Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
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DEPARTMENT OF PUBLIC WORKS
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4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 20, 2014

Mr. Herman Tuiolosega, Acting Director
Office of Environmental Quality Control
Department of Health, State of Hawaii
235 South Beretania Street, Room 702
Honolulu, HI 96813

Dear Mr. Tuiolosega:

With this letter, the County of Kaua'i Department of Public Works (DPW) hereby transmits this Final Environmental Assessment and Finding of No Significant Impact (FEA-FONSI) for the Lydgate Park-Kapa'a Bike /Pedestrian Path, Phases C & D, in the Kawaihau District of Kaua'i. We request publication in the next available edition of the Environmental Notice.

The DPW has included copies of comments and responses that it received during the 30-day public comment period on the draft environmental assessment and anticipated finding of no significant impact (DEA-AFONSI).

Enclosed is a completed OEQC Publication Form, and two hard copies of the FEA-FONSI. The enclosed CD includes a pdf file of the FEA-FONSI and the OEQC Publication Form in MS Word format.

If you have any questions, please contact Mr. Larry Dill, County Engineer at (808) 241-4992.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

LYDGATE PARK – Kapa'a Phases C&D
Bicycle and Pedestrian Path Project
County of Kaua`i, Hawai`i

Final Environmental Assessment/
Finding of No Significant Impact

Submitted pursuant to
Hawai`i Revised Statutes, Chapter 343

State of Hawai`i, Department of Transportation, Highways Division
and County of Kaua`i, Department of Public Works

3.20.14
Date of Approval

For County of Kaua`i, Department of Public Works

4.7.14
Date of Approval

For State of Hawai`i, Department of Transportation

The following persons may be contacted for additional information concerning this document:

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The County of Kaua'i, Department of Public Works (DPW) proposes to construct a shared use path for pedestrians, bicyclists, and other users from Papaloa Road to Uhelekawawa Canal, a distance of approximately 1.2 miles. This project constitutes a portion of the pathway known as Ke Ala Hele Makalae that is expected to extend along the east side of Kaua'i from Nāwiliwili in the south to Anahola in the north.

The 1.2-mile path segment, referred to as Lydgate Park – Kapa'a Bike & Pedestrian Path Phases C and D, closes a gap between recently-constructed path segments to the north and south, increasing the overall connectivity of the existing path network. In 2007, the Kaua'i Department of Public Works (DPW) completed an environmental assessment (EA) for a bike/pedestrian path from Lydgate Park to Kapa'a (Lihi Park) and made a finding of no significant impact. While most of the alignment was proposed on the makai side of Kūhiō Highway, a segment was proposed on the mauka side of the highway and along the Waipouli drainage canal. Subsequent to the 2007 EA, detailed design studies determined that this alignment would not be optimal for path users, because it would require users to cross Kūhiō Highway and the temporary bypass road. As such, the County reexamined alternatives for this section of the path. The most feasible option is the makai route which located the path within portions of the County's existing beach reserve.

Through route selection, design, and proposed mitigation measures, the analysis contained in the environmental assessment has determined that the project will not have significant adverse impacts. Mitigation measures will be implemented in accordance with applicable regulations and/or consultation with appropriate agencies.

Final Environmental Assessment

Lydgate Park-Kapa‘a Bike/Pedestrian Path

Phases C & D

CMAQ-0700(49)

Kawaihau District, Kaua‘i Island

TMK: [4] 4-3-001, 002, and 007: Various

County of Kaua‘i
Department of Public Works

April 2014

Final Environmental Assessment

Lydgate Park-Kapa‘a Bike/Pedestrian Path

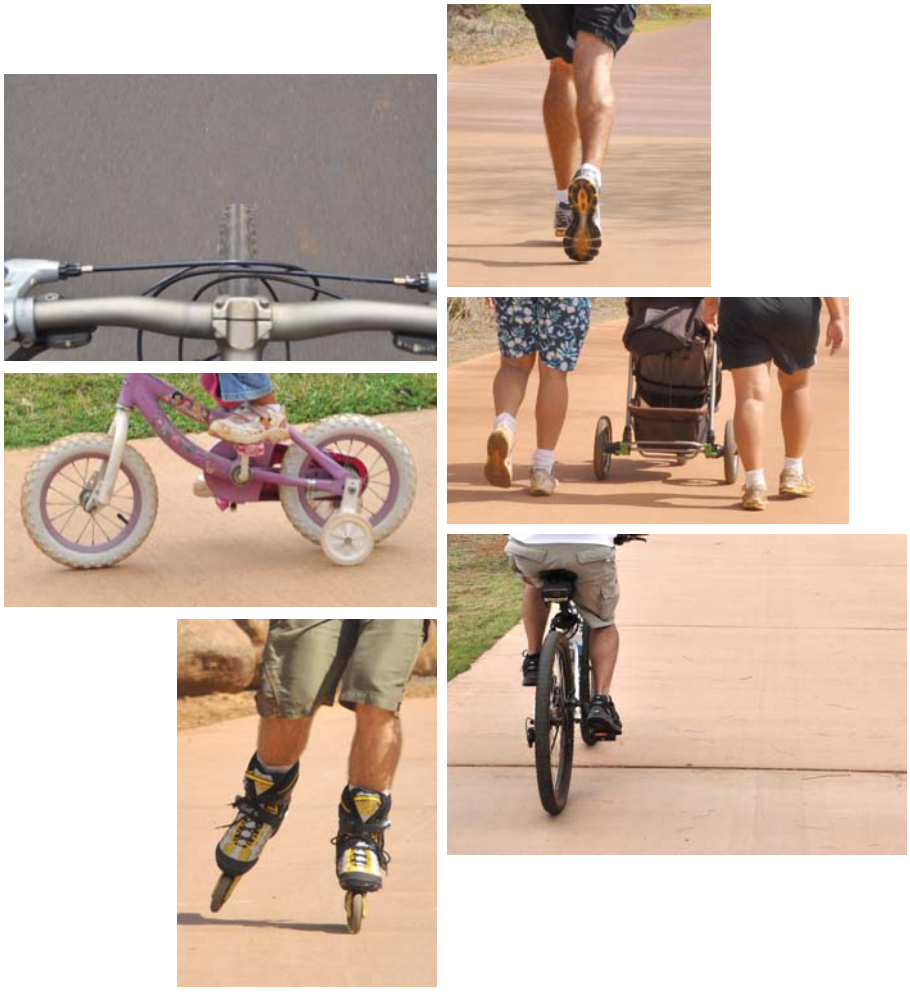
Phases C & D

CMAQ-0700(49)

Kawaihau District, Kaua‘i Island

TMK: [4] 4-3-001, 002, and 007: Various

Prepared pursuant to Chapter 343, Hawai‘i Revised Statutes



Prepared for
Department of Public Works
County of Kaua‘i

Prepared by
Kimura International, Inc.
1600 Kapiolani Boulevard, Suite 1610
Honolulu, HI 96814

April 2014

Table of Contents

APPENDICES

FIGURES

List of Acronyms

AASHTO	American Association of State Highway Transportation Officials
ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guidelines
AIS	Archaeological Inventory Survey
APE	Area of Potential Effect
ASTM	American Society for Testing and Materials
BMP	Best Management Practice
CATV	cable television
CIA	Cultural Impact Assessment
CFR	Code of Federal Regulations
CSH	Cultural Surveys Hawai‘i
CZM	Coastal Zone Management
DEA	Draft Environmental Assessment
DBEDT	Department of Business, Economic Development, and Tourism
DCAB	Disability Communication and Access Board
DOH	Department of Health, State of Hawai‘i
DLNR	Department of Land and Natural Resources, State of Hawai‘i
DOT	Department of Transportation, State of Hawai‘i
DPW	Department of Public Works, County of Kaua‘i
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FEA	Final Environmental Assessment
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
HAR	Hawai‘i Administrative Rules
HDOT	Hawai‘i Department of Transportation
HRS	Hawai‘i Revised Statutes
HTA	Hawai‘i Tourism Authority
IBC	International Building Code
KIUC	Kaua‘i Island Utility Cooperative
LCA	Land Commission Award
LRLTP	Long Range Land Transportation Plan
LWCF	Land and Water Conservation Fund

makai	toward the ocean (seaward)
mauka	toward the mountains (landward)
MOA	Memorandum of Agreement
MSL	Mean Sea Level
NEPA	National Environmental Policy Act
NHO	Native Hawaiian Organization
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
OCCL	Office of Conservation and Coastal Lands
OEQC	Office of Environmental Quality Control
OHA	Office of Hawaiian Affairs
SCORP	State Comprehensive Outdoor Recreation Plan
SHPD	State Historic Preservation Division
SHPO	State Historic Preservation Officer
SMA	Special Management Area
SSV	Shoreline Setback Variance
TCP	Traditional Cultural Property
TMDL	Total Maximum Daily Load
TMK	Tax Map Key

1 INTRODUCTION

1.1 PROPOSING AGENCY AND ACTION

The County of Kaua‘i, Department of Public Works (DPW) proposes to construct a shared use path for pedestrians, bicyclists, and other users from Papaloa Road to Uhelekawawa Canal, a distance of approximately 6,100 or 6,500 feet (1.2 mile), depending on the final alignment. This project constitutes a portion of the pathway known as Ke Ala Hele Makalae that is expected to extend along the east side of Kaua‘i from Nāwiliwili in the south to Anahola in the north.

The bike/pedestrian path will be 10 to 12 feet wide and allow movement in both directions. It is intended to accommodate a variety of users; however, motorized vehicles will not be allowed with the exception of motorized wheelchairs, emergency vehicles, and maintenance vehicles. The path will be constructed from concrete with graded shoulders. Under some environmental conditions, the path may be designed with other materials appropriate to the specific site. In other instances, existing development may preclude a full, 10-foot wide path, thereby requiring consideration of other options, such as an improved sidewalk or sidepath.

Specific design elements will be established during the design phase of the project. For this document, the proposed action is assumed to be a facility built in conformance with guidelines for bicycle facilities published by the American Association of State Highway Transportation Officials (AASHTO), unless otherwise stated, and standards established in the Americans with Disabilities Act (ADA) Accessibility Guidelines or ADAAG. All buildings, facilities, and sites shall conform to applicable federal, state, and county accessibility guidelines and standards. Hawaii Revised Statutes §103-50 requires all State of Hawaii or County government buildings, facilities, and sites to be designed and constructed to conform to the Americans with Disabilities Act accessibility Guidelines, the Federal Fair Housing Amendments Act, and other applicable design standards as adopted and amended by the Disability and Communication Access Board. The law further requires all plans and specification prepared for the construction of State of Hawaii or County government buildings, facilities, and sites to be reviewed by the Disability and Communication access Board for conformance to those guidelines and standards.

The proposed improvements include upgrading the existing County-owned parking lot (located behind Kaua‘i Missionary Church) and a new comfort station. These facilities will serve as a trailhead for the path. Other design elements will include grading, retaining walls, railing or fencing, landscaping, signage, and user amenities, such as benches, water fountains, and trash receptacles.

The County of Kaua‘i will construct, own, and operate the facility. The project will be funded, in part, by the U.S. Department of Transportation, Federal Highway Administration (FHWA).

1.2 PROJECT BACKGROUND

In 2007, the Kaua‘i Department of Public Works (DPW) completed an environmental assessment (EA) for a bike/pedestrian path from Lydgate Park to Kapa‘a (Lihi Park) and made a finding of no significant impact. The preferred alignment described in that EA included a section located mauka of Kūhiō Highway and along the Waipouli drainage canal (see Phase E in Figure 1). The 2007 EA was followed by more detailed design studies that determined that crossing Kūhiō Highway and the temporary bypass road would not be optimal for path users. Because the bike/pedestrian path proposed in the original EA extended as far north as Coconut Marketplace (via Papaloa Road) and as far south as Uhelekawawa Canal, the County began reexamining options to connect these two points. The most feasible option was a makai route that had been proposed and studied in the Draft Environmental Assessment for the original path project—to locate the path within portions of the County’s existing beach reserve.

This environmental assessment reevaluates the makai alternative, referred to as Phases C & D, or sometimes called the Waipouli connection.

1.3 PROJECT PURPOSE AND NEED

The County’s purpose is to provide a bike and pedestrian path that is safer and more accessible than the existing assemblage of highway, local roads, and informal trails. Phases C & D would close a key gap in the recently constructed shared use paths (Phases A & B), thereby increasing the connectivity of the existing network. Phases C & D are located in an area with many attractors, including hundreds of visitor units, shops and restaurants.

A second purpose of the shared use path is to ensure lateral coastal access for the public and appropriate recreational development within the beach reserve. The project corridor is located in a resort district where the remaining vacant parcels are expected to be developed in the near future. Resort projects were entitled with the condition that a paved pathway is provided to enable public access to coastal resources. This project, then, would coordinate and enhance the resort-specific public access requirements with a cohesive and unified design. The path would provide convenient access for people who wish to fish or gather along the coastline. For the large community of walkers, joggers, runners, and bicyclists, the path would be a facility for fitness and physical exercise. For all users, the shared use path would provide an aesthetic experience as this segment offers picturesque views of the Waipouli shoreline.

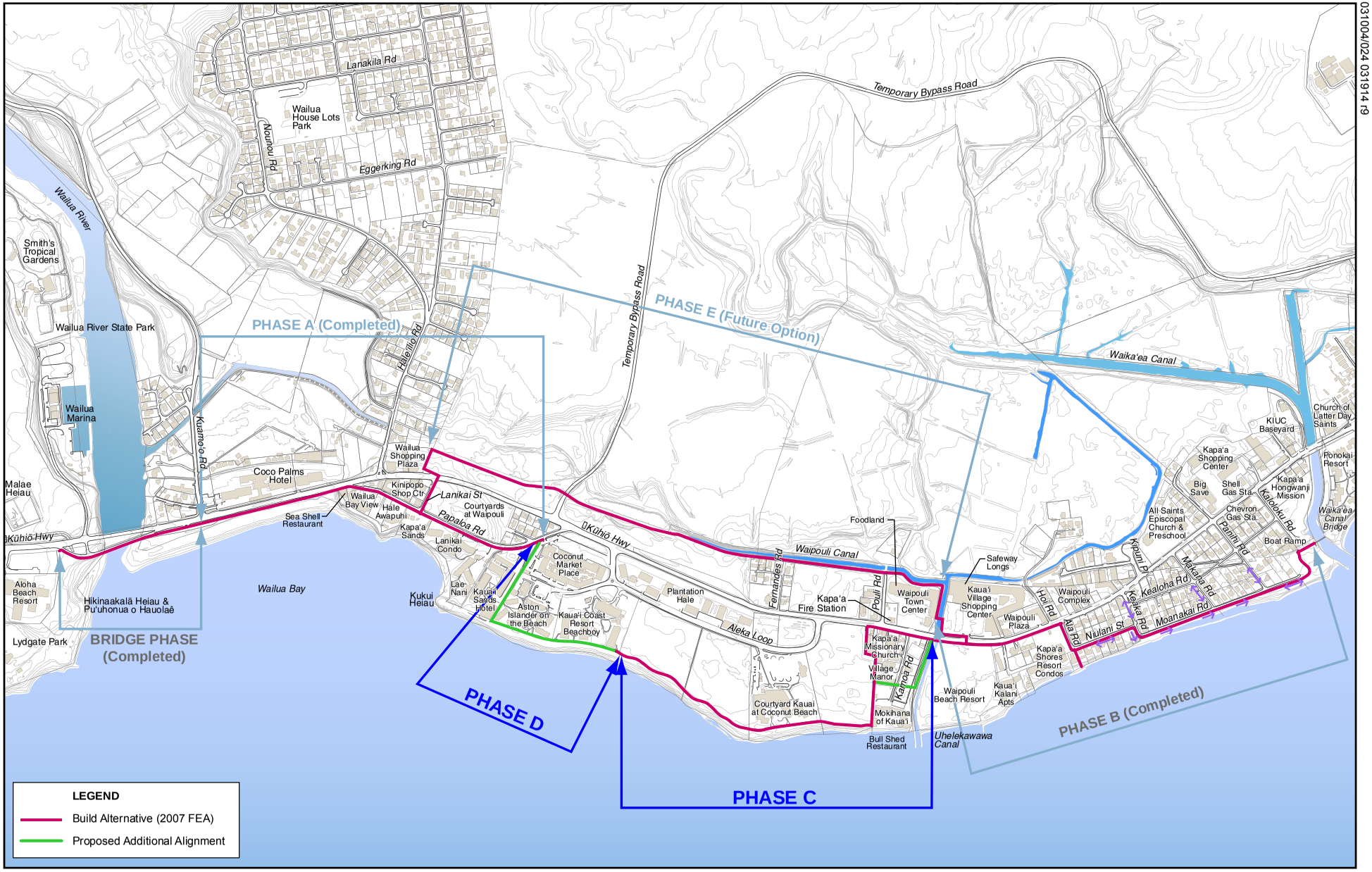


Figure 1
OVERALL BIKE/PEDESTRIAN PATH ALIGNMENT BY PHASE
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

1.4 ENVIRONMENTAL REVIEW PROCESS

The Environmental Assessment (EA) is a document that discloses the environmental and socio-cultural impacts that may result from a project’s implementation, and includes specific mitigation measures. It has been prepared to satisfy the requirements of Chapter 343, Hawai‘i Revised Statutes (HRS) and Title 11, Chapter 200, Environmental Impact Statement Rules of the Hawai‘i Administrative Rules (HAR).

