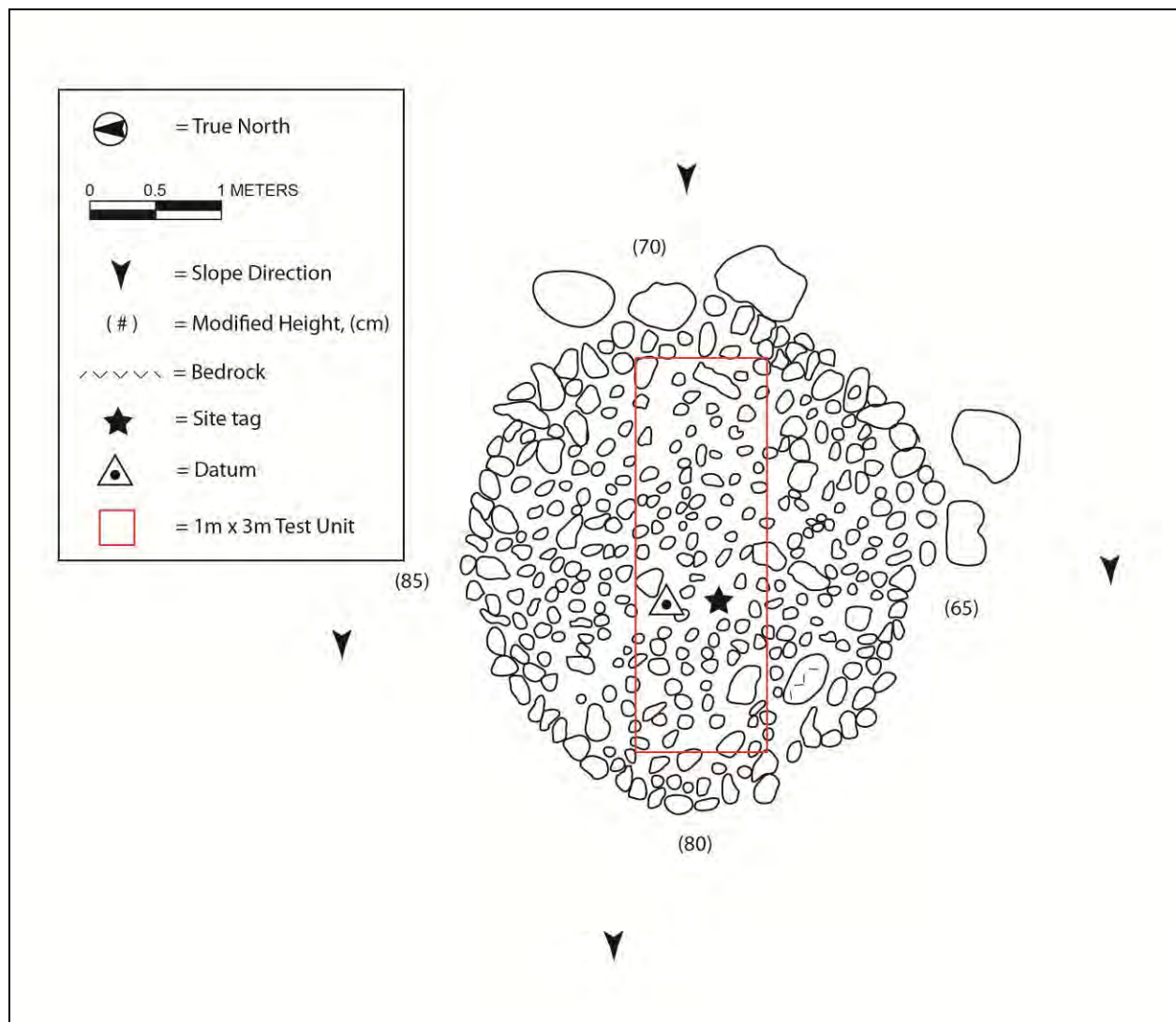


Figure 112. Plan view map of SIHP # -29340; excavation of a trench 1 m wide and 3 m long (3 sq m) down the middle of the site is recommended

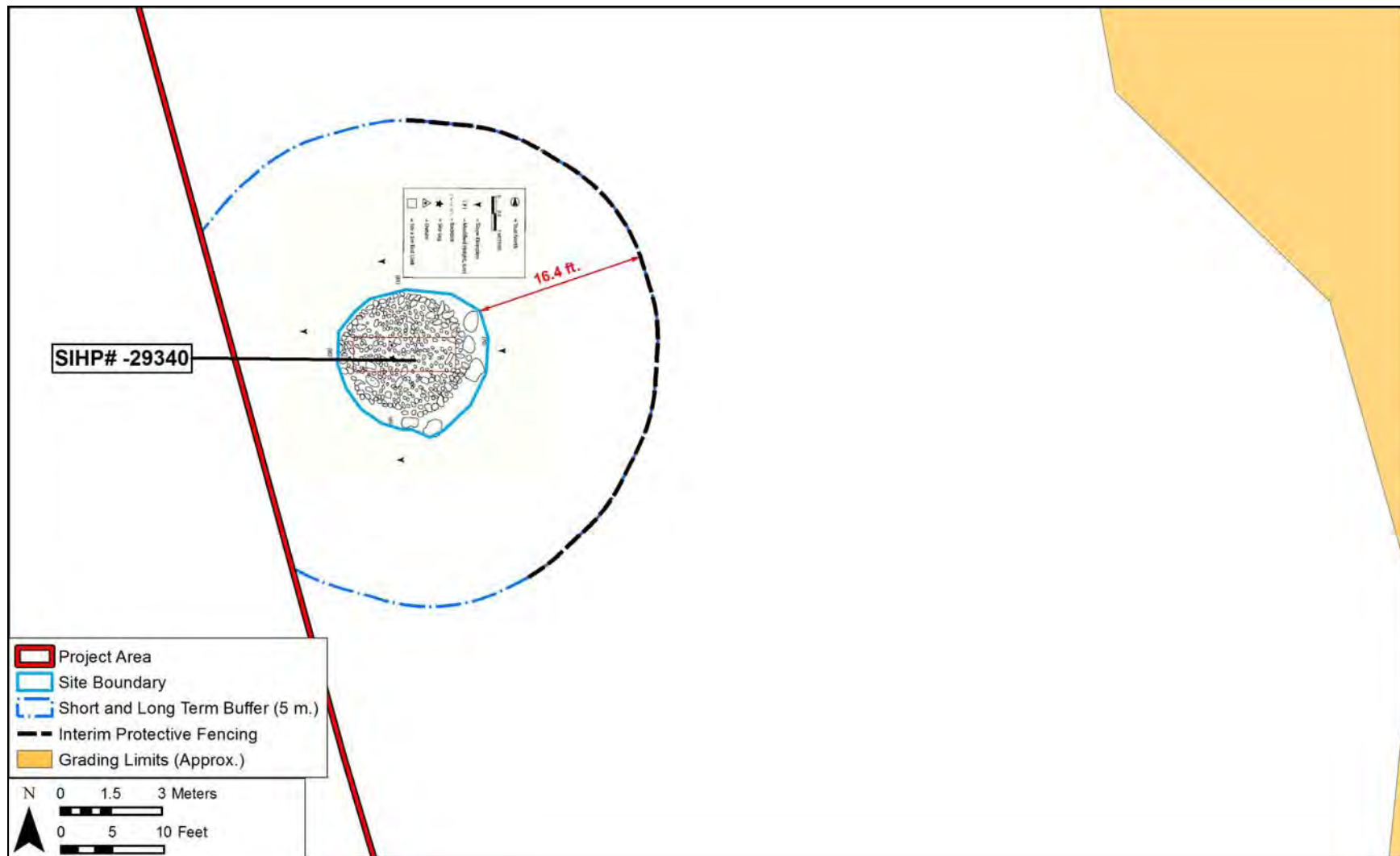


Figure 113. Preservation buffers for SIHP # -29340

3.1.23 SIHP # 50-10-27-29344 Excavated Pit

SIHP # -29344 is an excavated pit measuring approximately 1.0 m by 1.0 m.