Triggers

The proposed action has triggered the rules and regulations for environmental review for the following reasons:

- use of county lands and funds
- use within any historic site or district designated in the National or Hawai‘i Register of Historic Places
- (possible) use within the shoreline setback area—usually 40 feet minimum from the certified shoreline

The project will not directly affect historic properties currently listed on the National and/or Hawai‘i Registers of Historic Places. However, several historic properties were identified as eligible for such listing during consultations with Native Hawaiian Organizations and other stakeholders, which took place under Section 106 of the National Historic Preservation Act.

Preliminary analysis indicates that it is possible to construct the path outside the 40-foot shoreline setback area. However, the precise location relative to the setback area cannot be confirmed until a topographic survey with property metes and bounds, a certified shoreline and shoreline setback determination have been done, and more detailed design drawings completed for the path.

Environmental Review

The environmental review process allows for three courses of action depending on a project’s anticipated level of environmental impact. The first course would be “exemption” from environmental review according to the HAR Chapter 200 (Environmental Impact Statement Rules), and qualification as a “categorical exclusion” according to 23 Code of Federal Regulations (CFR) 771 and 40 CFR 1508. These procedures are applicable to projects that typically do not impact the environment (for example, road resurfacing or routine maintenance).

The second course of action applies to projects whose environmental impact would not be significant. The term “significant” has a technical definition under HAR Chapter 200. For projects lacking a significant environmental impact, an Environmental Assessment (EA) is prepared and is the appropriate environmental review document. Early consultations and

scoping meetings led to a preliminary assessment that the project would not cause a significant adverse impact (see Chapter 7, Consultations).

Based on impact analyses presented in this document, and the commitment to implement mitigation measures, the proposed project is not anticipated to cause significant adverse impact to the environment. The bases for this conclusion are provided in Chapter 5, Findings.

The third course of action applies to projects expected to have a significant impact on the environment. For such projects, an Environmental Impact Statement (EIS) is the appropriate environmental review document. Since the impacts of the proposed project are not anticipated to be significant, an EIS was not prepared.

Draft Environmental Assessment Request for Comments

The Draft Environmental Assessment (DEA) was submitted to the State Office of Environmental Quality Control (OEQC) for processing on January 22, 2014. The OEQC notified the public that the DEA was available for review in its bimonthly bulletin, the OEQC *Environmental Notice* on February 8, 2014. Official announcement by the OEQC initiated a 30-day review and comment period. On February 19, 2014, a public informational meeting was held at the Kapa'a Middle School to review the findings of the DEA and to solicit comments.

Other Opportunities for Public Input

Additional channels for public input will be available after the environmental review process is completed. This project will require a Special Management Area (SMA) use permit, which entails a public hearing and approval by the County Planning Commission. During the engineering design and construction phase of the project, additional public informational meetings will be held.

1.5 PERMITS AND APPROVALS REQUIRED OR POTENTIALLY REQUIRED

The following government permits are required or potentially required to implement the proposed action:

- Hawaii Coastal Zone Management (CZM) Program consistency review, State Office of Planning
- National Pollutant Discharge Elimination System (NPDES) Permit, State Department of Health
- Special Management Area Permit, County of Kaua‘i
- Shoreline Setback Variance (SSV), County of Kaua‘i

1.6 PROJECT SUMMARY

Project Name	Lydgate Park-Kapa‘a Bike/Pedestrian Path, Phases C & D
Proposing Agency	County of Kaua‘i, Department of Public Works
Approving Agencies	County of Kaua‘i, Department of Public Works State of Hawai‘i, Department of Transportation
Anticipated Determination	Finding of No Significant Impact (FONSI) under HRS, Chapter 343
Tax Map Keys	Island of Kaua‘i: 4-3-001, 002, and 007: various parcels
Existing Uses of the Project Corridor	Coastal resort area, anchored by shopping complexes—Coconut Marketplace on the south end and Waipouli Shopping Center/Kaua‘i Village Shopping Center on the north end; residential parcels and small, highway-oriented businesses on the north end
Proposed Project	Development of a shared use path, 10-12 feet wide between Papaloa Road at Coconut Marketplace and north side of Uhelekawawa Canal
State Land Use	Urban District
Kaua‘i General Plan (Land Use Map)	The entire project area has a land use designation of Resort
Zoning	Primarily Resort District (RR-20) with linear Open District (O) along the shoreline and along Kūhiō Highway, small areas of Commercial District-Neighborhood (C-N) along Kūhiō Highway
Special Management Area (SMA) Designation	The entire project area is located within the SMA

2. ALTERNATIVES

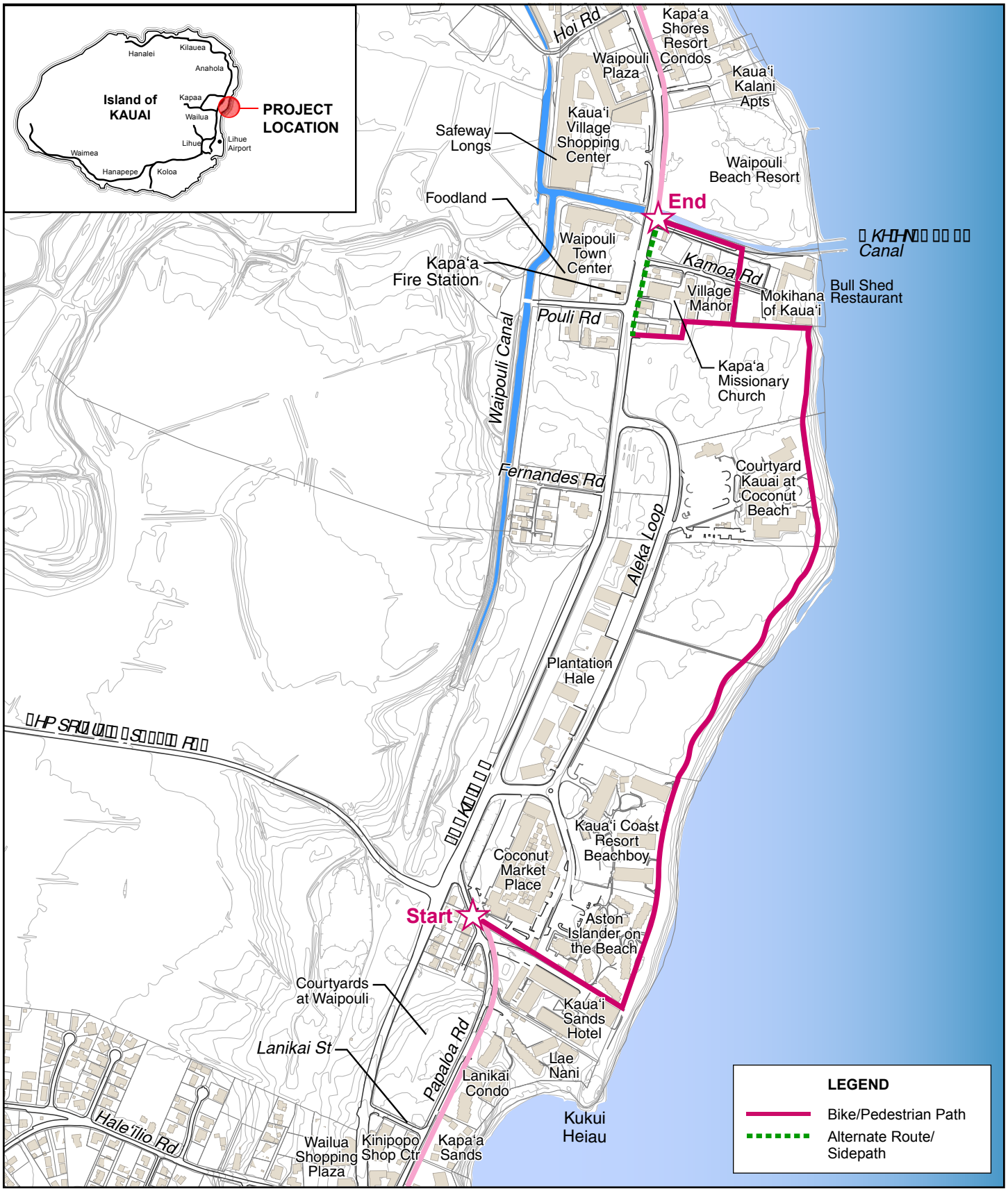
2.1 PROJECT CORRIDOR

An overview of the proposed alignment is shown in Figure 2. An aerial view of the project area is shown in Figure 3. The project corridor extends from Papaloa Road, between Kaua'i Sands Hotel and Islander on the Beach, then north through the County's beach reserve and along the coastal bench makai of three undeveloped parcels and Courtyard Kaua'i at Coconut Beach. The path would turn mauka just south of Mokihana of Kaua'i, following an existing County beach access. The project corridor ends at the northern side of Uhelekawawa Canal.

Improvements are also proposed for the County parking lot which is located behind Kapa'a Missionary Church. This site is proposed as a trailhead with a comfort station, drinking fountain, and parking for ADA access.

Figures 4a and 4b shows the proposed alignment overlaid on tax maps for TMK: 4-3-002 and 4-3-007.

Location photos (below) are arranged from south to north. Figure 5 provides a guide to photo locations.



0 200 400 800 Feet

Figure 2
PROPOSED PATH ALIGNMENT
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

0 200 400 800 Feet

Figure 3
AERIAL VIEW OF PROPOSED ALIGNMENT
Lydgate Park − Kapaa Bike/Pedestrian Path
Phase C & D

031004/015 031914 r9

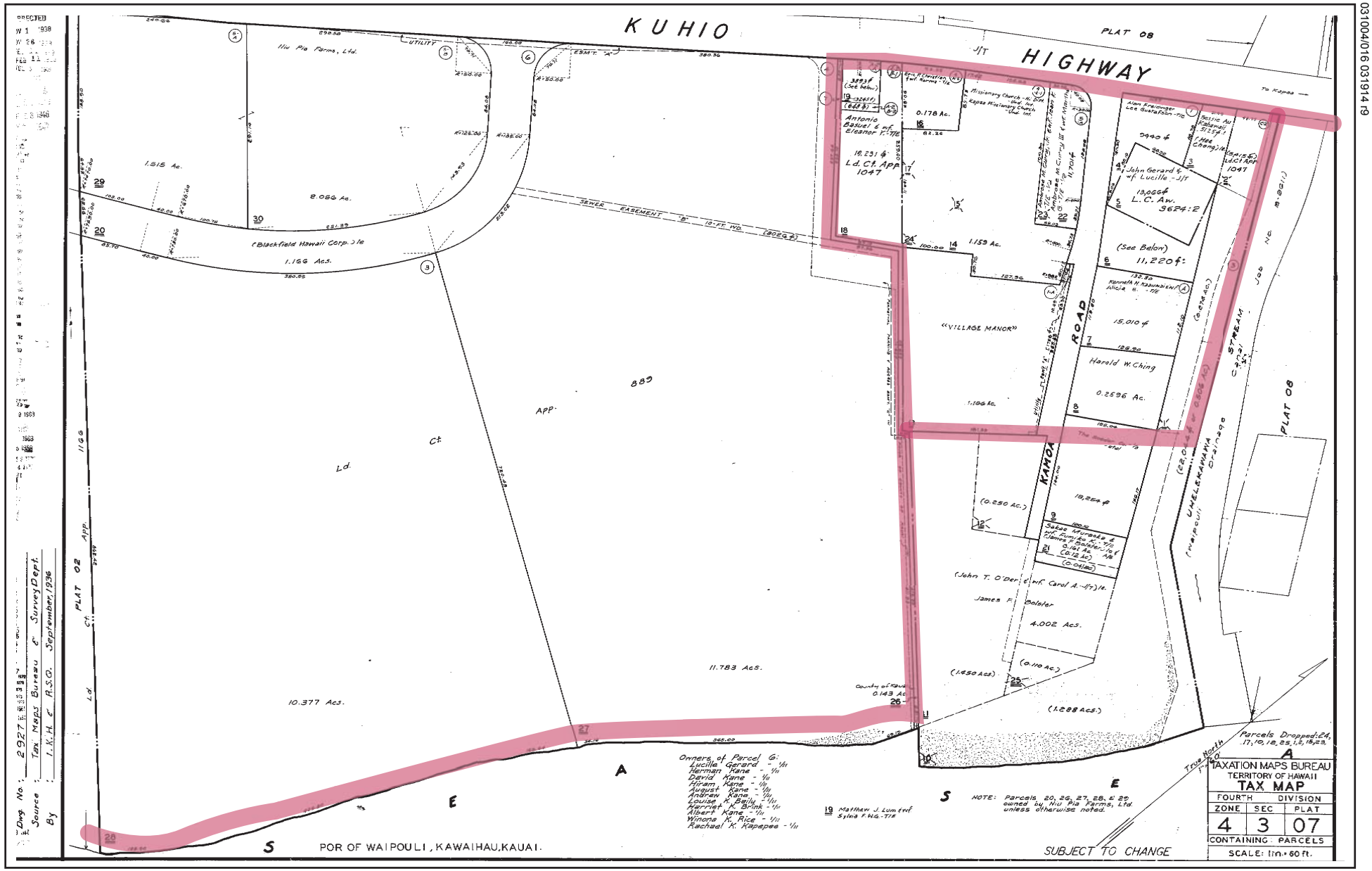
2-4

Figure 4a

TAX MAP 4-3-002

Lydgate Park – Kapaa Bike/Pedestrian Path
Phases C & D

NOT TO SCALE



NOT TO SCALE

Figure 4b
TAX MAP 4-3-007
Lydgate Park – Kapaa Bike/Pedestrian Path
Phases C & D

0 200 400 800 Feet

N

Figure 5
PHOTO LOCATION GUIDE
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

Photo 1. Papaloa Road near Kauai Sands Hotel with completed shared use path

Photo 2. County easement between Kauai Sands Hotel and Islander on the Beach

Photo 3. Beach reserve, makai of Islander on the Beach

Photo 4. County-owned beach reserve on left side of photo (makai of Kauai Coast Resort)

Photo 5. From Kauai Coast Resort, looking north

Photo 6. Vacant parcels (TMK: 4-3-002: 015 and 016)

Photo 7. Marriott Courtyard Kaua'i

Photo 8. From Marriott Courtyard Kaua'i looking north

Photo 9. Vacant parcel TMK: 4-3-7: 27, looking north

Photo 10. Vacant parcel TMK: 4-3-7: 27, looking south

Photo 11. Vacant parcel TMK: 4-3-7: 27, south of Mokihana of Kaua'i

Photo 12. Existing mauka-makai beach access, south of Mokihana of Kaua'i

Photo 13. Existing County parking lot with access from Kūhiō Highway; proposed trailhead for shared use path

Photo 14. Kūhiō Highway at bridge over Uhelekawawa Canal (northern end of Phase C)

2.2 PREFFERED BUILD ALIGNMENT

The preferred alternative jogs between the Mokihana of Kaua'i/Bull Shed Restaurant and the Village Manor condominiums, and then continues along the southern bank of Uhelekawawa Canal (currently a landscaped strip) to Kūhiō Highway. At Kuhio Highway, Uhelekawawa Canal would be spanned to connect to the existing bike path at Waipouli Beach Resort on the northern side.

Photo 15. Preferred alignment makai of Village Manor

Photo 16. South side of Uhelekawawa Canal

2.3 ALTERNATIVE BUILD ALIGNMENT

An alternative alignment is to use the existing beach access, which connects the shoreline and Kūhiō Highway, then construct a bike/pedestrian corridor along the makai side of the highway north to Uhelekawawa Canal (approximately 600 feet). The alternative alignment is shown as a green dashed line in Figure 2.

Photo 17. Makai side of Kūhiō Highway (looking north); the driveway to the County parking lot is in front of the Snorkel Bob's sign

2.4 PROJECT DESCRIPTION

The following are the main components of the project. The decision to incorporate specific features will be made during final design.

Clearing Grubbing and Excavation

The area for the path will be cleared and vegetation removed. This will generally involve removing turf from lawns groomed by the hotel properties. It may be necessary to relocate and/or replace trees or shrubs of varying size and type, notably coconut trees on the south bank of Uhelekawawa Canal. The shared use path typically requires excavation to a depth of approximately 12 inches. Because traffic on the path is relatively lightweight, deep footings or a thick base course are not needed.

Bike/pedestrian Path

Consistent with the overall design of Ke Ala Hele Makalae, the bike/pedestrian path will be 10 to 12 feet wide and allow movement in both directions. It is intended to accommodate a wide variety of users; however, motorized vehicles will not be allowed with the exception of motorized wheelchairs, emergency vehicles, and maintenance vehicles. The path will be constructed from concrete with graded shoulders. Under some environmental conditions, the path's design and construction materials may vary to address issues of context sensitivity. The path will be constructed in compliance with relevant design guides issued under the Americans with Disabilities Act thereby accommodating people requiring mobility aids.

Stream Crossing

A stream crossing will be needed at Uhelekawawa Canal, but the crossing will not require work in the water. The bicycle and pedestrian bridge is expected to be a cantilevered attachment to the existing highway bridge or an independent, single-span bridge that will connect to the existing bike path at Waipouli Beach Resort.

Trailhead Facilities

The project includes rehabilitation, and possible expansion, of the existing County parking area behind Kapa'a Missionary Church. A small comfort station is planned within the parking lot and can be connected to an existing sewer line nearby.

Auxiliary Items

Other construction and design elements include grading, walls, railings, fencing, landscaping, irrigation for landscaping, shielded security lighting, signs and markers, and amenities, such as trash receptacles, benches, and water fountains.

Right-of-Way Acquisition

The County will need to acquire land or obtain an easement for portions of the path. The following properties may be affected depending on the alternative selected.

Tax Map Key (TMK)

Coastal Section

4-3-002: 012

4-3-002: 013

4-3-002: 014

4-3-002: 015 and 016

4-3-007: 028

4-3-007: 027

Historic Preservation Mitigation

4-3-007: 027

Coastal/Mokihana Alternative

4-3-007: 009

4-3-007: 011

4-3-007: 013

Coastal/Highway Alternative

4-3-007: 003

4-3-007: 004

4-3-007: 011

4-3-007: 014

4-3-007: 016

4-3-007: 018

4-3-007: 019

4-3-007: 022

Kūhiō Highway right-of-way

Contingent on the alternative selected, the project may need to relocate utilities and modify portions of the highway, for example, by narrowing lane widths, restriping, and/or relocating

traffic signals and signs. Sandwich Isles Communications, Inc. has underground fiber optic cables and ducts along Kuhio Highway and needs to be consulted during the engineering design phase.

2.5 OTHER ALTERNATIVES CONSIDERED

A wide range of alternative alignments was considered in relation to the project purpose and need, including no action and alternative routes. These options are described below.

2.5.1 No Action

The "no action" alternative is a continuation of the status quo. Under this alternative, the project would not proceed. Bicyclists, pedestrians, joggers, and others would continue to use road shoulders, sidewalks, and informal footpaths, as they currently do; however, there would be no improvements to these travel ways. The no action alternative refers only to path improvements since environmental changes and future development would continue to occur.

2.5.2 Alternatives Considered Previously

Several alternative corridors were considered during the original Lydgate Park to Kapa'a Bike/Pedestrian Path project, and in the planning stage for Phases C & D. These alternatives are reviewed in this section.

Mauka of Kūhiō Highway and Along Waipouli Drainage Canal (Phase E)

The canal route was evaluated in the original environmental assessment and identified as part of the build alternative described in the FEA/FONSI. This section of the path network has been designated Phase E (see Figure 1) and is proposed for construction at a later date.

As described in the FEA, Phase E would cross to the mauka side of Kūhiō Highway at the intersection with Lanikai Street (next to Kintaro's Restaurant). It would then continue on an unused agricultural road owned by the Midler Family Trust. There would be a mid-block crossing where the path intersects the temporary bypass road. Continuing north, the path would run adjacent to the excavated ponds and Waipouli Drainage Canal, continuing past a small residential subdivision around Fernandes Road.

Beyond Pouli Road, the surrounding area is more heavily commercial, with the path passing mauka of (behind) the Waipouli Town Center and the Kaua'i Village Shopping Center. The path would be located outside the "back of house" and delivery areas. At present, the businesses in the shopping centers are oriented toward Kūhiō Highway and their parking lots;

however, the path might spur some businesses to reorient their premises toward the mauka view planes.

Adjacent to Kūhiō Highway

Another alternative considered was to locate the path within or adjacent to the Kūhiō Highway right-of-way between its current terminus on Papaloa Road (Milepost 6.62) and the Uhelekawawa Bridge (Milepost 7.93). The section along the highway would measure approximately 1.3 miles in length. (In comparison, the bike/pedestrian path fronting Wailua Beach, also located along the highway, is approximately 0.3 mile long.)

From Coconut Marketplace to Plantation Hale, there is a grassy swale on the makai side of the highway. Because development is setback from the highway, the area appears wide enough for a shared use path. However, the grade difference between the highway and the swale would require a retaining wall to support a widened shoulder and relocation of utility lines. Placing the path in the swale is unsuitable because it is prone to flooding.

The posted speed limit in this section is 35 mph, but northbound vehicles often travel faster because the availability of two travel lanes reduce congestion and there are no traffic signals between Hale'īlio Road and Waipouli Town Center.

Photo 18. Kuhio Highway near Plantation Hale (looking north)

The character of the highway changes beginning at Snorkel Bob's and heading north, with more intensive commercial activity and more frequent cross traffic. Travel speeds slow down north of Pouli Road as motorists encounter a series of traffic signals. The existing highway right-of-way measures 60 feet across with three travel lanes (two lanes northbound and one lane southbound). There is a painted median, transitioning to dedicated left turn lanes at Pouli Road and Waipouli Town Center. On the mauka side of the highway, there is a sidewalk with concrete curbs and gutters beginning at Pouli Road and extending northward. On the makai side, buildings are located close to the highway with a paved shoulder averaging 4 feet wide. The shoulder space is constrained by utility poles, signs, and traffic signals.

Providing a shared use path that is 8-10 feet wide on the makai side of the highway will likely require right-of-way acquisition or the reallocation of space within the highway right-of-way (for example, by narrowing the median or lane widths).

The highway alternative was dismissed to minimize path users' exposure to vehicles traveling at highway speeds between Coconut Marketplace and Pouli Road, and because it fails to meet the purpose of providing lateral coastal access through the Waipouli resort area. However, the highway alternative is being considered for the short stretch between Snorkel Bob's/Pouli Road and Uhelekawawa Canal. This section is approximately 600 feet in length and vehicular speeds are slower through the commercial area. The highway alternative would be selected if the preferred interior alignment (in the Mokihana of Kaua'i/Bull Shed area) is not feasible.

Photo 19. Kūhiō Highway at the Kamoa Road intersection (looking south)

Coconut Marketplace and Aleka Loop

An "inland road" alternative was considered and dismissed after being evaluated in the draft environmental assessment for the original project. In this alternative, a path alignment was proposed from Papaloa Road through the Coconut Marketplace parking area to Aleka Loop. Because this area is fully developed, the path would be defined by striping the parking lot pavement or differentiating the path with special surface treatment to separate bicyclists and pedestrians from vehicular traffic. Progressing northward, the path would be located on the makai side of Aleka Loop to Kūhiō Highway. At Kūhiō Highway, the path would continue northward for approximately 1,060 feet (0.2 mile) to Uhelekawawa Canal.

Photo 20. Existing sidewalk on the makai side of Aleka Loop (looking north)

The inland road alternative was dismissed because of safety concerns in routing the bike/pedestrian path through the Coconut Marketplace parking area. Potential conflicts between path users and vehicular traffic are a potential liability for the County and the owners of the shopping center. Similarly, Aleka Loop is privately owned and not a public right-of-way. Traffic levels on Aleka Loop are expected to increase significantly, as new resorts are built and Aleka Loop is used for ingress and egress. The existing sidewalk would need to double in width to meet design criteria for a shared use path. The resorts are not obligated (through entitlement conditions) to make this type of improvement for public benefit. On the other hand, the resorts are required to provide lateral coastal access that is paved and a minimum of 10 feet wide.

2.6 PROJECT COST AND SCHEDULE

The preliminary (order-of-magnitude) cost for the proposed project is $2.0 million. This estimate does not include land acquisition.

The project is programmed for construction in FY2015, and expected to take 12 months to complete.

3 AFFECTED ENVIRONMENT, IMPACTS, AND MITIGATION

The following alternatives were assessed for project area impacts:

- No action alternative—in which no public shared use path would be constructed in the corridor represented by Phases C & D.

Two build alternatives (see Figure 2):

- Coastal/Mokihana alternative (preferred)—the path alignment would include the coastal section and an inland section between the Mokihana of Kaua'i and Village Manor condominiums, then along the south bank of Uhelekawawa Canal. Uhelekawawa Canal would be spanned with a bridge to the north bank of the canal.

- Coastal/Highway alternative—the path alignment would include the coastal section combined with a highway section adjacent to Kūhiō Highway between Snorkel Bob's and Uhelekawawa Canal

The coastal section would be the same in both build alternatives, and located on the makai side of resort properties from Islander on the Beach to Mokihana of Kaua'i. The collective term "build alternatives" is used if impacts are not expected to be substantially different between the two build alternatives.

3.1 PHYSICAL ENVIRONMENT

3.1.1 Topography and Soils

The island of Kaua'i is composed of a single basalt shield volcano built by the extrusion of lava of the Waimea Canyon Volcanic Series. Following the cessation of this main shield building phase, there was renewed volcanic activity with the extrusion of basaltic lava of the post-erosional Kōloa Volcanic Series. While the majority of Kaua'i is covered by lava of the Waimea Canyon Volcanic Series, rocks of the Kōloa Volcanic Series cover most of the eastern half of the island. These rocks are generally characterized as thick flows of dense basalt extruded from groups of vents aligned in north-south trends in various locales.

The weathering process has formed a mantle of residual soils that grade to saprolite with depth. In general, saprolite is composed of mainly silty materials and is typical of the tropical weathering of volcanic rocks. The saprolite grades to basaltic rock formation with increasing depth.

According to the Soil Survey Manual, the project area consists almost entirely of Mokuleia fine sandy loam (Mr), see Figure 6. This soil occurs on the eastern and northern coastal plains of Kaua'i and is nearly level topographically. Permeability is moderately rapid in the surface layer and rapid in the subsoil. Runoff is very slow, and the erosion hazard is slight.

Source: Hawaii Statewide GIS Program

0 200 500 Feet

Figure 6
SOILS
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

Potential Impacts and Mitigation Measures

No Action Alternative**:** There would be no impacts because the physical environment would not be altered. Existing bare footpaths through the undeveloped parcels currently result in some soil erosion; however, when the land is developed for resort use, these footpaths are likely to be replaced by grassed lawns similar to what is found on neighboring resort properties.

Build Alternatives**:** The proposed improvements will not have a significant adverse effect on topography in the project corridor, which is generally flat with no unusual geologic features. In many areas, the land is already used for a transportation purpose (formally or informally) as existing paved roads, concrete sidewalks, and footpaths. Fragile or unstable soils are not present.

In the coastal section of the path (common to both build alternatives), the path is proposed for construction on berms to avoid excavation in areas with concentrated cultural deposits. These areas measure approximately 270 feet in length (across TMK: 4-3-002: 016) and 190 feet (across TMK: 4-3-007: 027). At a height of 1.5 feet, the berms would require an estimated 700 cubic yards of fill material.

Mitigation Measures:

To the extent practical, design plans developed for the path in these areas will try to achieve balanced cut and fill conditions to minimize disturbances to the area's topography and soils, and the need to transport and possibly dispose of surplus material.

Construction of the path and amenities will inevitably involve some land disturbing activities that may result in waterborne and airborne soil erosion. However, the erosion potential is considered relatively low given the small areas of disturbance in any given location. To minimize the potential for construction-related erosion impacts, best management practices (BMPs) will be developed as part of the project's engineering and design. Erosion and sedimentation control measures will include:

- Use of construction site stormwater runoff control, such as temporary silt fencing, screens, or compost filter sock
- Regular watering of graded areas as a means of reducing the amount of fugitive dust in the air
- Sodding or planting of slopes and exposed areas immediately after finished grades are achieved
- Restrictions on the stockpiling of construction material and proper disposal of construction debris

All erosion and sedimentation control measures will comply with the County's regulations and, if required, applicable National Pollutant Discharge Elimination System (NPDES) permits obtained from the State Department of Health as part of the Clean Water Act.

3.1.2 Climate and Air Quality

Chemical air pollutants and particulates that are regulated under State and Federal standards include sulfur dioxide, hydrogen sulfide, nitrogen dioxide, carbon monoxide, ozone, and lead. Kaua'i, like the rest of the state, enjoys good air quality and meets the standards set for all regulated pollutants (i.e., is within an "attainment area"). Because of its unsheltered, coastal location, the project corridor is directly exposed to tradewinds that help to maintain good air quality.

Potential Impacts and Mitigation Measures

No Action Alternative: With the no action alternative, the project corridor would lack a facility that offers attractive non-motorized travel options. An unknown number of trips to nearby destinations would be made by motor vehicles and contribute to total emissions, but significant adverse effects are not anticipated.

Build Alternatives:

Short-term impacts on air quality along the study corridor may result from construction of the path. However, such impacts are expected to be negligible because of their limited duration and the ability of best management practices to minimize emissions. Two common types of pollutants are (1) fugitive dust emissions from the movement of construction equipment and soil excavation, and (2) exhaust emissions from on-site construction equipment.

In the long-term, the proposed action is expected to have a positive effect on air quality as path use replaces trips that would have been taken by motorized vehicles, a primary source of emission impacts.

Mitigation Measures:

Fugitive Dust. A dust control plan that incorporates best management practices will be implemented to minimize air quality impacts during the project construction phase. Among the measures available to control airborne emissions are the following:

- Cover stockpiles with appropriate material and dispose of debris properly
- Water active work areas, as necessary, to control dust
- Keep clean adjacent paved roads
- Cover open-bodied trucks whenever hauling material that can be blown away
- Limit the amount of disturbed area at any given time and/or stabilize inactive areas that have been exposed

Exhaust Emissions. Emissions from the engine exhausts of on-site mobile and stationary construction equipment will have minimal impacts on air quality. Emission impacts can be reduced by requiring contractors to use vehicles that are properly maintained. Nitrogen oxide

emissions from diesel engines can be relatively high compared to emissions from gasoline-powered equipment; however, the standard for nitrogen dioxide is set on an annual basis and is unlikely to be violated by emissions from short-term use of construction equipment. Carbon monoxide emissions from diesel engines are low and expected to be relatively small compared to vehicular emissions on nearby roadways.

Construction activities will employ fugitive dust emission control measures in compliance with provisions of the State Department of Health Rules and Regulations (Chapter 43, Section 10), and Hawai'i Administrative Rules (HAR), Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33 on Fugitive Dust.

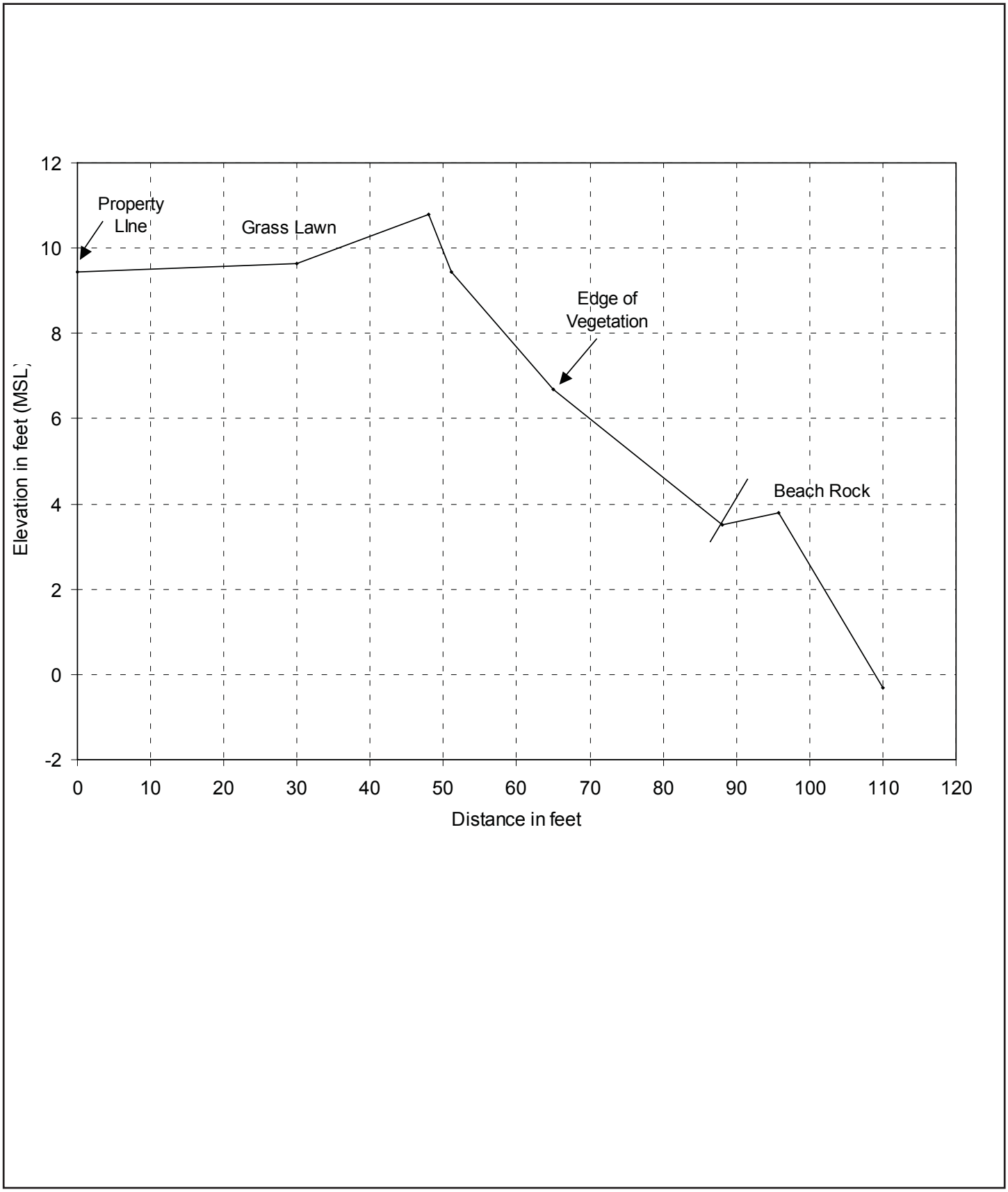
3.1.3 Coastal Resources and Processes

Bathymetry and Coastline—from Kaua'i Sands Hotel to Mokihana of Kaua'i

The project site is located on the windward shore of the Kaua'i which is exposed to tradewinds and tradewind-generated waves. The beach in this 2,500-foot stretch is typically about 50 feet wide. The shoreline is somewhat convex in front of the Kaua'i Coconut Beach Hotel. Trees run parallel to the shore along the back beach area and constructed walkways are found in front of each hotel. The walkways do not connect to neighboring properties. The trees fronting the vacant properties are denser than those fronting the hotels. Footpaths exist within or behind the trees fronting the vacant properties.