Temp. Site No.: Excavation 0 (Monahan and Yucha 2012)

Site Type: Excavated pit

No. of Features: 1

Functional Interpretation: Indeterminate-possible quarry or sweet potato planter or bird pit

Probable Age: Indeterminate-probably prehistoric (pre-Contact)

Overall Dimensions: 1.0 m N/S by 1.0 m E/W

Topography: 'A 'ā flow

Elevation: 75 ft (23 m) AMSL

Description:

SIHP # 50-10-27-29344 is an excavated pit in a *pāhoehoe* lava blister. The excavated pit was created by bashing and removal of sections of *pāhoehoe* creating an opening in the flow (Figure 114 and Figure 115). Two small boulder-sized *pāhoehoe* blocks have been left in the pit floor. Larger sections of fractured *pāhoehoe* are located along the east side of the pit. Low overhangs are present along the west side of the pit. This site was pointed out to CSH by NPS archaeologists during the supplemental survey of the south segment (Monahan and Yucha 2012).

The excavated pit measures approximately 1.0 m north/south by 1.0 m east/west by 0.30 m deep. There is relatively little vegetation or soil/sedimentary matrix in or immediately adjacent to the pit. No portable cultural materials, other than the removed rocks, were observed by CSH archaeologists.

It is difficult to unequivocally date this site, although it seems likely to be of prehistoric (pre-Contact) age. Its function is currently indeterminate. A wide variety of excavated pits in *pāhoehoe* have been documented in similar physiographic settings in the Kona region. The pit may have functioned as a quarry (e.g., a source of rock material) or as a sweet potato planter or as a bird pit. It is possible further work (excavation) at the site may contribute additional information to further clarify its age or function.

Mitigation Measures

A 100% areal excavation was recommended. One archaeologist day was estimated for the fieldwork.

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, this site is recommended for interim preservation with protection behind a continuous barrier on the highway (east) side during highway widening work with a commitment to the previously agreed to mitigation (excavation) prior to any future land disturbance in the immediate vicinity. Interim preservation will be through avoidance and protection (conservation). There will be a buffer zone of 5 m on all sides of the site. Proposed preservation buffers for SIHP # -29344 are depicted in Figure 116. The buffer zone would not be demarcated on the ground (other than the continuous barrier on the highway side during highway construction). See Section 5 for preservation measures.