The offshore area from Kukui Heiau past the Islander on the Beach contains a low, flat coral reef, producing a surf zone that extends more than 35 feet offshore. North of the Islander on the Beach, the reef extends the surf zone as far as 1,500 feet from shore.

Figure 7 shows a beach profile that was measured at the north boundary of the Kaua'i Coast Resort and is representative of the beach in this area (Sea Engineering, 2004). The sandy beach is approximately 23 feet wide from the beach rock to the vegetation line with a slope of 1V:6.6H. The berm crest rises to an elevation of 11 feet MSL. The lawn areas located landward of the beach crest are typically at an elevation of about 9 feet MSL and the bike route is about 110 feet from the water line.



Source: Sea Engineering, Inc. 2004

Figure 7
PROFILE AT KAUAI COAST RESORT
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

Potential Impacts and Mitigation Measures

No Action Alternative: The no action alternative would have no effect on coastal resources and processes.

Build Alternatives:

In the coastal section, the preliminary path alignment is landward of the tree line and damage to the path due to beach erosion is not expected.

By letter dated August 1, 2011, the Office of Conservation and Coastal Lands (OCCL) commented that realigning the path (as proposed in Phases C & D) would have the beneficial effect of improving coastline access. OCCL offered the following: the path should be located farther mauka in beach areas threatened by erosion; path construction should use modular building materials that can be relocated inland, as necessary; the path should allow for seasonal beach fluctuations (for example, using an elevated boardwalk style construction); and beach quality sand displaced during construction should be replaced.

The proposed path is not located in the sandy beach area, but on upland which is not subject to seasonal shifts and fluctuations.

Mitigation Measures:

If the path is affected by extreme weather conditions, the County will clear debris and make necessary repairs to ensure the safety of path users. Construction methods and materials will be selected to minimize loss and damage.

3.1.4 Hydrology and Water Quality

The proposed bike/pedestrian path will traverse portions of the Kapa‘a watershed which includes Konohiki Stream, an extensive network of plantation-built irrigation ditches and reservoirs, and three man-made drainage canal systems (Waipouli, Waika‘ea, and Mo‘ikeha). The canals provide flood protection for Kapa‘a Town and are the watershed’s only shoreline outlets for storm water.

Clean Water Act, Section 303(d)

The federal Clean Water Act requires states to collect and review surface water quality data and related information, and to prepare and submit to the U.S. Environmental Protection Agency biennial lists of waterbodies that are impaired (i.e., not expected to meet State water quality standards). For all impaired waters, the State Department of Health (DOH) is required to compute the Total Maximum Daily Load (TMDL), which is the maximum amount of a pollutant (from point and nonpoint sources) that a waterbody can receive and still meet water quality standards, and to establish an allocation of the maximum load to the pollutant’s sources. Because

there is a large demand for TMDL calculations, the State DOH has assigned a priority of low, medium, or high to each of the impaired waters listed, based on the severity of pollution and how the water is used. Uhelekawawa Stream (Canal) is included on the 2012 Integrated 303(d) List/305(b) Report for Hawai‘i and assigned a low priority for a TMDL study (Assessment Table, page 59).

Potential Impacts and Mitigation Measures

No Action Alternative: The no action alternative will not affect water quality in the project area.

Build Alternatives: The proposed shared use path will need to cross Uhelekawawa Canal. The crossing will be designed as a cantilever attached to the existing Kūhiō Highway bridge, or an independent single-span bridge makai of the highway bridge. Any structural improvement is not expected to require construction within the water channel (waters of the U.S.) and will not affect flow within the waterway.

Mitigation Measures:

Impacts from non-point source pollution from construction activities will be minimized by implementation of best management practices. For the long term operation and maintenance of the path, impacts from non-point source pollution will be addressed by adjacent planting strips and vegetation.

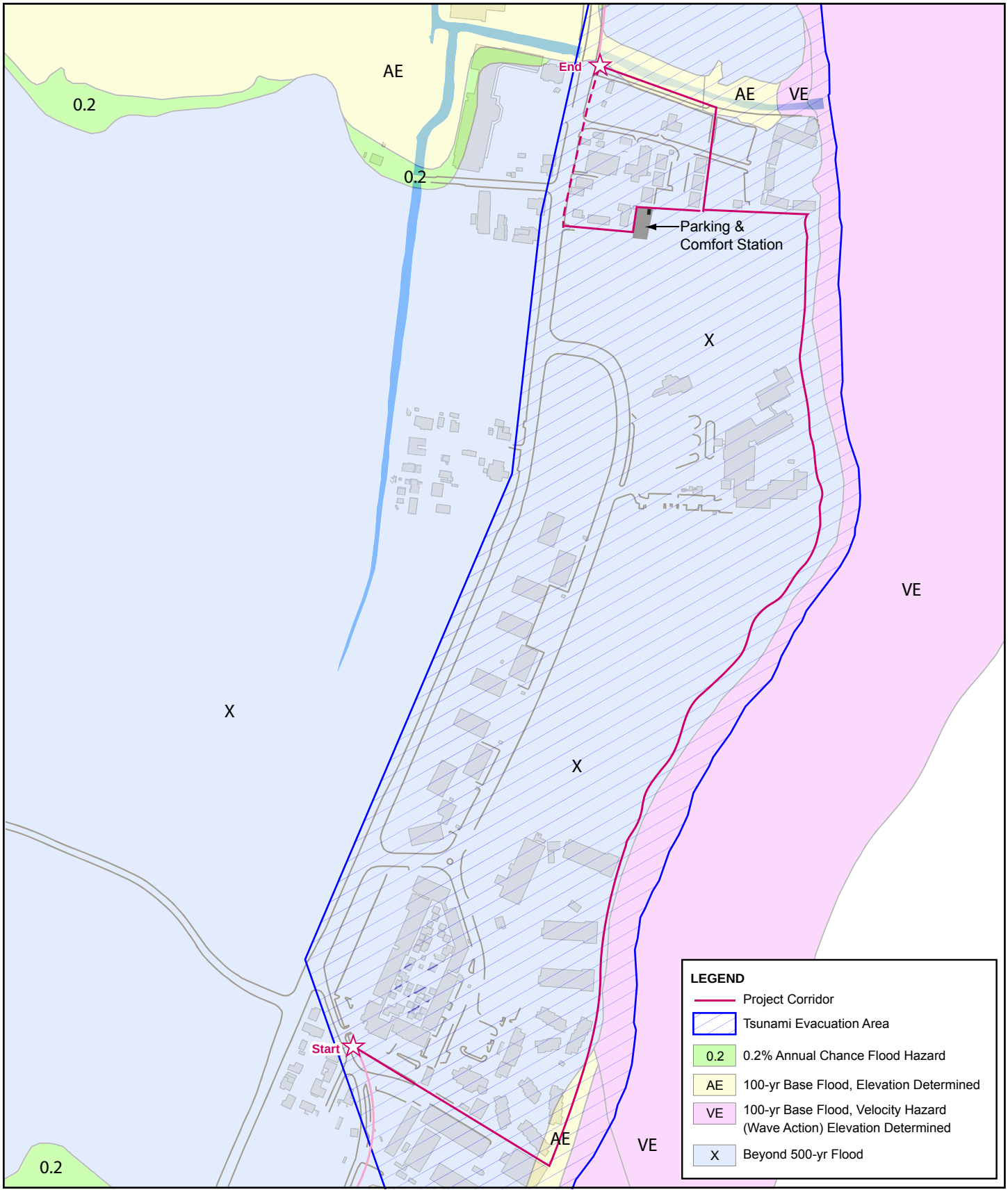
3.1.5 Natural Hazards

Flooding and Tsunami Risk

The Flood Insurance Rate Map (FIRM) for the region shows that the shoreline along most of the shared use path is classified Zone X, and close to the interface of Zone VE with a base flood elevation ranging from 8 to 15 feet (see Figure 8). Zone X is beyond the 500-year flood zone. Zone VE is a “coastal high hazard area where wave action and/or high velocity water can cause structural damage in the 100-year flood,” and is primarily identified as an area where a 3-foot or greater wave height could occur.

Hurricane flooding was calculated at the location of the beach profile near Kaua‘i Coast Resort (Sea Engineering, 2000). The inland extent of the flooding was estimated at 433 feet, a value considered representative for this stretch of coast and significantly beyond the proposed path.

Like most of the Waipouli resort district on the makai side of Kūhiō Highway, Phases C & D are located inside the tsunami evacuation area (see Figure 8).



Source: Hawaii Statewide GIS Program; Flood Insurance Rate Map (FIRM), Kauai County, Hawaii Panel 212 of 356, Map Number 1150002021E.

0 200 500 Feet

Figure 8
FLOOD AREAS
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

Seismic Activity

Earthquakes in the Hawaiian Islands are primarily associated with volcanic eruptions from the expansion or shrinkage of magma reservoirs, rather than shifts in the earth's crust. The island of Kaua'i is periodically subject to episodes of seismic activity of varying intensity, but available historical data indicates that the number of major earthquakes occurring on Kaua'i have generally been fewer and of lower intensity compared with other islands, such as the Big Island.

Earthquakes cannot be avoided or predicted with any degree of certainty, and an earthquake of sufficient magnitude (greater than 5.0 on the Richter scale) could cause damage to the path. The International Building Code (IBC) provides the design criteria to address potential for damages due to seismic disturbances. The IBC maximum considered ground motion for Kaua'i is relatively low compared to earthquake prone areas.

Potential Impacts and Mitigation Measures

No Action Alternative: The coastal environment would be affected by natural processes and extreme events with or without the current proposal.

Build Alternatives:

The coastal portion of the proposed alignment is located in the tsunami evacuation zone. Path users will be subject to evacuation orders and other instructions issued by civil defense authorities for the immediate region.

Except for the crossing at Uhelekawawa Canal and the southern portion near Islander on the Beach, the path alignment is outside Zone AE for which base flood elevations have been determined. Storm water and/or high waves may cause flooding in low-lying areas, but these temporary conditions will not have a serious effect on the path. Unpaved shoulders will absorb sheet flow in normal rain events.

Based on the IBC seismic design criteria, there is a small probability of earthquake impacts. All pathways will be constructed in compliance with appropriate seismic standards.

Mitigation Measures:

Informational signs related to coastal hazards, such as the potential for tsunami evacuation, could be included in the path's signage program.

Storm-related debris will be cleared and spot repairs made, as necessary.

3.1.6 Noise

Existing noise levels in the project area are consistent with similar urban environments. Traffic on Kūhiō Highway is the primary noise generator. Away from the highway, ambient noise levels are low due to the predominantly residential nature of resort properties. Along the coastline, ocean waves contribute to the ambient noise level, but also serve to mask noises that are less pleasurable to human ears.

Potential Impacts and Mitigation Measures

No Action Alternative: The baseline sources of noise would continue under the no action alternative. This is not significantly adverse noise.

Build Alternatives:

Construction-related Noise

Construction in the coastal sections of the path will affect adjacent resorts and condominiums. Construction-related noise impacts are unavoidable, but will be temporary. Project construction will involve excavation, grading, paving, and the movement of construction vehicles. The various construction activities may generate noise that impacts nearby residential areas. Typical ranges of construction equipment noise vary between 70 and 95 dBA. The actual noise levels produced will be a function of the methods employed during each stage of the construction process. Earthmoving equipment, e.g., backhoes, front loaders, bulldozers, and diesel-powered trucks, will probably be the loudest equipment used during construction. Construction on this project will occur during daytime hours only.

Noise levels are regulated and the contractor will have to ensure that all construction activities comply with the State Department of Health (DOH) Administrative Rules, Chapter 11-46 on Community Noise Control. In cases where construction noise exceeds, or is expected to exceed the DOH's maximum permissible property line noise levels, the contractor will be required to obtain a permit from the DOH to operate vehicles, construction equipment, power tools, etc. that emit noise levels in excess of "maximum permissible" levels. Conditions attached to the permit specify the days and times when construction is allowed. Construction equipment and on-site vehicles that exhaust gas or air will be equipped with mufflers. Construction vehicles are also required to satisfy the DOH's vehicular noise requirements.

Long-term Noise Impacts

The completed bike/pedestrian path is a travel way that will be restricted to non-motorized modes of transportation. Walking, jogging, bicycling, and battery-operated wheelchairs are relatively quiet. Nevertheless, the path is a community facility that will attract people and a certain amount of talking and socializing is expected. For the most part, the noise levels generated by this type of activity will not exceed State and federal guidelines and standards. Several miles of Ke Ala Hele Makalae have been completed, including sections that are located

close to residences—along Ala Road, Niulani Street, and Moanakai Road; at Hundley Heights; and adjacent to Pono Kai—and there have been scant noise complaints.

Noise levels can be more disruptive if they occur late at night or in the early morning hours. Such annoyances are not expected to be pronounced in the resort areas where buildings are equipped with central air conditioning and units are generally locked because of the urban setting. In single-family residential areas where windows may be open, occasional loud noises are not expected to differ from the isolated occurrences that take place on public streets.

Shared use path at Hundley Heights (Kawaihau)

Shared use path along Moanakai Road

Mitigation Measures:

- Outdoor lights are not proposed for linear sections of the path which would discourage use after dark.

- Where necessary, signs can be installed reminding users about path etiquette and courtesy toward neighbors. A more pro-active option is a public education campaign to disseminate this message, if warranted by the number and frequency of noise complaints.

3.1.7 Hazardous Materials

A Phase I Environmental Site Assessment (Phase 1 ESA) was conducted in 2003 for the proposed Kapa'a Relief Route project (Kimura International, Inc., 2003). The purpose of the Phase 1 ESA is to identify the presence of recognized environmental conditions as defined by the American Society for Testing and Materials (ASTM) Practice E 1527-00. Data on potential sources of ground contamination were obtained through searches of commercial and government databases, review of files and records maintained by the Department of Health, site reconnaissance, and interviews.

No ground contamination areas are located in the vicinity of Phases C & D.

3.2 BIOLOGICAL ENVIRONMENT

3.2.1 Flora

A botanical resources assessment study was conducted for the original shared use path project in 2004 (Char and Associates, 2004). The survey included a makai route coinciding with Phases C & D.

In the Waipouli resort area, the landscape alternates between properties with extensive lawns and undeveloped parcels. Through the undeveloped parcels, existing dirt paths follow along the shoreline. A thin line of ironwood trees (*Casuarina equisetifolia*) along with a few tree heliotrope (*Tourneforthia argentea*) and beach naupaka or naupaka kahakai shrubs (*Scaevola sericea*) are found along the seaward side of the undeveloped parcels. Bermuda grass (*Cynodon dactylon*) forms low mats along the dirt pathways.

Potential Impacts and Mitigation Measures

No Action Alternative: Changes to the baseline botanical environment would occur as the vacant parcels are developed for resort use. The new landscaping is expected to resemble the mix of groomed lawns and tropical plantings (native and non-native) found at neighboring resort properties.

Build Alternatives:

In the developed portions of the proposed shared use path, the vegetation consists of grassed lawns with landscape plantings. Undeveloped areas support a varied assortment of vegetation types or plant communities. The proposed path will not pass through wetland. In the vacant parcel identified as TMK 4-3-7:27, a grove of mature coconut trees are identified by the Kaua'i County Exceptional Tree ordinance (Exceptional Tree No. K-12-Coconut Grove (otherwise known as *Niu*, Coconut-palm or *Cocos nucifera*) and whose location is described as "The grove extends both makai and mauka of Highway 56 (Kūhiō Highway) at Waipouli; TMK 4-4-6-2, 4-3-7-27, 28 and 29)). The coconut trees on parcel 27 are on the exceptional

tree list and appear to be concentrated as a grove of a former coconut plantation. The grove does not extend to the shoreline and no coconut trees appear to be along the path alignment. However, if a coconut tree is found within the proposed alignment, the County Arborist Committee will be consulted as to measures to replace or avoid any such tree.

None of the plants observed within the proposed path alignments is a threatened or endangered species or a species of concern. All of the native species encountered can be found in similar environmental habitats throughout the Hawaiian Islands. The proposed construction of Phases C & D is not expected to have a negative impact on botanical resources in the project area.

Coastal/Mokihana Alternative: The preferred inland route includes a section along the southern bank of Uhelekawawa Canal, which is presently landscaped with rows of coconut trees (see Section 2.2, Photo 16). While an effort will be made to locate the path away from the coconut trees, the final alignment will require relocation or removal of a number of trees. A large mature tree is located on parcel 27 at the intersection where the path continues on to the proposed comfort station and parking lot or runs between the Village Manor and Mokihana property. During the next engineering design phase, path alignments to save the tree will be evaluated.

Mitigation Measures:

Landscaping material will consist of native plants to the extent possible.

Mature trees that need to be cleared for construction will be relocated or replaced.

3.2.2 Fauna

Several avian and mammalian surveys were conducted in the Wailua-Waipouli-Kapa'a coastal corridor in the 2000s. Intensive counts for the original project corridor were taken in March 2004 (David 2004).

Avifauna

A total of 339 individual birds of 17 species, representing 14 separate families were recorded during station counts. Of the 17 species detected in the coastal area, two species—Pacific Golden Plover (*Pluvialis fulva*) and Ruddy Turnstone (*Arenaria interpres*) are indigenous migratory species commonly found throughout the state during the winter months. The other 15 species detected are alien to the Hawaiian Islands. No avian species that is either listed, or proposed for listing under either the federal or State of Hawai'i's endangered species programs was detected in the coastal area during the course of the survey.

Avian diversity was relatively low in the coastal area. Three species, Zebra Dove (*Geopelia striata*), Common Myna (*Acridotheres tristis*), and House Sparrow (*Passer d. domestcus*), accounted for 44 percent of the total of all birds recorded during station counts. The most

common avian species detected was the House Sparrow, which accounted for 10 percent of the total number of individual birds recorded. An average of 56 birds was recorded per station count. The findings of the avian survey were consistent with the findings of other surveys conducted within the lowland areas of Kaua‘i.

Due to the timing of the field survey neither the endangered Hawaiian Petrel (*Pterodroma sandwichensis*) or ‘ua‘u nor the threatened endemic sub-species of the Newell’s Shearwater (*Puffinus auricularis newelli*) or ‘a‘o were detected flying over the project site. Both of these species are pelagic seabirds which do not return to their breeding colonies until late April. Both species cross the northern, eastern, and southern coastline of Kaua‘i across a broad front and in relatively large numbers during the breading season, and both have been recorded over-flying all areas of the project site.

One species detected during station counts, the Short-eared Owl (*Asio flammeus sandwichensis*) or pueo is an endemic sub-species which is listed by the State of Hawai‘i as endangered on O‘ahu, but not on Kaua‘i. The owl is not listed under the federal ESA. Two additional species: White-tailed Tropicbird and Black-crowned Night Heron (*Nycticorax nyticorax hoactli*) or ‘auku‘u are relative common indigenous breeding species. Three other indigenous breeding seabird species: Wedge-tailed Shearwater (*Puffinus pacificus chororhynchus*) or ‘ua‘u kani, Red-Footed booby (*Sula s. rubripes*) or ‘a, and Great Frigatebird (*Fregata minor palmestroni*) or ‘iwa were detected as incidental observations while traversing portions of the survey area.

In general, the avian makeup of Waipouli, Wailua and Kapa‘a is the same. Any species recorded within any of these three areas can be expected to be found at least occasionally in the other two sites. Birds are mobile creatures and use resources as they occur on a seasonal and opportunistic fashion. There is no significant difference in the avifauna within the three areas.

Great Frigatebirds can be expected to be seen on an occasional basis anywhere along the coastline of Kaua‘i, and no specific areas within Phases C & D provide any special or unique habitat. Frigatebirds do not nest and rarely if ever roost within the greater Kapa‘a area. The proposed bike/pedestrian path will not result in deleterious impacts to this or other seabird species.

In addition to the aforementioned, the U.S. Fish and Wildlife Service list of protected species (provided by letter dated May 9, 2012) includes the band-rumped storm petrel (*Oceanodroma castro*) or ‘akē‘akē which is a federal candidate for listing and a State endangered species.

Land-based Fauna

Endangered Hawaiian hoary bats were seen on both nights of the March 2004 survey. Three bats were seen simultaneously from the bridge crossing Wailua River. Additionally, two animals were seen foraging over the near-shore area in front of the Bull Shed Restaurant, just south of the Uhelekawawa Canal.

Three alien mammalian species (rat and feral dog and cat) are commonly found in urban areas.

Ocean Fauna

By email dated April 20, 2012, the National Marine Fisheries Service identified protected ocean species encountered in or near the project area. Hawaiian monk seals (*Monachus schaunislandi*) and green sea turtles (*Chelonia mydas agassizii*) may haul out in the vicinity and Hawksbill turtles (*Eretmochelys imbricata*) may be found in nearshore waters. Additionally, critical habitat proposed for the Hawaiian monk seal includes terrestrial habitat 5 meters (approximately 16.4 feet) from the shoreline.

Stream Fauna

The proposed path will need to cross Uhelekawawa Canal. The information on stream fauna is based primarily on an aquatic biological assessment prepared by Michael H. Kido for the proposed Kapa‘a Relief Route (Kido, 2003). The bike/pedestrian path project corridor occupies a portion of the larger Kapa‘a Relief Route study area.

The floodplain mauka of Waipouli-Kapa‘a, has been highly modified historically by the sugarcane plantations that constructed numerous reservoir, stream diversions, and irrigation ditches that today empty into three major canals that discharge into the ocean. There are no natural stream habitats in the Kapa‘a floodplain and all drainage canals are highly sedimented, slow moving, and (in the lowland) devoid of riparian zones. The canal system is infested with alien species including various Poeciliid species and at least one species of tilapia. Populations of native aholehole, however, are common at the mouths of the canals at the freshwater-ocean interface and it is likely that other itinerant fish species like mullet enter these limited coastal areas regularly.

A substantial effort in Kido’s study was focused on locating populations of the endangered aquatic snail, Newcomb’s Snail (*Erinna newcombi*), using both underwater visual observation and standard benthic sampling methodologies; however, no individuals were observed. Given the degraded waterways inhabited by large populations of alien predatory fish species, this outcome was not surprising. There is little potential for impact to this federally listed endangered species from proposed construction of the path.

Potential Impacts and Mitigation Measures

No Action Alternative: The no action alternative would have no effect on protected species in the project area.

Build Alternatives:

Endangered seabird species—in particular, the endangered Hawaiian Petrel (*Pterodroma sandwichensis*) or ‘ua‘u and the threatened endemic sub-species of the Newell’s Shearwater (*Puffinus auricularis newelli*) or ‘a‘o are found in relatively large numbers during the breeding

season. Both species of seabirds, especially fledging birds, can become disoriented by exterior lighting between nesting sites and the sea.

The endangered Hawaiian hoary bat is regularly seen in and around Kapa‘a, as well as most of the lowland areas on Kaua‘i, but it is highly unlikely that the construction of proposed path will have any impact, deleterious or otherwise, on this species.

The endangered Hawaiian monk seal is known to haul out occasionally in the intertidal zone and on beaches in the project area. Both the federal and State of Hawai‘i wildlife agencies have an ongoing and comprehensive outreach and protection program to ensure that seals are not disturbed while in near-shore waters or when they are basking on land. The threatened green sea turtle also hauls out occasionally in the intertidal zone of the coastline. Because the County has a 40-foot shoreline setback requirement, the shared use path will be located with a measure of separation from the waterline. The improved path will bring more people to the Waipouli coastal area. However, users who stay on the path itself are highly unlikely to encounter a hauled out seal since the path is on the elevated flat land above the beach. In the event a seal has hauled out in proximity to the path, signs, information distributed by the Monk Seal Watch program, and temporary fencing will instruct people on how to pass safely above (mauka of) the animals and take other avoidance and cautionary actions.

A new crossing for pedestrians and bicyclists will be constructed over Uhelekawawa Canal but is not expected to alter the stream channel or the aquatic environment. The Waipouli canal system is impaired in terms of habitat and biotic integrity. With implementation of Best Management Practices to prevent construction-related spoils from entering the canal, potential adverse impacts to populations of native stream species would be minimal.

Cumulative Impacts

The proposed shared use path has potential cumulative impacts on protected species in two respects. First, development of the Waipouli resort district is continuing with two resort projects on the horizon. Figure 13 shows the possible build out along the Waipouli the coast, including the proposed shared use path. Second, Phases C & D will extend Ke Ala Hele Makalae, and other sections are being planned. Since a central theme of this path network is its coastal location, proximity to protected species (such as the Hawaiian monk seal and green turtle) and their habitats is inevitable. The cumulative impacts of future improvements can be mitigated to avoid harm by implementing measures discussed below and through continued enforcement of existing laws and regulations.

Mitigation Measures:

- The scope of this project does not include installing new exterior lighting along the linear portion of the path. If lights are required for safety or security; for example, at the proposed comfort station, they will be shielded or full cut-off.

- Construction will not occur after dark; therefore, lighting will not be used for construction.

- To minimize impacts to the endangered Hawaiian hoary bat, woody plants greater than 15 feet tall should not be disturbed, removed or trimmed between June 1 and September 15, the bat birthing and pup rearing season.

- For any construction planned from August through October, the wedge-tailed shearwaters peak breeding season, there must be a survey to confirm the location of nesting areas. If found that wedge-tailed shearwaters nest along the proposed alignment, either the path should be realigned or construction delayed until the nest is abandoned.

- The County regulates dogs on shared use paths, including the requirement that, at all times, dogs must be on a leash no more than 6 feet in length (and retractable leashes are prohibited).

- To reduce the attraction of non-native, feral species, animal-proof garbage containers will be used as practicable.

- To minimize potential human interaction with monk seals, informational signs will be placed along the path to educate users about appropriate conduct around this protected species.

- In areas where Hawaiian waterbirds have been observed, nest searches should be conducted prior to any work being conducted and after any subsequent delay in work of three or more days (during which birds may attempt nesting).

    - If a nest is discovered, work should cease in the vicinity for a minimum of seventy days (10 weeks); if a nest with chicks/ducklings is discovered, work should cease for a minimum of 49 days (7 weeks). These guidelines are intended to protect chicks/ducklings, and may be shortened if monitoring is conducted often enough to note when chicks/ducklings have fledged (usually five to six weeks after hatching).

    - If a previously undiscovered nest is found after work begins, all work should cease within a minimum radius of 150-feet (ft) of the nest and the Service should be contacted within 24-hours. Please see below for contact information.

- If an endangered Hawaiian waterbird/goose is found in the project's action area during on-going work, all activities within 50-ft of the bird should cease; work may continue after the bird leaves the area of its own accord. If a bird is seen in a similar location for more than two consecutive days, project managers should contact the Service for specific guidance.

- With the human presence and access to habitats with endangered species at the project site we also recommend informational signage to prevent feeding of endangered birds and feral animals.

- A litter control program should be implemented around waterbird habitat to prevent increased attraction of pest species. The litter control program should provide sturdy animal-

proof garbage containers to prevent the increased attraction of house mice, rats, mongoose, and feral cats to the areas as noted previously.

Example of sign along the shared use path (Ke Ala Hele Makalae) in Keālia

Educational sign on the natural history of monk seals at Po‘ipū Beach Park (south Kaua‘i)

3.3 SOCIO-ECONOMIC AND CULTURAL ENVIRONMENT

3.3.1 Archaeological, Historic, and Cultural Resources

Area of Potential Effect (APE)

The project alignment covers land within three ahupua‘a from south to north: South Olohena, North Olohena, and Waipouli, and Kapa‘a. The Area of Potential Effect (APE) is shown in Figure 9. The initial APE was drawn as a corridor approximately 50 feet wide encompassing the preliminary alignment.

Information Sources

The information for this section is taken from an Archaeological Assessment prepared in 2004 for the original project corridor and an Archaeological Inventory Survey (AIS) conducted in 2012 for Phases C & D.

Archaeological Assessment

A report titled *Archaeological Assessment of Alternative Routes Proposed for the Lydgate to Kapa‘a Bike and Pedestrian Pathway Project within the Ahupua‘a of Wailua, South Olohena, North Olohena, Waipouli, and Kapa‘a, Island of Kaua‘i,* April 2004, was prepared by Hallett H. Hammatt and David Shideler of Cultural Surveys Hawai‘i for the original path project.

Archaeological Inventory Survey

After initiation of consultations pursuant to Section 106 of the National Historic Preservation Act, an archaeological inventory survey was conducted to provide consulted parties with additional information about historic properties within the APE. The findings were presented in a report titled *Draft Archaeological Inventory Survey Report for the Lydgate-Kapa'a Bike and Pedestrian Path Project, Phases C and D, CMAQ-0700(49), South Olohena, North Olohena, and Waipouli Ahupua'a, Kawaihau District, Island of Kaua'i, TMK: [4] 4-3-001, 002, and 007: Various prepared by Kelly L. Burke and Hallett H. Hammatt, October 2012* (see Appendix C).

The subsurface testing program included the excavation of 58 test units (48 small shovel tests and 10 larger test trenches).

The project area's subsurface deposits were found to be fairly undisturbed. In most cases, only landscaping and grading fill had disturbed, partially removed, or been placed on top of the natural sandy loam or sand sediments, much of which has been related to resort development along the coast. Buried, pre-Contact A horizons were evident in many of the test units. In general, the observed and documented stratigraphy consisted of the following sequence (starting with the topmost layer): (1) grass, organic matter, or asphalt, (2) various fill layers, such as landscaping and grading fill, (3) a sandy, buried A horizon, and (4) natural Jaucus sand. In some instances, layers of wind-deposited or high surf-deposited natural sand were observed.

The majority of documented, buried A horizons encountered within the project area contained cultural material. This included charcoal, shell midden, fire-cracked rock, basalt flakes, coral, and one human burial. This cultural layer was designated into three separate SIHP numbers based on pre-existing historic properties and locations: SIHP No. 50-30-08-791, 50-30-08-1800, and 50-30-08-1801. Due to the lack of discrete features, appropriate samples for carbon dating were not recovered.

Two new historic properties were documented within the project area during the AIS investigations, both believed to be traditional Hawaiian burials.

The AIS findings were consistent with findings reported in previous archaeological investigations which observed cultural layers suggestive of long occupation spanning several centuries and a range of activities along the coastline in this area.