Figure 114. SIHP # -29344, view to northwest

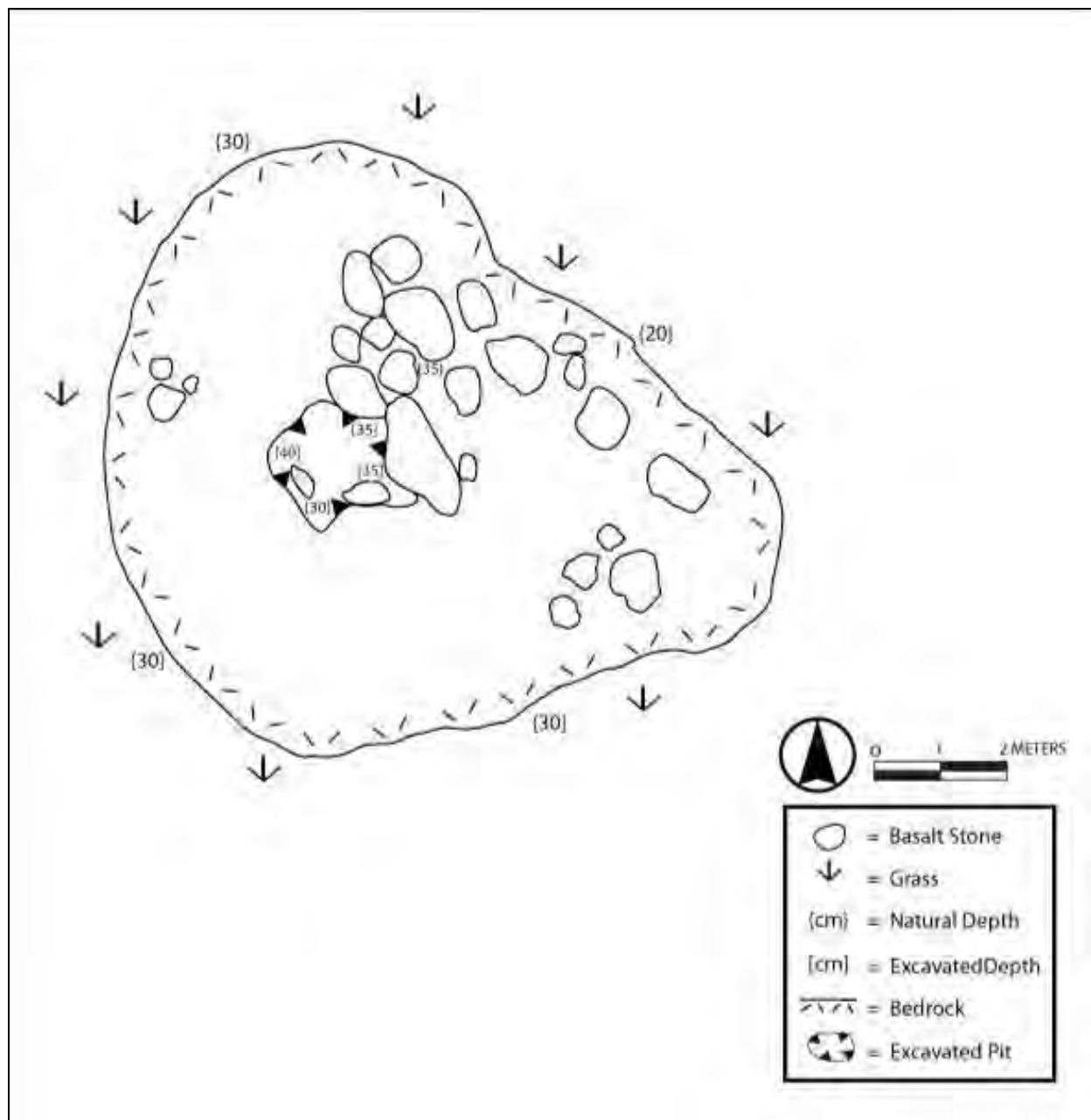


Figure 115. Plan view map of SIHP # -29344; 100% areal excavation recommended

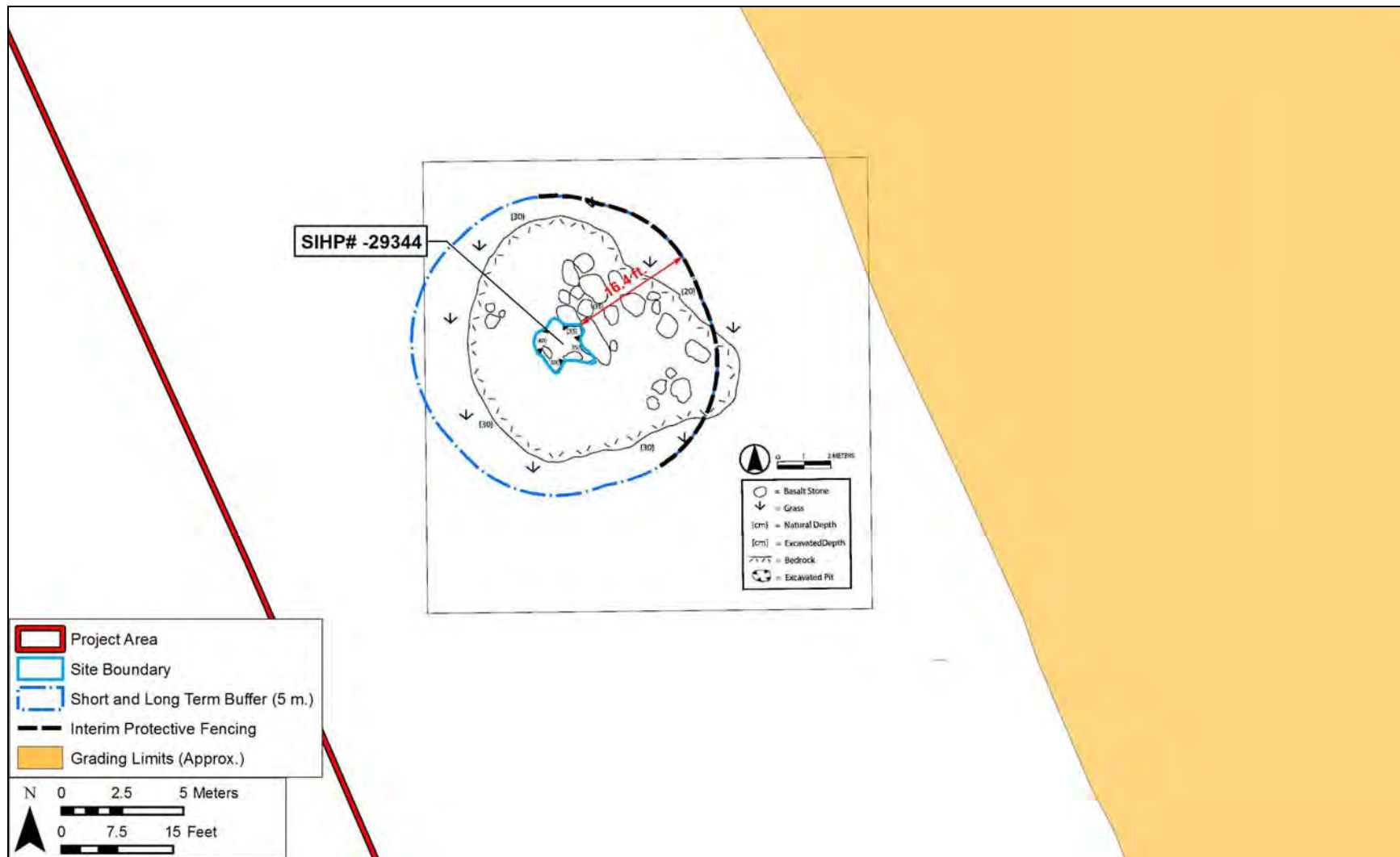


Figure 116. Preservation buffers for SIHP #-29344

Section 4 Data Recovery

As per the Chapter 6E-8 and National Historic Preservation Act Section 106 Review letter dated January 21, 2014 (Log No. 2013.6921, Doc. No. 1401MV05), SHPD has already approved a Data Recovery Plan (D. Shideler, T. Yucha, C. O'Hare and C. Monahan 2012) for the historic properties that are discussed in the current preservation and mitigation plan (Log No. 2012.3052, Doc No. 1210MV25). From SHPD's perspective the agreed upon mitigation commitments from the 2012 mitigation plan are still valid. The following Table 5 summarizes the sites for which data recovery will be deferred. The terms of the Shideler et al. 2012 plan remain in effect. For specific preservation measures the reader is referred to the approved Data Recovery Plan (D. Shideler, T. Yucha, C. O'Hare and C. Monahan 2012).

Table 5. Level of Data Recovery Effort (sites with interim protection and deferred data recovery are highlighted)

SIHP #	Level of Effort*	Comments
-19948**	100% excavation of Feature A (2 sq m), Feature B (1 or 2 sq m) and Feature G (0.5 sq m)	Features C–F and H will not be subject to data recovery, they will be preserved; Feature B will first have a 1 sq m excavation with option for another 1 sq m excavation unit
-19949**	100% excavation, 9 sq m	--
-22417**	100% excavation, 1.5 sq m	--
-28778	100% excavation, 6 sq m	--
-28783**	Excavation at Feature B only (1 or 2 sq m)	Feature B will first have a 1 sq m excavation with option for another 1 sq m excavation unit
-28785	8-10 sq m	Excavation will be an initial 8 sq m with option for another 2 sq m
-28786	1 or 2 sq m	Initial 1 sq m excavation with option for another 1 sq m excavation unit
-28800**	100% excavation, 0.5 sq m	--
-28807	100% excavation, 6 sq m	--
-28811**	100% excavation, 5 sq m	--
-28812	100% excavation, 1.5 sq m	--
-28813	100% excavation of Features B–E (Feature B = 7.5 sq m, Feature C = 7.5 sq m, Feature D = 0.4 sq m, Feature E = 4 sq m)	Feature A will not be subject to data recovery; it will be preserved
-28814	12 sq m	--
-28815	100% excavation, 4.5 m ²	--
-29272	2 sq m at Feature A (deferred)	Feature B (trail) will be included in trails (archival) data recovery
-29332	2 sq m	--
-29333**	100% dismantling of small <i>ahu</i>	It is unlikely there will be any soil/sediment to excavate
-29334**	Three 1 m by 2 m excavations (total 6 sq m)	--
-29335	Two 0.5 m by 1.5 m excavations (total 1.5 sq m)	--
-29336**	100% excavation, 2 sq m	--
-29344**	100% excavation, 1 sq m	--
-29345	100% dismantling/clean out	Coral-filled crevice

* Level of Effort—In many cases, the total excavated/dismantled area (expressed in sq m) is an approximate value given that many features to be 100% excavated/dismantled are irregular in plan view shape

** In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, data recovery at eleven of these sites will be deferred in favor of a recommendation for interim preservation with a commitment to data recovery prior to any future land disturbance in the immediate vicinity.

Section 5 Preservation Plan

5.1 Overview

The data recovery and preservation plan (Shideler et al. 2012:20) recommended preservation of the two burial sites (SIHP #s -22415 and -29275), and either the entire site or a portion of it, for an additional 35 historic properties (preservation in whole or part for 37 historic properties). This remains basically unchanged but many of the trail historic properties will be more fully preserved by having the entire observable remnant preserved.