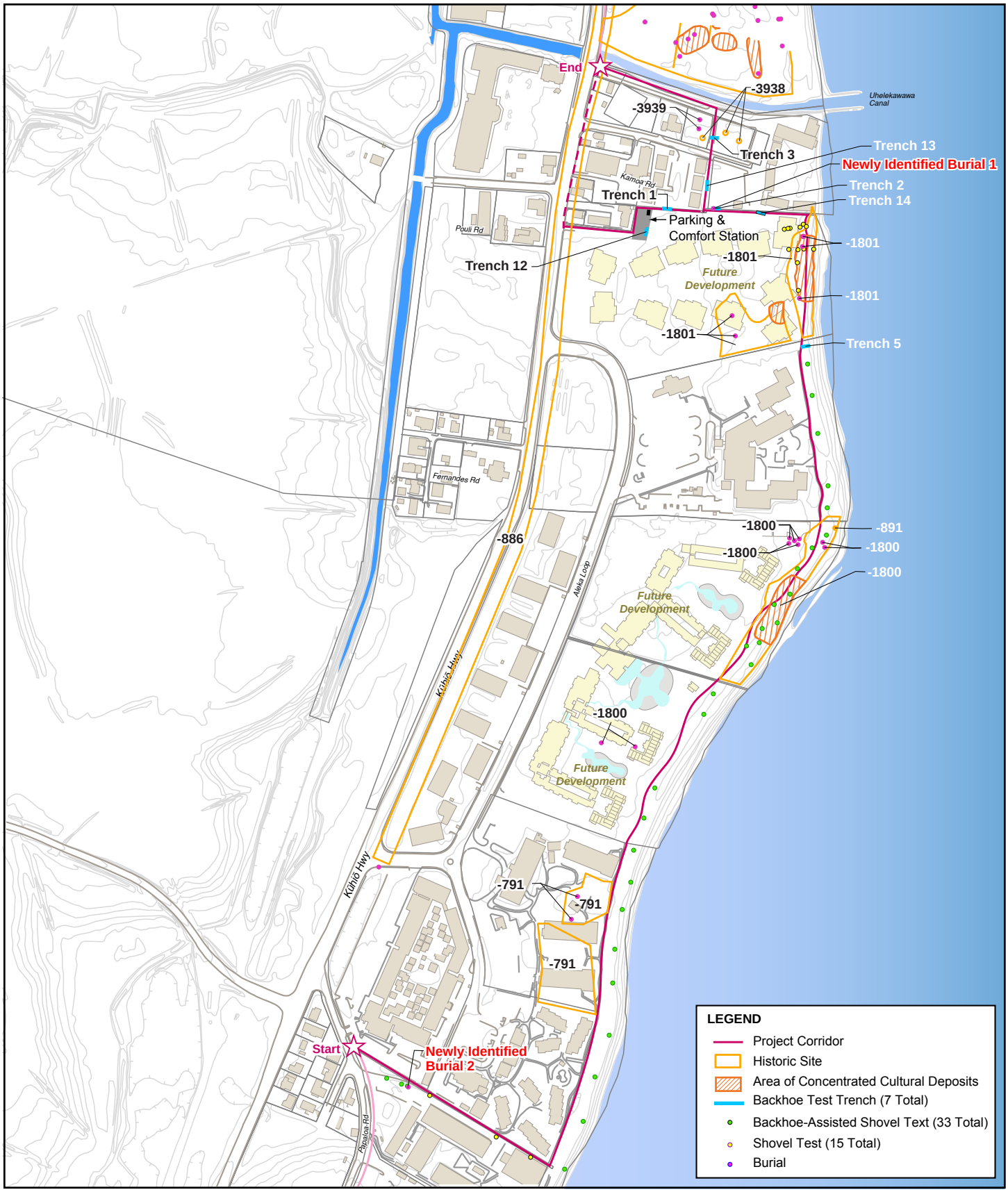
Summary of Historic Properties within the APE

Eleven historic properties were identified within the APE (see Figure 9). For each historic property, the following pages provide a brief description, location, basis for valuation of significance, effect finding and explanation, and proposed mitigations.

0 200 400 800 Feet

N

Figure 9
AREA OF POTENTIAL EFFECT (APE)
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D



Future resort development based on preliminary plans, subject to change.

0 200 500 Feet

Figure 10
HISTORIC PROPERTIES
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

(1) SIHP 50-30-08-108 Kukui Heiau

Brief Description	A navigational heiau with at least two stone lamps that guided canoes on the ocean 
Cultural Values	Associated with historic and legendary events and figures
Integrity/Condition	Good condition, well maintained
Location/Distance from Project Area	TMK: 4-3-002: 010 South Olohena Ahupua'a at Alakukui Point, adjoining the Lae Nani Resort. The heiau is located about 300 feet southwest of the project corridor.
Valuation of Significance for National Register of Historic Places (NR) or Hawai'i Register of Historic Places (HR) Criteria	Placed on Hawai'i Register in 1986 and the National Register in 1987.
Eligible or Potentially Eligible for Listing in NR/HR	Already listed in NR and HR
Effect Finding	**No effect** At its closest, the path alignment is approximately 300 feet from the heiau. Kaua'i Sands Hotel is located between the path and the heiau. Although the path is expected to attract more people to the general vicinity, the path itself provides a clear route guiding pedestrians and bicyclists from the coastline to Papaloa Road and away from the heiau.
Proposed Mitigations	Directional sign to keep flow of pedestrians and bicycles away from the heiau.

(2) SIHP 50-30-08-791 Cultural Layer and Burials

Brief Description	Cultural layer with relatively high concentration of marine midden suggestive of substantial fishing activity; radiocarbon dating to A.D. 1275 to 1645; two burials 
Cultural Values	Valued by living community for their cultural attachment to *iwi kūpuna* and historically and culturally significant
Integrity/Condition	Continuous. The cultural layer mainly extant in makai or eastern portion of property (Perzinksi et al. 2001:36)
Location/Distance from Project Area	TMK: 4-3-002: 014 South Olohena Ahupua'a, northeast coast; the historic property (cultural layer) is located within the Kaua'i Coast Resort property, but may extend into the project corridor
Valuation of Significance for National Register of Historic Places (NR) or Hawai'i Register of Historic Places (HR) Criteria	D (information) for NR D (information) and E (cultural traditional significance) for HR
Eligible or Potentially Eligible for Listing in NR/HR	Yes
Effect Finding	**No adverse effect with mitigation commitments** This historic site is located within developed hotel property which contains an existing private sidewalk. An archaeological and cultural monitoring plan will be implemented to address cultural materials.
Mitigations	Archaeological monitoring plan Opportunity for interpretive sign

(3) SIHP 50-30-08-886 Cultural Layer and Burials

Brief Description	Cultural layer with hearth remnant, 'auwai, and two sets of previously disturbed disarticulated human remains (SIHP 50-30-08-886A) 
Cultural Values	Valued by living community for their cultural attachment to *iwi kūpuna* and historically and culturally significant
Integrity/Condition	Cultural layer intact, continuous. Burial condition unknown
Location/Distance from Project Area	Site -886 is located within the Kūhiō Highway right-of-way and frontage of abutting properties. The historic site begins at the intersection with Aleka Loop near Coconut Market Place in the south, and extends north past Uhelekawawa Canal.
Valuation of Significance for National Register of Historic Places (NR) or Hawai'i Register of Historic Places (HR) Criteria	D (information) for NR D (information) and E (traditional cultural significance) for HR
Eligible or Potentially Eligible for Listing in NR/HR	Yes
Effect	**No adverse effect with proposed mitigation commitments** This historic site is located within and along the Kūhiō Highway right-of-way. An archaeological and cultural monitoring plan will be implemented to address cultural materials.
Mitigations	Archaeological monitoring plan

(4) SIHP 50-30-08-891 WWII Pillbox

Brief Description	Concrete WWII-era military structure, likely a military pillbox or machine gun emplacement 
Cultural Values	Associated with historic events
Integrity/Condition	The structure is a combination of brick and reinforced concrete construction. According to a field investigation report in 2003, the four walls and floor of the structure exhibited significant cracking and weathering. No roof was present.
Location/Distance from Project Area	TMK: 4-3-007: 016 North Olohena Ahupua‘a, northeast corner of Lot 16 on the coast. This vacant lot is located immediately south of Courtyard Kaua‘i, and entitled for development as Coconut Beach Resort.
Valuation of Significance for National Register of Historic Places (NR) or Hawai‘i Register of Historic Places (HR) Criteria	D (information) for NR D (information) for HR
Eligible or Potentially Eligible for Listing in NR/HR	Yes
Effect	**No effect** The pillbox is located makai of the proposed path alignment and will be retained as a historic feature.
Mitigations	Interpretive sign

(5) SIHP 50-30-08-1800 Cultural Layer and Burials

Brief Description	Two cultural layers in the shoreline sand berm; an upper deposit extends 25-80 feet inland from the shore; a lower deposit extends 40-100 feet inland from the shore; three burials uncovered and left in place; probably occupied about A.D. 1500; the extensive nature of deposits and relative lack of artifacts suggests that the area was used for recreation or social gatherings 
Cultural Values	Valued by living community for their cultural attachment to *iwi kūpuna* and historically and culturally significant
Integrity/Condition	Cultural layer continuous and intact
Location/Distance from Project Area	TMK: 4-3-007:016 North Olohena Ahupua‘a, beach portion of land that is currently vacant, but entitled for development as Coconut Beach Resort. The cultural layer extends into the path corridor.
Valuation of Significance for National Register of Historic Places (NR) or Hawai‘i Register of Historic Places (HR) Criteria	D (information) for NR D (information) and E (traditional cultural significance) for HR
Eligible or Potentially Eligible for Listing in NR/HR	Yes
Effect	**No adverse effect with mitigation commitments** This historic property is located on land currently undeveloped, but entitled for resort development. The proposed path alignment avoids known burial sites. The path is proposed for construction on a berm to minimize subsurface disturbance in the area of concentrated cultural deposits. An archaeological and cultural monitoring plan will be implemented to address cultural materials.
Mitigations	Archaeological monitoring plan Construction on a berm (fill) to minimize subsurface excavation

(6) SIHP 50-30-08-1801 Cultural Layer and Burials

Brief Description	Two cultural layers and five burials are located in the shoreline sand berm; radiocarbon dated to approx. A.D. 1500; numerous indigenous artifacts suggest a development sequence from a limited workshop area to a site of permanent occupation 
Cultural Values	Valued by living community for their cultural attachment to *iwi kūpuna* and historically and culturally significant
Integrity/Condition	Cultural layer continuous and intact. Condition of burials is unknown
Location/Distance from Project Area	TMK: 4-3-007: 027 Waipouli Ahupua‘a, beach portion of land that is currently vacant, but entitled for development as Coconut Plantation. The cultural layer extends into the path corridor.
Valuation of Significance for National Register of Historic Places (NR) or Hawai‘i Register of Historic Places (HR) Criteria	D (information) for NR D (information) and E (traditional cultural significance) for HR
Eligible or Potentially Eligible for Listing in NR/HR	Yes
Effect	**No adverse effect with mitigation commitments** This historic property is located on land currently undeveloped, but entitled for resort development. The proposed path alignment avoids known burial sites. The path is proposed for construction on a berm to minimize subsurface disturbance in the area of concentrated cultural deposits. An archaeological and cultural monitoring plan will be implemented to address cultural materials.
Mitigations	Archaeological monitoring plan. Construction on a berm (fill) to minimize subsurface excavation. Interpretive sign. Align path as far mauka as feasible.

(7) SIHP 50-30-08-1836 Cultural Layer and Burials

Brief Description	Cultural layer with numerous features. Data suggest this site was a moderate permanent settlement that may have been a staging area for fishing events and associated feasting and religious activities, a location for canoe construction, repair, and storage, a location for manufacture of shell tools and slingstone, and special place for tattooing
Cultural Values	Valued by living community for their cultural attachment to *iwi kūpuna* and historically and culturally significant
Integrity/Condition	Cultural layer continuous and intact. Condition of burials is unknown
Location/Distance from Project Area	TMK: 4-3-008:018 Waipouli Ahupua‘a, from coast to Kūhiō Highway; Waipouli Beach Resort, located north of Uhelekawawa Canal
Valuation of Significance for National Register of Historic Places (NR) or Hawai‘i Register of Historic Places (HR) Criteria	D (information) for NR D (information) and E (traditional cultural significance) for HR
Eligible or Potentially Eligible for Listing in NR/HR	Yes
Effect	**No effect** This historic property has been established as a cultural preserve within the Waipouli Beach Resort. Uhelekawawa Canal serves as a barrier, with no direct access to the historic site from the public path.
Mitigations	None

(8) SIHP 50-30-08-3938 Cultural Layer

Brief Description	A pit feature with charcoal and fire-cracked rocks was recorded. The radiocarbon dating result for this feature, dated to AD 1690-1775, was first reported in a subsequent monitoring report for the property 
Cultural Values	Valued by living community and historically and culturally significant
Integrity/Condition	Unknown
Location/Distance from Project Area	TMK: 4-3-007: 008 and 009 North Olohena Ahupua'a, residential properties. One option is for the path to travel north-south across TMK 4-3-007: 09, approximately through the abandoned road segment shown in the photo above.
Valuation of Significance for National Register of Historic Places (NR) or Hawai'i Register of Historic Places (HR) Criteria	D (information) for NR D (information) and E (traditional cultural significance) for HR
Eligible or Potentially Eligible for Listing in NR/HR	Yes
Effect	**No adverse effect with mitigation commitments** AIS test trenches (3 and 13) along the proposed path alignment found no cultural material. at either trench site. An archaeological and cultural monitoring plan will be implemented to address cultural materials uncovered during construction.
Mitigations	Archaeological monitoring plan

(9) SIHP 50-30-08-3939 Two Burials

Brief Description	Two pre-Contact/early historic Hawaiian burials 
Cultural Values	Valued by living community for their cultural attachment to *iwi kūpuna* and historically and culturally significant
Integrity/Condition	Unknown
Location/Distance from Project Area	TMK: 4-3-007:008 North Olohena Ahupua‘a, located on an undeveloped residential property. Burial sites are estimated to be 50 feet from the project corridor.
Valuation of Significance for National Register of Historic Places (NR) or Hawai‘i Register of Historic Places (HR) Criteria	D (information) for NR D (information) and E (traditional cultural significance) for HR
Eligible or Potentially Eligible for Listing in NR/HR	Yes
Effect	**No effect** The preferred path alignment runs north-south along the makai side of Village Manor apartments. Two burials are located on an adjacent residential property. The path avoids the burial sites.
Proposed Mitigations	None

(10) SIHP No. to be determined, Burial 1

Brief Description	Burial likely pre-Contact to early post-Contact in age
Cultural Values	Valued by living community for their cultural ties to *iwi kūpuna.* Historically and culturally significant
Integrity/Condition	Well-maintained, intact
Location/Distance from Project Area	TMK: 4-3-007: 026 Within County beach access, near Mokihana of Kaua‘i tennis court
Valuation of Significance for National Register of Historic Places (NR) or Hawai‘i Register of Historic Places (HR) Criteria	D (information) for NR D (information) and E (traditional cultural significance) for HR
Eligible or Potentially Eligible for Listing in NR/HR	Yes
Effect	**No adverse effects with mitigation commitments** The path was initially located within an existing County easement for beach access. The path will be realigned to avoid the burial site and a burial treatment plan will be developed.
Mitigations	Burial treatment plan to be developed with input from Section 106 consulted parties and submitted to the Kaua‘i/Ni‘ihau Island Burial Council for review and approval Realignment of the path to avoid burial, including acquisition of additional right-of-way

(11) SIHP No. to be determined, Burial 2

Brief Description	A previously disturbed human burial located adjacent to an old utility line. A partial, disturbed burial pit was also observed. This burial is likely pre-Contact to early post-Contact
Cultural Values	Valued by living community for their cultural attachment to *iwi kūpuna* and historically and culturally significant
Integrity/Condition	Partially disturbed
Location/Distance from Project Area	TMK: 4-3-002: 012 The burial site was surveyed and found to be located on the Kaua‘i Sands Hotel property. It is within a landscaped area off Papaloa Road and south of Coconut Market Place.
Valuation of Significance for National Register of Historic Places (NR) or Hawai‘i Register of Historic Places (HR) Criteria	D (information) for NR D (information) and E (traditional cultural significance) for HR
Eligible or Potentially Eligible for Listing in NR/HR	Yes
Effect	**No effect** In this section, the proposed path alignment uses an existing County easement. The burial was found outside the easement; therefore, the path will avoid the burial site.
Mitigations	Burial treatment plan to be developed with input from Section 106 consulted parties and submitted to the Kaua‘i/Ni‘ihau Island Burial Council for review and approval

Summary of Effects

SIHP No.	TMK	Type of Historic Property	Adverse Effect	No Adverse Effect with Mitigation Commitments	No Effect
50-30-08-108	4-3-002:010	Heiau			x
50-30-08-791	4-3-002:014	Cultural layer		x	
50-30-08-886	Kūhiō Hwy	Cultural layer, burials		x	
50-30-08-891	4-3-007:016	WWII pillbox			x
50-30-08-1800	4-3-007:016	Cultural layer, burials		x	
50-30-08-1801	4-3-007:027	Cultural layer, burials		x	
50-30-08-1836	4-3-008:018	Cultural layer, burials			x
50-30-08-3938	4-3-007:008 and 007	Cultural layer		x	
50-30-08-3939	4-3-007:008	Burials			x
50-30-08-	4-3-007:026	Burial		x	
50-30-08-	4-3-002:012	Burial			x

Other Properties Mentioned by Section 106 Consulted Parties

Ironwood Stands and Existing Footpath (TMK: 4-3-007:027)

The Kaua'i Group of the Hawai'i Chapter of the Sierra Club (letter dated April 4, 2012 and comments by Rayne Regush, Public Meetings 4 and 5) stated that the mature ironwood trees along the coast and the footpath through them are important to the historic characteristic of the area and need to be retained to preserve the historic, scenic, and cultural qualities of the area.

Archaeological consultant Hal Hammatt, Cultural Surveys Hawai'i, commented that the trail has no visible structural elements except as a worn path through the ironwoods. As a "route," the footpath is more than 50 years old, as is nearly any path parallel to the shoreline. The ironwoods are modern introductions. In his opinion, these elements would not qualify as a historic property under the present criteria. The footpath may be an element of the cultural landscape, although the property is slated for resort development which is expected to change the contextual environmental. In the next engineering design and construction phase, the location of the footpath relative to the shoreline and setback areas will be determined. The path will be located as far mauka as feasible and not incorporate the existing footpath.