In an effort to secure ACHP support it was decided to effectively move the *makai* edge of the project *mauka*. As a result, an additional 11 sites (SIHP #s -19949, -22417, -28783, -28800, -28811, -29333, -29334, -29336, -29339, -29340, and -29344) are recommended for interim preservation with protection behind a continuous barrier on the highway (east) side during highway widening work with a commitment to the previously agreed to mitigation (excavation) prior to any future land disturbance in the immediate vicinity.

CSH has discussed with the NPS and with representatives of the project proponent the issue of interpretative signage for inclusion in the data recovery and preservation plan (DRPP). CSH recommends ongoing consultation regarding the number, placement, and content of such signage with other project stakeholders including NHOs.

It is important to make clear that, for practical reasons of site protection, Avoidance During Construction (ADC) sites are treated as preservation sites for the purposes of short-term protection described in the preservation section of this APMP amendment/DRPP; however, these ADC sites are not subject to long-term protection measures, but only short-term protection.

5.2 Introduction to Preservation Measures

Hawai'i Administrative Rules (HAR §13-277-3) governing preservation plans specify that preservation plans address the following measures:

- Form of preservation to be implemented (HAR § 13-277-3 [1])
- Buffer zones (HAR § 13-277-3 [2] and § 13-277-4)
- Short-term protective measures (HAR § 13-277-3 [3] and § 13-277-5)
- Consultation process (HAR § 13-277-3 [4])
- Long-term protection measures (HAR § 13-277-3 [5] and § 13-277-6)
- Interpretation (HAR § 13-277-7)
- Penalties (HAR § 13-277-8)

5.3 Form of Preservation to be Implemented

The form of preservation remains pretty much unchanged from the data recovery and preservation plan (Shideler et al. 2012). The form of preservation to be implemented will be avoidance and protection (conservation). No stabilization, rehabilitation, restoration,

reconstruction, interpretation or organized program of cultural use is envisioned at this time. Should any program of stabilization, rehabilitation, restoration, reconstruction, interpretation or organized program of cultural use be proposed in the future, such work would only follow the written concurrence of the SHPD. In such cases, proposed changes would be described in an amendment to this plan.

All historic properties to be preserved (including trail sites) will be clearly identified on the ground with weather-resistant metal tags providing the SIHP site number and the preservation status (e.g., Site 50-10-27-28802—Preserve). In addition, all “avoidance during construction” sites will be similarly marked (e.g., Site 50-10-27-28803—Avoidance During Construction).

5.4 Buffer Zones

Short-term (interim) buffer zones will be demarcated on the ground with orange construction fencing as described below. Long-term (permanent) buffer zones will not be demarcated on the ground, but will be established and recorded as described below.

5.5 Short-Term Protective Measures

As a result of consultation with the NPS, and in response to its direct request, a continuous line of orange construction fencing tied to steel posts will be erected along the construction limits from the southern end of the national park to the northern end, a distance of approximately 7,988.9 ft (2435 m), or 1.51 miles (2.43 km). No construction work whatsoever can cross this line, so all historic properties west (*mauka*) of this line will be protected during construction.

For the rest of the project area, north of the northern limit of the national park, orange web event fencing tied to steel posts will be erected along the construction limits line wherever preservation or ADC sites are located, including trail sites. Fencing shall extend at least 25 ft north and south of each preservation and ADC site along the construction limits line. ADC (avoidance during construction) sites would not be subject to long term preservation buffers, but subject only to interim protection measures, as they are not recommended for preservation.

Short- and long-term buffers are graphically depicted in the site specific presentations.

These measures will help alleviate inadvertent damage during construction activities. In addition to erecting orange construction fencing along the construction limits, GPS warning devices with Preservation and ADC site locations shall be installed on all heavy earthmoving equipment. The erection of portable construction barriers will provide additional protection for sites in close proximity to the construction limits. The construction limits will also be loaded onto these same GPS warning devices.

The condition of the fencing will be checked by monitoring archaeologists at least once a month to ensure that it is intact for the duration of the project.

As described in the project's Archaeological Monitoring Plan (AMP) prepared under separate cover, Preservation and ADC sites will also be actively monitored by Archaeological and Cultural Monitors. Implementation of the AMP includes a pre-construction briefing by the monitors of all construction personnel working on site; the briefing will highlight the location and avoidance of the preservation sites.

5.6 Consultation Process

Consultation for the historic-preservation aspects of this project is described in detail in the AIS report by Monahan et al. (2012). Consultation on the DRPP/APMP has occurred since the first review draft was produced back in June 2011. Since that initial offering we have provided drafts for NHOs and others to review in August 2012, September 2012, October 2012, and August 2013. Further, we have held consultation sessions to address the impacts to sites, and discussing the mitigation proposed. Of particular note was our meeting of October 27, 2011 when the DRPP was discussed. On December 4, 2012 the redesign plans were presented to the MOA parties (including Kirsten Faulkner of the Historic Hawaii Foundation, Ashley Obrey of the Native Hawaiian Legal Corp., Isaac “Paka” Harp and Fred Cachola of Makani Hou, and Maurice Kahawaii, Phil Fernandez, Charles Flaherty, and Teresa Nakama of the Kona Hawaiian Civic Club.

5.7 Long-Term Protection Measures

The recommended long-term preservation method for this project is passive preservation. This will ensure the sites will remain in their current state for the foreseeable future. Should the Preservation and/or ADC sites be impacted by future construction activities, it is the landowner's responsibility to report the extent of the impact to the SHPD.

Although they will not be delineated on the ground, long-term buffer zones will be established around the Preservation sites. For trail sites, the long-term buffer zone will be the line represented by the construction limits, on the *mauka*/east side, and the ROW on the *makai*/west side.

Buffers are graphically depicted at the end of each historic property description.

The long-term buffer shall be demarcated with orange construction fencing any time potentially disturbing activities occur within the ROW in the vicinity of the site. If certain sites become threatened by on-going activities, SHPD has requested the permanent (“long-term”) buffer zone be demarcated with plants or some type of permanent barrier.

The long-term buffer will be measured from the outer edges of the preservation sites.

5.8 Public Interpretation and Information and Signage

CSH has discussed with the NPS and with representatives of the project proponent the issue of interpretative signage. CSH recommends ongoing consultation regarding the number, placement, and content of such signage with other project stakeholders. Interpretive signage explaining the trail system may be posted prominently. Public awareness and education regarding the nature and function of the historic property, in addition to historic preservation laws, may help prevent future damage and loss. In this regard, a sign could provide a brief description and history of the trail and trail system in the region, while also providing information on state laws protecting historic sites.

CSH recommends signage created for the preservation area be made of a material approved by the NPS (e.g., aluminum with silkscreen graphics) and be ADA (Americans with Disabilities Act) compliant (e.g., melamine plastic with raised graphics and Braille lettering). Sign height

should be ADA compliant, and sign supports should be of recycled materials. Any signage will be submitted to the SHPD for review and approval prior to installation. As an example, the sign might bear the text:

Hawai'i State Site 50-10-27-XXXXX
Hawaiian Archaeological Site
This area is preserved as part of Hawaiian heritage.
Damage to this site is punishable under
Hawai'i Revised Statutes Chapter 6E-11
Please Help Us Protect this Important Historic Site.

5.9 Vegetation Clearing

Vegetation clearing will be conducted intermittently to maintain the visual integrity of the sites. Tools will be limited to non-motorized hand-held tools in the immediate area of the sites identified for preservation. HDOT is responsible for this action.

5.10 Litter Control

Litter removal within the project area ROW will be sufficient to manage litter control of archaeological sites within the vicinity of the project area. Litter removal will be conducted once per month or more, as needed. HDOT is responsible for this action.

5.11 Future Site Stabilization

Should the preserved portions of these sites become unstable or require maintenance, an effort will be made to reconstruct these portions as closely as possible to their original configuration. Should the preserved sites be damaged as a result of a natural disaster, in consultation with the SHPD, an effort will be made to reconstruct them as closely as possible to their original configuration. HDOT is responsible for this action. Prior to site reconstruction or stabilization, a plan for the proposed work will be reviewed by SHPD and approved prior to implementation. Minor repair work will not require written plans; however, if significant reconstruction work is needed for sites inadvertently disturbed by future construction, a plan will need to be submitted and approved by SHPD prior to implementation.

5.12 Monitoring of Site Integrity

HDOT is responsible for periodic monitoring of site integrity for preservation sites, and will ensure this monitoring is conducted by a qualified archaeologist according to state administrative rules. SHPD is responsible for periodic inspections to ensure compliance. HDOT will conduct monitoring of site integrity for the preservation sites on an annual (once a year) basis, or more frequently if SHPD determines it is necessary. If SHPD determines monitoring is needed more than once a year, it will inform HDOT in writing of this decision.

5.13 Future Research

No future archaeological study of preservation sites can take place in the project area (ROW) without consultation and written concurrence from the SHPD.

5.14 Penalties

HAR § 13-277-8 specifies:

Non-compliance with the provisions and procedures established by the chapter may result in a directive to the person not to proceed with construction in the project area, a denial or revocation of SHPD's written concurrence or agreement, and penalties as provided in section 6E-11, HRS, § 13-275, § 13-278, § 13-281, § 13-282, § 13-284, HAR, and applicable laws.

Section 6 Relocation of Sites/Site Features

SHPD has approved (via Log No. 2012.3052, Doc No. 1210MV25) the site specific mitigation for sites that will be relocated in a review of the mitigation plan by Shideler et al. (2012). The purpose of this current plan is to provide interim protection measures for SIHP 19947 that is now preserved as a result of the redesign (Log No. 2013.4167, Doc No. 1307MV17). For reference to the agreed upon mitigation commitments refer back to the accepted mitigation plan (Shideler et al. 2012).

Section 7 Summary

7.1 Preservation

As a result of revisions to the Queen Ka'ahumanu Highway Widening Phase 2 Project area, the impact to associated historic properties will be significantly lessened. This will not be through preservation of more sites so much as preservation of more of the sites to be preserved. Specifically many of the trails that were to have only a portion of their length preserved will now have their entire observable remnant length preserved.

In addition, a number of historic properties previously recommended for data recovery are now recommended for interim preservation with a commitment for data recovery prior to any land alteration in the immediate vicinity.

7.2 Data Recovery

As a result of revisions to the Queen Ka'ahumanu Highway Widening Phase 2 Project area, eleven sites that were recommended for data recovery in the Shideler et al. (2012) plan (accepted by the SHPD Chapter 6E-8 and National Historic Preservation Act Section 106 Review dated 25 October 2012) will now no longer be impacted by highway improvements. These sites are now recommended for interim preservation with a commitment for the agreed upon data recovery prior to any development in the immediate vicinity (See Table 5). The data recovery recommended is summarized in the Shideler et al. (2012) plan.

7.3 Amendment of the Memorandum of Agreement

As per the SHPD Chapter 6E-8 and National Historic Preservation Act Section 106 Review dated 28 October 2013 (LOG NO: 2013.4267, DOC NO: 1310MV12), "The terms of the addendum preservation plan should be incorporated into the Memorandum of Agreement." This will be accomplished through inclusion of the present summary Table 1 in the Memorandum of Agreement and reference to the approved addendum preservation plan in the MOA.

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Appendix A SHPD Chapter 6E-8 and National Historic Preservation Act Section 106 Reviews

 <p>NEIL ABERCROMBIE GOVERNOR OF HAWAII</p>	 <p>STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES POST OFFICE BOX 621 HONOLULU, HAWAII 96809</p>	<p>WILLIAM J. AHLA, JR. HARRISON BOARD OF LAND AND NATURAL RESOURCES COMMISSION ON WATER RESOURCE MANAGEMENT</p> <p>PAUL J. CONRY INTERIM FIRST DEPUTY</p> <p>WILLIAM M. TAM DEPUTY DIRECTOR - WATER</p> <p>AQUATIC RESOURCES BOATING AND OCEAN RECREATION BUREAU OF CONVEYANCES COMMISSION ON WATER RESOURCE MANAGEMENT CONSERVATION AND COASTAL LANDS FORESTRY AND WILDLIFE HISTORIC PRESERVATION KAILOLAWE ISLAND RESERVE COMMISSION LAND STATE PARKS</p>
<p>August 21, 2012</p>		
<p>Chris Monahan, Ph.D. Cultural Surveys Hawaii PO Box 1114 Kailua, Hawaii 96734</p>	<p>LOG NO: 2012.1443 DOC NO: 1208MV01</p>	
<p>Subject: Chapter 6E-8 & National Historic Preservation Act Section 106 Review - Archaeological Inventory Survey, Proposed Queen Ka'ahumanu Highway Widening, Phase 2 Kalaoa, O'oma, Kohanaiki, Kaloko, Honokohau 1-2 and Kealahou Ahupua'a North Kona District, Island of Hawai'i TMK: (3) 7-4-008, 7-3-009 & 7-3-043 (portion)</p>		
<p>Thank you for submitting the report titled <i>Archaeological Inventory Survey for the Proposed Queen Ka'ahumanu Highway Widening Phase 2 Project Kalaoa, O'oma, Kohanaiki, Kaloko, Honokohau 1-2 and Kealahou Ahupua'a, North Kona District, Island of Hawai'i TMK: (3) 7-4-008, 7-3-009 & 7-3-043</i> (C. Monahan, T. Yucha, and C. O'Hare), July 2012. This report was received by our office on July 20, 2012. The report presents the findings of multiple phases of archaeological survey work conducted along a 5.2 mile section of the proposed Queen Ka'ahumanu Highway Widening Project, Phase II. A previous draft of this archaeological inventory survey (AIS) report was reviewed by SHPD (<i>Log 2011.1140 Doc 1104TD12</i>). This previous draft was accepted under the condition that comments and concerns from other consulting parties, including the National Park Service (NPS) and native Hawaiian organizations (NHO), would be addressed. Because the concerns of the consulting parties were not adequately addressed, additional field work was undertaken in the project area and a revised draft report was submitted to our office for review. The results of all the field work in this project area to date are presented in this revised report. The survey identifies 75 historic properties in the proposed project area; twenty of the historic properties are previously described in existing archaeological reports. The remaining 55 historic properties are newly identified in this report. Of the 55 newly identified historic properties, 35 were recorded in the initial draft of this report (Monahan et al. 2011), and the remaining 20 historic properties were recorded during the supplemental fieldwork involving consulting parties (NHO's NPS, and SHPD).</p>		
<p>The changes that were made to this report are the result of the SHPD review of a previous draft (<i>Log 2012.1443, Doc. 1206MV26</i>). We believe the revisions and explanations have adequately addressed our concerns relating to inadequate levels of recording at multiple sites, the assessment of site functions, and treatment recommendations. We are pleased that the 'Big Cave' site (50-10-28-29725) has been identified and recorded in this AIS, and we are pleased that the FHWA will proceed with the proposed mitigation commitment of creating a Burial Treatment Plan to be presented to the Hawaii Island Burial Council, in consultation with the appropriate land owner.</p>		
<p>All 75 historic properties identified during this survey are assessed as significant under the National Register of Historic Places (NRHP) criterion D for their ability to yield information on historic and prehistory. As a result of consultation with Native Hawaiian organizations (NHOs), Criterion "e" of the Hawaii Register of Historic Places (HRHP) has been added to all 75 sites, because the NHOs believe these properties are of cultural value to the Native Hawaiian people. In addition, Sites 19954, 28774, 22507, 22418, 19953, 28782, 28784, 28787, 19952, 15324, 19946, 28791, and 29272 are assessed as significant under NRHP criteria C and D; and HRHP Criterion "e". Two trails, (Sites 18099 and 10714) are assessed as significant under NRHP criteria A, C, and D; and HRHP Criterion "e". Finally, the Mamelahoa Trail (Site 00002) is assessed as significant under NRHP criteria A, B, C, and D; and HRHP Criterion "e". We concur with the significance assessments presented in this report for all sites assessed as significant under NRHP criteria A, B, C, and D.</p>		