Entire Project Area (Waipouli Coast) as a Whole

Several consulted parties commented that the area as a whole is historically and culturally significant, and that a shared use path would be inconsistent with the sacredness of the area. Other consulted parties commented that while the area's historical significance remains important, the physical environment is dominated by modern resort development which has already diminished the historical context. They also noted that future resort development on the infill properties would intensify the urban character and further inhibit public access to coastal locations; referencing, for example, the boulders marking the Courtyard Kaua'i property (see Photo7).

The recently established Wailua Traditional Cultural Property (TCP) demarcates historic property of importance to the Native Hawaiian community's historically rooted beliefs, customs, and practices. A portion of the Lydgate Park to Kapa'a bike/pedestrian path traverses the Wailua TCP; however, the alignment for this project (specifically Phases C & D) lies outside the Wailua TCP boundary (see Figure 11).

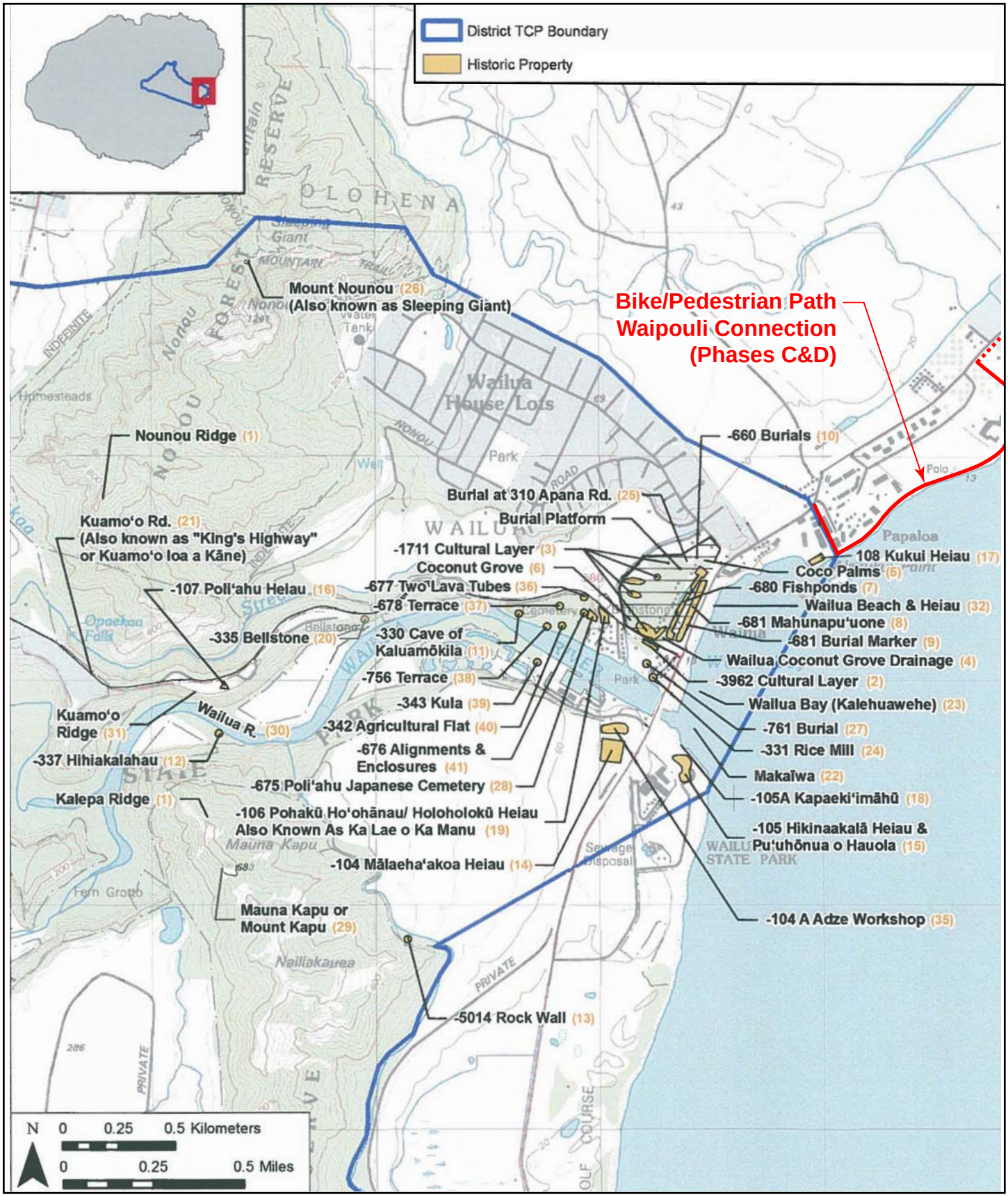


Figure 11
WAILUA TRADITIONAL CULTURAL PROPERTY (TCP)
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

Effect Determination:

The FHWA determined that the project will have no adverse effect on historic properties based on surface and subsurface observations, consultations with Native Hawaiian Organizations (NHOs) and other interested parties, and an evaluation of significance criteria (see Appendix B).

Phases C & D of the Lydgate Park to Kapa‘a bike/pedestrian path traverses the coastal portion of the ahupua‘a of South Olohena, North Olohena, and Waipouli. Archaeological resources found in the project corridor indicate an area of long occupation and the occurrence of a wide range of coastal activities.

Project construction is expected to have a limited potential for adverse effect on subsurface resources. With the exception of the comfort station, excavation requirements will be relatively shallow—the path itself typically involves excavation to a maximum depth of one foot. To further reduce the potential for construction impacts, project designers will examine options to construct the path on a berm or fill in areas where concentrations of subsurface deposits have been found. To mitigate any potential damage to known (documented) or yet unidentified historic properties, project construction will proceed under an archaeological monitoring program. The monitoring program will facilitate the identification and proper treatment of any additional burials that might be discovered during project construction, and will gather additional information regarding the project’s non-burial archaeological deposits, should any be discovered.

Burials have been found within seven properties located within the APE. Of these, the path alignment avoids all known burials sites. Burials identified during the AIS will be treated in accordance with a burial treatment plan to be prepared in compliance with HAR 13-300-33. To avoid an adverse effect on Burial 1, discovered between an existing concrete sidewalk and the tennis court at Mokihana of Kaua‘i, the County is working to realign the path around the burial site.

Mitigation Measures:

Mitigation measures during the construction of the proposed improvements have been and will continue to be implemented to avoid and minimize potential impacts to archaeological, cultural, and historic resources. The following mitigation measures have been or will be implemented, at a minimum:

- If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

- If human remains are discovered, Hawai‘i Administrative Rules Title 13. Subtitle 13, Chapter 300 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and SHPD and Police Department will be contacted. The appropriate process would then proceed in conformance with Hawai‘i Administrative Rules §13-300 Subchapter 4 “Procedures for Property Treatment of Burial Sites and Human Skeletal Remains.”

- If human remains are discovered, burial treatment plans developed with input from Section 106 NHO consulted parties will be submitted to the Kauai/Ni‘ihau Island Burial Council for review and approval.

The County of Kaua‘i will prevent the disturbance or taking of any historic property or resource to the extent possible by instituting these mitigation measures and enforcing their implementation by contractors.

Summary of Site Specific Mitigation Measures

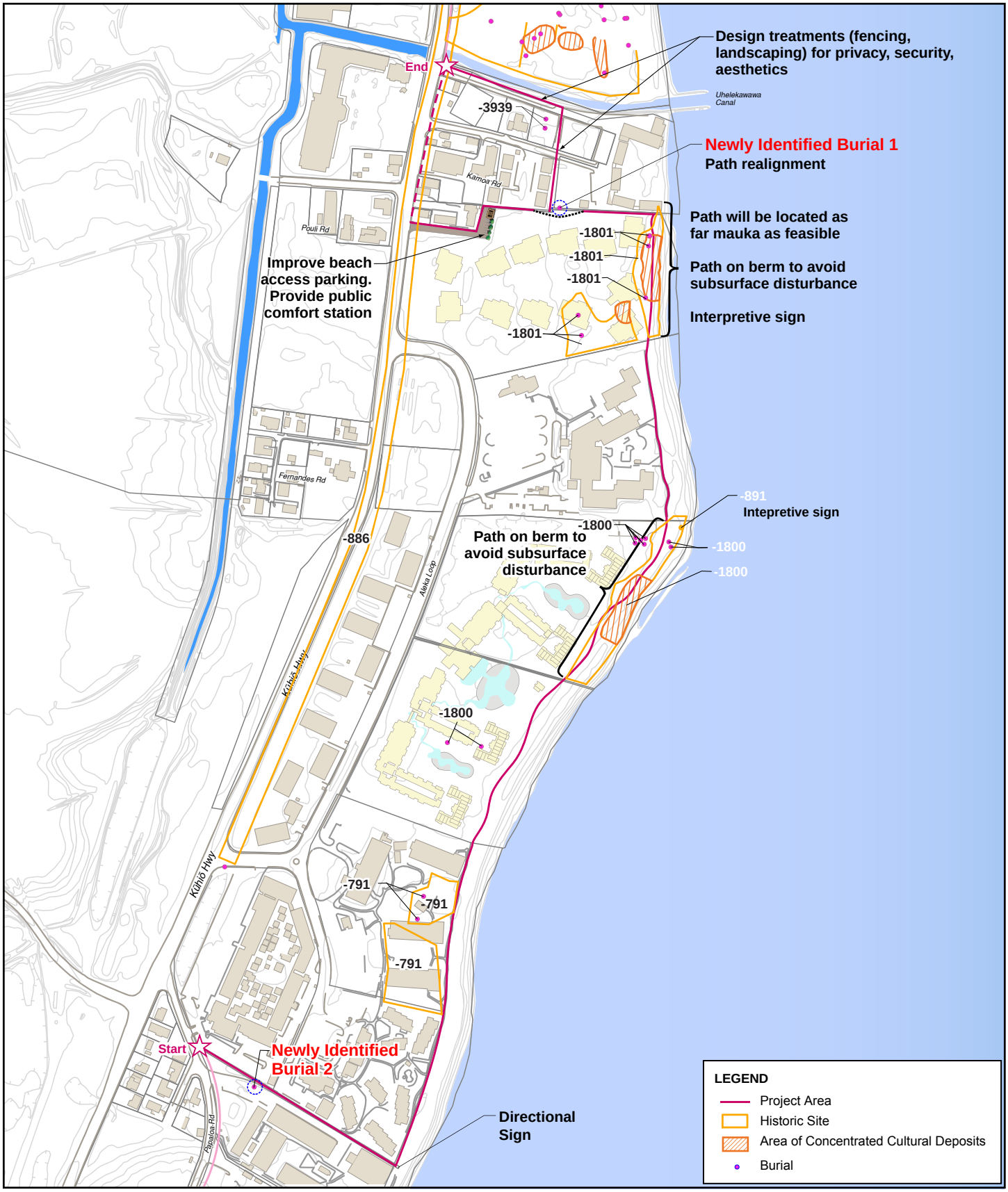
See also, Figure 12

SIHP No.	TMK	Type of Historic Property	Mitigation Commitments
50-30-08-108	4-3-002:010	Heiau	Directional sign to keep flow of pedestrians and bicycles away from the heiau
50-30-08-791	4-3-002:014	Cultural layer	Archaeological and cultural monitoring plan Interpretive sign
50-30-08-886	Kūhiō Hwy	Cultural layer, burials	Archaeological and cultural monitoring plan
50-30-08-891	4-3-007:016	WWII pillbox	Interpretive sign
50-30-08-1800	4-3-007:016	Cultural layer, burials	Archaeological and cultural monitoring plan Path construction on a berm (fill) over area(s) of concentrated cultural deposits to minimize the need for subsurface excavation

SIHP No.	TMK	Type of Historic Property	Mitigation Commitments
50-30-08-1801	4-3-007:027	Cultural layer, burials	Archaeological and cultural monitoring plan Path construction on a berm (fill) over area(s) of concentrated cultural deposits to minimize the need for subsurface excavation Interpretive sign Path will avoid existing footpath and be located as far mauka as feasible
50-30-08-1836	4-3-008:018	Cultural layer, burials (Waipouli Beach Resort)	None
50-30-08-3938	4-3-007:008 and 007	Cultural layer	Archaeological and cultural monitoring plan
50-30-08-3939	4-3-007:008	Burials	None
50-30-08-	4-3-007:026	Burial 1 (north)	Burial treatment plan Realign path to avoid burial
50-30-08-	4-3-002:012	Burial 2 (south)	Burial treatment plan

Additional Proposed Mitigations that are Not Specific to Historic Properties

- Ethnographic study of the Waipouli coast
- Fencing, landscaping, and/or other barrier between path and adjacent residences
- Improvements to public parking for coastal access



Future resort development based on preliminary plans, subject to change.

0 200 500 Feet

Figure 12
HISTORICAL AND CULTURAL MITIGATIONS
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

Cultural Impact Assessment

Act 50, Session Laws of Hawai‘i, 2000, requires that a proposed action’s impacts on the community’s cultural practices be disclosed in the environmental review process. A cultural impact assessment was conducted by Cultural Surveys Hawai‘i (CSH). Findings are presented in a report titled *Cultural Impact Assessment for Lydgate Park-Kapa‘a Bike & Pedestrian Path, Phases C&D, CMAQ-0700(49), South Olohena, North Olohena and Waipouli Ahupua‘a, Kawaihau District, Kaua‘i Island, TMK: [4] 4-3-001, 002, and 007: Various*, prepared by Kūhiō Vogeler, Margaret Magat, and Hallett H. Hammatt, January 2012 (see Appendix D). The report was made available to Section 106 consulted parties through a web link.

Findings

Kama‘āina (native born, one born in a place) and kūpuna (elders) with knowledge of the proposed project and study area participated in semi-structured interviews in February 2011. CSH attempted to contact 41 individuals for the CIA, of which 14 responded via email or phone. Five people provided written statements (two of which are the Office of Hawaiian Affairs (OHA) and SHPD responses), four participated in formal, individual interviews and ten participated in a group interview. The group interview has not been approved for release and public dissemination.

Summarized below is the information gathered from community consultation

1. The project area and environs, in particular, the shoreline has a long history of use by Kānaka Maoli (Native Hawaiians) and other kama‘āina (native born) groups for a variety of cultural activities and gathering practices. Several participants discussed the spiritual nature of Wailua and its numerous wahi pana (sacred sites or celebrated places), sharing mo‘olelo (story or legend) about heiau, pōhaku (rock), iwi (bones), and the activities of spirit people. Community interviewees noted the importance of wai or water and abundance of marine resources such as tilapia, mullet, spiny lobster, and a‘ama crab; traditional fishing methods and the preparation of chum; the need to respect iwi kūpuna (bones of ancestors) and other cultural resources; and the observance of correct protocol and attitude in beginning a project.

2. Wahi Pana. The responses regarding wahi pana and mo‘olelo relate primarily to Wailua Ahupua‘a. Interviewee, Mr. Milton K. C. Ching, explained: “In the old days, there were no boundaries. Although there are boundaries in maps that say this is Waipouli, this is Wailua, this is Kapa‘a, Hawaiians that lived here traversed back and forth for fishing and stuff. There wasn’t really a boundary. They survived and lived.” Thus, the wahi pana and mo‘olelo of the area draw few distinctions between Waipouli, Olohena (North and South), and Wailua Ahupua‘a.

For this project, the specificity regarding Phases C & D of the shared use path did not seem to resonate with many of those consulted for the study. Some people described the cumulative impact of the projects as an atmosphere of unresolved sadness, indicated specifically in the letter from the OHA. There are individual ahupua‘a and separate wahi pana, but some responses

(OHA, SHPD, Mr. Diego-Josselin, Mr Ako, Mr. Ching) draw connections between wahi pana, linking Waipouli, Olohena, and Wailua into one larger context.
3. Wai (water). In one interview, Makaīwa (surf site) and Papaloa (reef) are the off-shore resources specifically identified as impacted by the proposed path. Ms. Sophronia Noelani Diego-Josselin mentioned the rights of Indigenous Peoples “to maintain and strengthen... waters and coastal seas and other resources.” SHPD, in its statement, discusses the need for access to water resources: “The department is mindful that traditional access in the project area to cultural places mauka for resources in the general ahupua‘a and/or to the ocean should be considered in your study that may impact the general community as well as cultural practitioners.”

Mr. Ching described Uhelekawawa Canal and the fish, like tilapia and mullet, in the shallow waterway. The project would pass over this canal.

The maintenance of these areas is important for the project and for the community that lives near this project.

4. Historical and Cultural Properties. The responses from OHA, SHPD, Ms. Diego-Josselin, as well as archaeological sites and studies in the area, indicate that historic properties are concerns.

Ms. Diego-Josselin summarized her cultural concerns regarding the cultural properties as follows: Native Hawaiian’s religion and spirituality are rooted in the land or ‘āina. Sacred sites provide the physical foundation for mo‘olelo or stories that connect each new generation to their ancestors and weaves them into their culture and defines their identity. The protection of sacred sites and defending the ability to conduct rituals and ceremonies at these sites in private and without disruption are, therefore, vital to maintaining and passing from generation to generation the distinct identities, traditions, and histories of our people.