SHPD acceptance letter (page 1) for the archaeological inventory survey (Monahan et al. 2012)

Dr. Monahan
August 21, 2012
Page 2

The application of HRHP significance Criterion "e" to all sites has been reviewed by the SHPD History and Culture Branch. The results of that review are as follows:

The History and Culture Branch concurs with the Archaeological Inventory Survey that all 75 historic properties in the project area be assessed as significant under Criterion E, as having important value to the *native Hawaiian people...due to associations with cultural practices once carried out, or still carried out, at the property*, or due to associations with traditional beliefs, events, or oral history accounts—these associations being important to the group's *history and cultural identity*. Due to changes in Hawai'i that occurred subsequent to contact with the western world (1778), the unique cultural identity of the native Hawaiian people progressively eroded. Thus with respect to that cultural identity, aside from personal DNA that each native Hawaiian possesses, all that is left today are those physical manifestations (archaeological sites and features) that identifies and defines the native Hawaiian culture. From a cultural perspective then, all sites and features are significant to the native Hawaiian.

The History and Culture Branch also concurs with the project effect and mitigation recommendations as discussed in Section 7, as well as summarized in Table 27 (Summary of Proposed Mitigation) and Table 28 (Project Effect and Mitigation Recommendations for Historic Properties in the Project Areas). The Branch would also like emphasize the importance of care and sensitivity as it relates to the proposed data recovery at those sites identified as possible burials.

This report meets the requirements of HAR §13-276 and *Secretary of the Interior's Standards for Documentation and Evaluation*, and is accepted by SHPD. Please send one hardcopy of the document, clearly marked **FINAL**, along with a copy of this review letter and a text-searchable PDF version on CD to the Kapolei SHPD office.

Please contact Mike Vitousek at (808) 652-1510 or Michael.Vitousek@Hawaii.gov if you have any questions or concerns regarding this letter.

Aloha,



Theresa K. Donham
Deputy State Historic Preservation Officer
Archaeology Branch Chief
Historic Preservation Division

cc: Hinano Rodrigues, Acting Branch Chief
History and Culture Branch
Historic Preservation Division

SHPD acceptance letter (page 2) for the archaeological inventory survey (Monahan et al. 2012)

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ESTHER KIA'AINA
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HISTORIC PRESERVATION
KAIKOLA WELAND RESERVE COMMISSION
LAND
STATE PARKS

October 25, 2012

Chris Monahan, Ph.D.
Cultural Surveys Hawaii
PO Box 1114
Kailua, Hawaii 96734

LOG NO: 2012.3052
DOC NO: 1210MV25

Dear Dr. Monahan,

Subject: **Chapter 6E-8 & National Historic Preservation Act Section 106 Review - Revised Archaeological Data Recovery and Preservation Plan for the Proposed Queen Ka'ahumanu Highway Widening, Phase 2 Project Kalaoa, O'oma, Kohanaiki, Kaloko, Honokohau 1-2 and Kealahke Ahupua'a North Kona District, Island of Hawai'i**
TMK: (3) 7-4-008, 7-3-009 & 7-3-043 (portion)

Thank you for submitting the revised plan titled *Archaeological Data Recovery and Preservation Plan for the Proposed Queen Ka'ahumanu Highway Widening Phase 2 Project Kalaoa, O'oma, Kohanaiki, Kaloko, Honokohau 1-2 and Kealahke Ahupua'a, North Kona District, Island of Hawai'i* TMK: (3) 7-4-008, 7-3-009 & 7-3-043 (D. Shideler, T. Yucha, C. O'Hare and C. Monahan), August 2012. This plan was received by our office on October 9, 2012. The plan outlines the proposed site specific mitigation commitments for 75 historic properties discovered during the identification phase of this proposed undertaking. These 75 historic properties are documented in the archaeological inventory survey report for the project area (Monahan et. al. 2012) that was approved by SHPD in August 2012 (Log No 2012.1443, Doc No 1208MV01).

The site specific mitigation commitments for the 75 sites are described on page iv of the management summary and in table 3, which stretches from page 26 to page 28. According to these tables: two sites will be subjected to separate burial treatment plans (Sites 22415 and 29275); 15 sites will be preserved with no additional field work (Sites 10154, 19943, 19950, 19951, 28780, 28781, 28788, 28789, 28790, 28792, 28797, 28799, 28802, 28806, and 28810); one site will receive a combination of no further work and preservation (19945); 11 sites will be avoided during construction and therefore subject to short term protection measures (28794, 28801, 28803, 28804, 28805, 28809, 29337, 29341, 29342, 29343, and 29347); two sites will receive no further work, but impacts will be monitored by an archaeologist (6432 and 29338); two sites will be relocated (19947 and 29346); one site will receive a combination of relocation and preservation (28808); 20 sites will receive data recovery excavation with no additional mitigation (19949, 22417, 28778, 28785, 28786, 28800, 28807, 28811, 28812, 28814, 28815, 29332, 29333, 29334, 29335, 9336, 29339, 29340, 29344, and 29345); 14 sites will be subjected to a combination of archival data recovery and partial preservation (00002, 10714, 15324, 18099, 19946, 19952, 19953, 19954, 22507, 28774, 28782, 28784, 28787, and 28791); one site will be subjected to a combination of archival data recovery, data recovery excavation and partial preservation (29272); one site will be subjected to archival data recovery only (22418); two sites will have data recovery through the collection and curation of portable artifacts (29348 and 29349); and three sites will be subjected to a combination of data recovery excavation and preservation (19948, 28783, and 28813).

Changes were made to this plan in response to the SHPD review of a previous draft (Log No. 2012.2546, Doc. No. 1209MV06). We believe the revisions and explanations have adequately addressed our concerns. We believe that this mitigation plan will now serve as the overall site-specific mitigation document for the undertaking. This plan meets the requirements of HAR §13-277, HAR §13-278 and the *Secretary of the Interior's Standards*, and is accepted by SHPD. Please send one hardcopy of the document, clearly marked **FINAL**, along with a copy of this review letter and a text-searchable PDF version on CD to the Kapolei SHPD office.

SHPD acceptance letter (page 1) for a prior rendition of the archaeological data recovery and preservation plan (Shideler et al. 2012)

Archaeological Preservation and Mitigation Plan for 23 Sites, Queen Ka'ahumanu Hwy Phase 2 Project, North Kona, Hawai'i

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TMKs: [3] 7-4-008, 7-3-009 and 7-3-043

Dr. Monahan
October 25, 2012
Page 2

Please contact Mike Vitousek at (808) 652-1510 or Michael.Vitousek@Hawaii.gov if you have any questions or concerns regarding this letter.


Aloha,




Theresa Donham
Archaeology Branch Chief and
Deputy State Historic Preservation Officer
Historic Preservation Division

SHPD acceptance letter (page 2) for a prior rendition of the archaeological data recovery and preservation plan (Shideler et al. 2012)

NEIL ABERCROMBIE
GOVERNOR OF HAWAII





STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
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WILLIAM J. AILA, JR.
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CONSERVATION AND RESOURCES ENFORCEMENT
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FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

July 23, 2013

David Shideler.
Cultural Surveys Hawaii
PO Box 1114
Kailua, Hawaii 96734


Subject: **Chapter 6E-8 and National Historic Preservation Act Section 106 Review - Proposed Queen Ka'ahumanu Highway Widening, Phase 2 Redesign and Mitigation Revisions Kalaoa, O'oma, Kohanaiki, Kaloko, Honokohau 1-2 and Kealakehe Ahupua'a North Kona District, Island of Hawai'i**
TMK: (3) 7-4-008, 7-3-009 & 7-3-043 (portion)

Thank you for submitting the consultation letter that was received by our office on July 9, 2013. According to the letter, the Federal Highways Administration (FHWA) has initiated a redesign of the Phase 2 widening project in order to minimize the effects of this undertaking on historic properties. The treatment recommendations for the 55 historic properties in the project area were finalized following an archaeological inventory survey conducted by Monahan et. al. (2012) and accepted by SHPD (Log 2012.1443, Doc 1208MV01). As a result of the redesign, 20 sites that were proposed to be directly impacted will now be avoided by construction activities. Nine of these sites are trails that were previously proposed to be partially destroyed, with mitigation in the form of archival research, and the undisturbed portion of the trail preserved (SIHP Sites 20-10-27-15324, 18099, 19946, 19954, 22418, 22507, 28774, 28782, and 29272). The remaining 11 sites were previously proposed to be all or partially destroyed by the highway widening, with data recovery excavation for 10 sites (SIHP Sites 19947, 19948, 19949, 22417, 28783, 28800, 28811, 29333, 29336, and 29344); and relocation for one site (SIHP 19947). As a result of the redesign, all 20 of these sites will be avoided by this undertaking.

FHWA is proposing to revise the proposed mitigation commitments for these sites in order to avoid the potential adverse effects associated with data recovery excavation. For the 9 trail sites, FHWA now proposes to preserve the entire site within the project area, and continue with the data recovery work in the form of non-invasive archival research. SHPD agrees with this recommendation. In addition, the remaining 11 sites, which were previously recommended for relocation or data recovery excavation, will retain these original treatment recommendations. These sites will be preserved during the implementation of the current undertaking through the implementation of interim protection measures. Because these sites will retain their original treatment recommendations, it is possible for these 11 sites to be impacted by future undertakings, provided the agreed upon mitigation commitments are carried out. SHPD also agrees with this recommendation, and we look forward to the opportunity to review an amended mitigation plan that will outline the preservation measures that will be carried out for these sites during this undertaking.

Please contact Mike Vitousek at (808) 652-1510 or Michael.Vitousek@Hawaii.gov if you have any questions or concerns regarding this letter.



Aloha,



Theresa K. Donham
Deputy State Historic Preservation Officer
Historic Preservation Division

LOG NO: 2013.4167
DOC NO: 1307MV17
Archaeology

SHPD Chapter 6E-8 and National Historic Preservation Act Section 106 Review dated 23 July 2013 (LOG NO: 2013.4167, DOC NO: 1307MV17)

 <p>NEIL ABERCROMBIE GOVERNOR OF HAWAII</p>	 <p>STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES POST OFFICE BOX 621 HONOLULU, HAWAII 96809</p>	<p>WILLIAM J. AILA, JR. CHAIRPERSON BOARD OF LAND AND NATURAL RESOURCES COMMISSION ON WATER RESOURCE MANAGEMENT</p> <p>ESTHER KIA'AINA FIRST DEPUTY</p> <p>WILLIAM M. TAM DEPUTY DIRECTOR - WATER</p> <p>AQUATIC RESOURCES BOATING AND OCEAN RECREATION BUREAU OF CONVEYANCES COMMISSION ON WATER RESOURCE MANAGEMENT CONSERVATION AND COASTAL LANDS CONSERVATION AND RESOURCES ENFORCEMENT ENGINEERING FORESTRY AND WILDLIFE HISTORIC PRESERVATION KAIHOOLAWE ISLAND RESERVE COMMISSION LAND STATE PARKS</p>
<p>October 28, 2013</p>		
<p>David Shideler. Cultural Surveys Hawaii PO Box 1114 Kailua, Hawaii 96734</p>	<p>LOG NO: 2013.4267 DOC NO: 1310MV12 Archaeology</p>	
<p>Subject: Chapter 6E-8 & National Historic Preservation Act Section 106 Review - Amended Archaeological Data Recovery and Preservation Plan for the Proposed Queen Ka'ahumanu Highway Widening, Phase 2 Project Kalaoa, O'oma, Kohanaiki, Kaloko, Honokohau 1-2 and Kealahke Ahupua'a North Kona District, Island of Hawai'i <u>TMK: (3) 7-4-008, 7-3-009 & 7-3-043 (portion)</u></p>		
<p>Thank you for submitting the plan titled <i>Amended Archaeological Data Recovery and Preservation Plan for the Proposed Queen Ka'ahumanu Highway Widening Phase 2 Project Kalaoa, O'oma, Kohanaiki, Kaloko, Honokohau 1-2 and Kealahke Ahupua'a, North Kona District, Island of Hawai'i</i> TMK: (3) 7-4-008, 7-3-009 & 7-3-043 (D. Shideler, T. Yucha, C. O'Hare and C. Monahan), September 2013. This plan was received by our office on September 9, 2013. The plan outlines amended site specific mitigation commitments for 76 historic properties that were previously proposed for mitigation through an earlier version of this plan that was accepted by SHPD via LOG NO: 2012.3052, DOC NO: 1210MV25. These 76 historic properties were documented in the archaeological inventory survey report for the project area (Monahan et. al. 2012) that was approved by SHPD in August 2012 (Log No 2012.1443, Doc No 1208MV01). The mitigation commitments described in the original version of this plan are the result of treatment recommendations for the individual sites that were presented in the accepted AIS of this project area (Monahan et. al. 2012). The mitigation commitments were as follows:</p> <p>Two sites will be subjected to separate burial treatment plans (Sites 22415 and 29275); 15 sites will be preserved with no additional field work (Sites 10154, 19943, 19950, 19951, 28780, 28781, 28788, 28789, 28790, 28792, 28797, 28799, 28802, 28806, and 28810); one site will receive a combination of no further work and preservation (19945); 11 sites will be avoided during construction and therefore subject to short term protection measures (28794, 28801, 28803, 28804, 28805, 28809, 29337, 29341, 29342, 29343, and 29347); two sites will receive no further work, but impacts will be monitored by an archaeologist (6432 and 29338); two sites will be relocated (19947 and 29346); one site will receive a combination of relocation and preservation (28808); 20 sites will receive data recovery excavation with no additional mitigation (19949, 22417, 28778, 28785, 28786, 28800, 28807, 28811, 28812, 28814, 28815, 29332, 29333, 29334, 29335, 9336, 29339, 29340, 29344, and 29345); 14 sites will be subjected to a combination of archival data recovery and partial preservation (00002, 10714, 15324, 18099, 19946, 19952, 19953, 19954, 22507, 28774, 28782, 28784, 28787, and 28791); one site will be subjected to a combination of archival data recovery, data recovery excavation and partial preservation (29272); one site will be subjected to archival data recovery only (22418); two sites will have data recovery through the collection and curation of portable artifacts (29348 and 29349); and three sites will be subjected to a combination of data recovery excavation and preservation (19948, 28783, and 28813).</p> <p>The Federal Highways Administration (FHWA) has initiated a redesign of the Phase 2 widening project in order to minimize the effects of this undertaking on historic properties. As a result of the redesign, 20 sites that were previously proposed to be directly impacted will now be avoided by construction activities. Nine of these sites are trails that were proposed to be partially destroyed, with mitigation in the form of archival research, and the undisturbed portion of the trail preserved (SIHP Sites 20-10-27-15324, 18099, 19946, 19954, 22418, 22507, 28774, 28782, and 29272). The remaining 11 sites were previously proposed to be all or partially destroyed by the highway widening, with data recovery excavation for 10 sites (SIHP Sites 19947, 19948, 19949, 22417, 28783, 28800, 28811, 29333, 29334, 29336, and 29344); and relocation for one site (SIHP 19947). As a result of the redesign, all 20 of these sites will be avoided by this undertaking.</p>		

SHPD Chapter 6E-8 and National Historic Preservation Act Section 106 Review dated 28 October 2013 (LOG NO: 2013.4167; DOC NO: 1307MV17), page 1

Mr. Shideler
October 28, 2013
Page 2

The agreement to avoid these sites was established via SHPD correspondence (Log 2013.4267, Doc 1307MV17). This agreement indicated that the treatment recommendations established in the Monahan et. al. (2012) AIS would be maintained, however the mitigation measures would be changed in order to preserve these sites from any impact during project activities. We believe that the amended archaeological data recovery and preservation plan has overstepped the limits of this agreement, as sites that were not included in the agreement have been changed from a proposed mitigation of data recovery to "Avoidance During Construction" or "ADC." In addition, this plan does not outline sufficient preservation measures for the sites that will now be preserved. Our specific concerns are presented below:

1. The summary of proposed mitigation table on Page 20 indicates that SIHP 29339 and 29340 are recommended for "avoidance during construction." However, these sites were recommended for Data Recovery in the Monahan et. al. (2012) AIS and included in the D. Shideler, T, Yucha, C. O'Hare and C. Monahan (2012) mitigation plan. In addition, SIHP 29339 and 29340 are not included in the 20 sites whose treatment recommendations were revised as a result of SHPD correspondence (Log 2013.4267, Doc 1307MV17). We believe that these sites should not change from data recovery to "avoidance during construction." Instead we believe that these sites should be treated in a similar fashion as the other sites whose treatment recommendations have changed to preservation. This change would not rule out the possibility of Data Recovery in the near future.
2. The summary of proposed mitigation table on Page 20 also indicates that SIHP 28796 has been added to the treatment category of "avoidance during construction." Our records indicate that this site was determined to be a feature of SIHP 10714 during the SHPD review of the AIS (Log 2012.1443, Doc 1206MV26). Subsequently, this feature was recommended for preservation as part of SIHP 10714 in the D. Shideler, T, Yucha, C. O'Hare and C. Monahan (2012) mitigation plan. There is no mention of Site 28796 in the mitigation plan. We believe that this feature should be preserved as part of SIHP 10714.
3. The summary of proposed mitigation table on Page 20 does not indicate the change in mitigation that occurred with SIHP 22418. This site is one of the trail sites that will be preserved as part of the redesign as reflected in SHPD correspondence (Log 2013.4267, Doc 1307MV17). However, this site is still listed as having mitigation in the form of archival data recovery research only. The new treatment of preservation should be identified.
4. Page 109, short and long term preservation measures should be identified for SIHP 22418, which should include all relevant provisions of HAR 13-277 including a map of the proposed buffer zone.
5. There are no preservation buffers presented for SIHP 15324 and 22418.
6. Page 312 - The preservation buffer for SIHP 18099 does not adequately protect the site.
7. Page 315 - The preservation buffer for SIHP 19953 does not adequately protect the site.
8. Page 316 - The preservation buffer for SIHP 19954 does not adequately protect the site.
9. Page 319 - The preservation buffer for SIHP 28782 does not adequately protect the site.

In order to clearly and concisely correct these and any other oversights in the draft, SHPD recommends that the amended data recovery and preservation plan be abandoned, and instead, an independent preservation/mitigation plan be prepared only for the sites whose mitigation commitments will change as a result of the redesign. This preservation plan should be an amendment to the previously accepted D. Shideler, T, Yucha, C. O'Hare and C. Monahan (2012) mitigation plan. This plan should provide preservation measures for the 20 sites that were changed to preservation via Log 2013.4267, Doc 1307MV17. If additional sites, such as SIHP 29339 and 29340 are to be added to preservation this could be accomplished in this plan. The preservation measures should provide all relevant provisions of HAR 13-277 and should meet the *Secretary of the Interior's Standards* for the treatment of historic properties. We look forward to the opportunity to review the addendum preservation plan, and we look forward to bringing the historic preservation review of this project to completion. Finally we believe that the terms of the addendum preservation plan should be incorporated into the Memorandum of Agreement for this undertaking.

Please contact Mike Vitousek at (808) 652-1510 or Michael.Vitousek@Hawaii.gov if you have any questions or concerns regarding this letter.

Aloha,



Theresa K. Donham
Deputy State Historic Preservation Officer
Historic Preservation Division

SHPD Chapter 6E-8 and National Historic Preservation Act Section 106 Review dated 28 October 2013 (LOG NO: 2013.4167; DOC NO: 1307MV17), page 2