5. Heiau. Heiau offer a larger cultural and psychological link for many people in this study and for communities of these ahupua‘a. These heiau, as a focal point of the Wailua through Waipouli community, help expand the context for discussion of cultural impacts.

6. Ilina (grave). Ilina are the main concern of the community participants interviewed for this study. Ilina offer a substantive genealogical link to the ancestors and the land. At least five participants in this CIA specifically mentioned the possibility of finding burials within the project area.

Noting that he does not agree with some decisions made by the Kaua‘i/Ni‘ihau Burial Council, Mr. Ching stated his preference for preserving burials in place. Ms. Cheryl Lovell-Obatake recommended “SHPD and PW [Kaua‘i County, Department of Public Works] require that the applicant have a certified archaeologist on site during any and all ground/underground disturbances; such as extracting of trees and relocating them. I am concerned bout Native Hawaiian burials and funerary objects connected to Native Hawaiian burials.”

Both Mr. Valentine Ako and Ms. Beverly Muraoka cautioned that more iwi (bones) will be found in the project area. Mr. Ako believes that there will likely be graves found in the sandy areas of the project area and Mrs. Muraoka related the same concern. Mr. Ako emphasized that iwi found in the ahupua‘a must stay in that ahupua‘a. If iwi are discovered, he recommends keeping them in place in the ahupua‘a where they were found, preferably in an inconspicuous place and then holding a good burial service.

OHA similarly cautioned about the discovery of bones along the beach. SHPD is “concerned with any ground disturbance work which may uncover burials or burial sites in sandy areas such as this project.”

7. Ala Hele (pathway, route, road). Regarding the course of the shared use path, there were varying opinions. Mr. Ako said that the area by the Coconut Marketplace will need a stoplight or an overpass, “because traffic is so heavy, that there could be accidents.” He believes the traffic should be on Papaloa Road before it goes down to Kaua‘i Sands Hotel. Mr. Ching remains skeptical about the viability of the proposed shared use path, noting a lack of users on a previous path near the beach. Mrs. Sally Jo Manea recommended buffers in areas where the cars and people are going to be sharing the same route. She calls for the path to be kept on the coast, as it would offer both “physical and mental therapy” and be “a wonderful way to keep healthy.”

3.3.2 Population and Demographic Factors

The population in the project corridor includes a mix of households living in neighborhoods of single-family homes, short- and long-term residents in condominiums and time-share units, and transient visitors in hotel units.

The proposed path lies in the Kawaihau judicial district, which is composed of several neighborhoods, including Wailua, Kapa‘a, and Anahola-Keālia. Population counts are shown in the table below. In the 2010 census, Kawaihau had a population of 20,992. By comparison, the second largest district, Līhu‘e, had a population of 14,683 in 2010. Over the 20 year period from 1990 to 2010, Kawaihau District experienced a net increase of 5,365 persons or 34.3 percent. This level of growth was the largest among all the judicial districts.

Population by Census Tract, District, and Island: 1990, 2000, and 2010

				1990 to 2000		2000 to 2010		1990 to 2010	
Census Tract*	**1990**	**2000**	**2010**	**Net Change**	**Pct Change**	**Net Change**	**Pct Change**	**Net Change**	**Pct Change**
Anahola	2,178	3,123	3,715	945	43.4%	592	19.0%	1,537	70.5%
Wailua	6,622	7,750	8,892	1,128	17.0%	1,142	14.7%	2,270	34.3%
Kapa‘a	6,827	7,652	8,385	825	12.1%	733	9.6%	1,558	22.8%

				1990 to 2000		2000 to 2010		1990 to 2010	
Census Tract*	**1990**	**2000**	**2010**	**Net Change**	**Pct Change**	**Net Change**	**Pct Change**	**Net Change**	**Pct Change**
Kawaihau District	15,627	18,525	20,992	2,898	18.5%	2,467	13.3%	5,365	34.3%
Kawaihau population as a percentage of Kaua'i	*30.7%*	*31.8%*	*31.4%*						
Kaua'i Island	50,940	58,303	66,921	7,363	14.5%	8,618	14.8%	15,981	31.4%

Source: U.S. Census Bureau, 1990, 2000, 2010
* Anahola-Keālia = CT 402.01 Wailua = CT 402.02 Kapa'a = CT 403

Among the five judicial districts on Kaua'i, Kawaihau district has the largest concentration of residents with approximately 31.4 percent of the island's population. A distinguishing feature of the region is the mix of residential and visitor populations and the density of commercial activity. In contrast, Līhu'e is the county seat, but it is largely a commercial-residential center (with a smaller number of visitor units), while Po'ipū is a major visitor destination (however, without a substantial residential population), and the North Shore has a large population of visitors and residents (but lacks the critical mass of commercial activity found in Kawaihau).

The Department of Business, Economic Development, and Tourism (DBEDT) reported that in 2010, Kaua'i's de facto population was 81,242. Unlike the U.S. census, which counts residents, de facto population provides an estimate of the number of people present on the average day, including visitors. Subtracting the number of residents from the de facto population, yields a rough approximation of the number of visitors islandwide—14,321. Although the de facto population is not calculated for geographic subdivisions below the county level, it's possible to generate another rough calculation based on the distribution of visitor units developed by the Hawai'i Tourism Authority (HTA). The HTA reports 2,029 visitor units in Kawaihau or approximately 22 percent of the islandwide total. Applying this percentage to the number of visitors suggests that 3,150 visitors are present in the Kawaihau district on any given day.

In the near term, visitor and residential growth is expected to continue on the Eastside. The Waipouli Beach Resort and 82-unit Courtyards at Waipouli on Papaloa Road were completed recently. The HTA's 2011 Visitor Plant Inventory identifies 799 units as "planned additions and new developments in Kawaihau." Included among the future developments are two new resorts planned for the Waipouli coast involving some 525 units.

Potential Impacts and Mitigation Measures

No Action Alternative: The no action alternative will not affect population or demographic characteristics in the project area.

Build Alternatives:

The proposed action is not expected to increase the number of residents or to change the demographic characteristics. However, existing residents and visitors support the need for a shared use path in the area. There is a concentration of residents and visitors within a relatively small area, and who are within comfortable walking and bicycling distances to numerous businesses and community facilities. Improving the transportation infrastructure for pedestrians and bicyclists will help to increase the mobility of these groups. The project will not have an adverse impact on low-income or minority populations or neighborhoods.

3.3.3 Economic and Fiscal Resources

The economy of Kaua‘i has transformed from a plantation economy to a modern economy with a mix of tourism, diversified agriculture, construction, retail, and professional businesses. Through the 1990s and 2000s, the island economy has worked to recover from the closing of the sugar plantations, the devastating aftermath of Hurricane Iniki, and a national economic slowdown. Today, the economy appears relatively robust as evidenced by an unemployment rate in July 2013 of 5.3 percent according to the U.S. Bureau of Labor Statistics. Although slightly higher than the unemployment rate for the state as a whole (4.5 percent), it was nonetheless lower than the U.S. rate (7.4 percent).

Industries

According to *County Business Patterns*, a database maintained by the U.S. Census Bureau, there were 23,784 paid employees on Kaua‘i in all civilian economic sectors in 2011. Annual payroll amounted to $789.2 million. In 2011, the five largest industries were accommodations and food services (7,162 employees), retail trade (4,016 employees), health care and social assistance (2,693 employees), administrative and support and waste management and remediation services (1,702 employees), and real estate and rental and leasing (1,232 employees)

Income

Household incomes within Kawaihau District vary by census tract. According to information provided in the 2010 U.S. Census, median incomes were $52,022 in Anahola-Keālia (Census Tract 402.01), $59,712 in Kapa‘a (Census Tract 403), and $76,982 in Wailua (Census Tract 402.02). In comparison, median household income for Kaua‘i County was $63,317 and $64,661 for the state as a whole.

Potential Impacts and Mitigation Measures

No Action Alternative: Ke Ala Hele Makalae, the coastal path in east Kaua‘i has become a popular visitor activity. In November 2013, the crowd-sourced travel website, TripAdvisor, listed the path as #6 out of 154 Kaua‘i attractions. Because this project will fill a key gap in the

path system and the Waipouli visitor destination area, the no action alternative would have an adverse economic effect compared to the build alternatives.

Build Alternatives:

Short-term Economic Impacts

The proposed action is anticipated to have several types of economic impacts. One type is construction related employment and income. Unless the economy expands considerably and existing firms are working at full capacity, this project is more likely to help sustain existing employment and income levels rather than create new jobs. However, because project funds are coming from (federal) sources outside the region, the wages paid to workers on this project (direct income), payments to suppliers (indirect income), and their subsequent expenditures (induced income) would have a positive cumulative effect as the monies circulate through the local economy.

Indirect and Cumulative Economic Impacts

Business opportunities related to recreation equipment rentals and sales and refreshments is another source of potential economic impact. Increased spending by local residents and visitors would benefit operators and merchants located along the path. The east side tourism market would also benefit from an attractive outdoor recreation amenity.

Fiscal Impacts

County revenues rely on tax revenues from privately owned property and improvements and a share of general excise and transient occupancy taxes. To the extent that the path is an amenity contributing to the competitive advantage of the Kaua'i visitor market, it would have some impact on increased tax revenues. However, this impact is indirect and of uncertain magnitude, given the array of factors that shape economic markets. The path itself will be built in public rights-of-way and, as a public facility, will not generate taxes.

On the other hand, the County will need to maintain the facility. Additional personnel will be required by the Department of Parks and Recreation and, possibly other County agencies, to maintain, operate, and provide security services. Public funds will be needed to support County workers and their equipment.

Property Values

Concerns have been raised that the proposed facility might reduce the value of adjacent properties. This issue is often raised when a community considers building a shared use path or trail. The study that has received the most attention on this subject involves the Burke-Gilman trail in Seattle. The Seattle Engineering Department and Office for Planning (Punochar and Lagerwey, 1988) conducted an in-depth study of the trail to determine what effect, if any, the trail has had on quality of life, property values, and crime rates experienced by property owners

near and adjacent to the trail. The 12-mile Burke-Gilman Trail was constructed in 1978 and provides a multi-purpose, non-motorized path. At the time of the study, there were 152 single-family homes and 607 condominiums immediately adjacent to the trail and 320 single-family homes within one block of the trail. The trail draws over 750,000 users per year of which 80 percent are bicyclists and 20 percent are pedestrians; 80 percent are recreational users, and 20 percent are commuters.

Data for the study came from several sources, including residents near and adjacent to the trail (72 percent of all property owners were interviewed), real estate agents, police officers who patrol the affected neighborhoods, and real estate advertisements in newspapers and magazines. The study found that property near, but not immediately adjacent to, the trail was easier to sell and sold for an average 6 percent more as a result of its proximity to the trail. Property immediately adjacent to the trail sold for 0-0.5 percent more. Residents who bought their homes after the trail was opened tended to see it as a positive factor that increases the value of their home. Longtime residents who bought their homes prior to the opening of the trail were less likely to view the trail as an economic asset. Real estate advertisements consistently used the presence of the trail as a selling point.

Less than 3 percent of the homeowners said there were any problems associated with the trail that were serious enough for them to consider moving. The 3 percent that would consider moving as a result of the trail sought greater privacy and were not motivated by crime or other problems. Almost two-thirds of the residents felt the trail increased the quality of life in the vicinity. None of the residents surveyed felt the trail should be closed.

A similar study was conducted by the Colorado Department of State Parks in the metro Denver area (Macy and Alexander, 1995). Three two-mile, non-motorized segments were studied by surveying property owners, police, real estate agents, and others. The segments run along natural waterways, through neighborhood, commercial, and retail areas, and are used by recreational users, commuters, pedestrians, and bicyclists.

Seventy-three percent of the real estate agents interviewed thought that the properties adjacent to or within one block of the trail would sell faster and for more money than an equivalent property farther away from the trail. Twenty-nine percent of the single-family homeowners located adjacent to a trail thought their property value had increased and 57 percent thought that the property would be on the market for a shorter period of time. Forty-two percent of the owners of multi-family housing thought their property had increased in value and none thought that the property value had decreased. Most of the owners who bought their property after the trails were constructed considered the proximity to the trail as a positive attribute. The most serious security issues were graffiti and tagging.

A study published by the Delaware Center for Transportation (Racca and Dhanju, 2006), examined literature related to impacts on property values with the introduction of bicycle paths and developed a statistical model using Delaware property data to examine the impact of bicycle paths on nearby housing. As part of an extensive literature review, the authors found that there is a large portion of the population who sees bike paths as an amenity and will seek out residences

near them. The authors also referred to studies which found that people moving into areas near bike paths tend to see them more favorably than those who lived in neighborhoods before a path was constructed. Their own model predicted that proximity to a bicycle path would be expected to slightly increase property values by about $8,800.

To date, there is not much evidence that property values will be adversely affected. The overall success of paths and greenways depends on attention to design and maintenance and addressing issues and problems with property owners promptly.

3.3.4 Scenic and Visual Resources

The 2000 *Kaua‘i General Plan* identifies important scenic resources, such as major land forms, open spaces, viewing points, and scenic drives. The Plan’s Kawaihau Planning District Heritage Resources map was reviewed to identify resources that may be affected by the project. Kūhiō Highway, from Lydgate Park to the coconut grove in Waipouli, is identified as a scenic roadway corridor. Views along the coastline and of Nounou Mountain (the renowned Sleeping Giant) are also notable visual resources.

Potential Impacts and Mitigation Measures

No Action Alternative: The no action alternative will not affect scenic or visual resources.

Build Alternatives:

This project is not anticipated to have noticeable impacts on view planes of the coastline. For the most part, the proposed path is a flat, structure-less passage way that will not intrude on the natural landscape. The intent of the path is to create a safe and convenient way for people to enjoy the natural environment; therefore, a key design objective is to maintain the existing setting.

The path also creates a positive impact by offering people an opportunity to enjoy some of the region’s best views. Because the path will be accessible and define a clear public pathway, it will expand access to view corridors for a larger segment of the community.

Mitigation Measures: No mitigation measures are needed

3.3.5 Park Resources

The path operates as a linear park and also serves to connect several County beach parks, the Kapa‘a Neighborhood Center, and swimming pool, as well as other public facilities, such as Kapa‘a Public Library.

Phases C & D will traverse the northern portion of the County-owned Waipouli Beach Park. The park occupies approximately 6.36 acres, and is contiguous with and north of Wailua Beach Park. It includes the beach area makai of several hotel and condominium properties, including Kapa'a Sands, Lanikai, Lae Nani, Kaua'i Sands, Islander on the Beach, and Kaua'i Coast Resort. Of these, the path will be located makai of Kaua'i Sands, Islander on the Beach, and Kaua'i Coast Resort.

According to the *Kaua'i Parks and Recreation Master Plan*, Waipouli Beach Park is undeveloped and there are no public facilities.

County beach reserve (Waipouli Beach Park) is on the makai side of hotel property

Potential Impacts and Mitigation Measures

No Action Alternative: The no action alternative would continue to obscure the public's ability to access the coast. The project corridor includes publicly owned beach reserve; however, with hotel lounge chairs and picnic tables placed within the public beach reserve, the boundary between public and private lands is not readily apparent.

Build Alternatives:

The alignment for the proposed bike/pedestrian path will pass through approximately 1,200 linear feet on the northern end of Waipouli Beach Park. Based on a preliminary design width of 14 feet (10 feet of pavement + 2 feet shoulders on either side), the proposed path will occupy approximately 16,800 SF of the beach reserve parkland.

The path will not displace nor interfere with any existing or planned park use or facility. It will have a beneficial effect within the beach reserve by providing a defined public corridor for lateral coastal access. The path will serve both transportation and recreation purposes for people on foot, bicycle, and other non-motorized modes of travel. The path will be constructed in compliance with relevant design guides issued under the Americans with Disabilities Act thereby accommodating people requiring mobility aids. Like other sections of Ke Ala Hele Makalae, the path will feature interpretive signs about the area's history, cultural traditions, and natural history.

Mitigation Measures: No mitigation measures are needed.

3.3.6 Land Uses and Community Character

The Waipouli coast today is largely composed of resort (hotel, condominium, timeshare) and commercial properties, including the Kaua'i Sands Hotel, Islander on the Beach, Kaua'i Coast Resort, Courtyard Kaua'i, Mokihana of Kaua'i, Village Manor condominiums, and Waipouli Beach Resort. The Coconut Marketplace shopping complex is on the south end, and the Waipouli Town Center and Kaua'i Village Shopping Center are just mauka of Kūhiō Highway on the north end. Three large, coastal properties are undeveloped, but they are zoned for resort development and have obtained Special Management Area (SMA) permits for resort-oriented development. In addition to the larger properties, there is a cluster of smaller parcels to the south of Uhelekawawa Canal consisting of residences, small businesses (Snorkel Bob's, Ambrose), and the Kapa'a Missionary Church.

At the Papaloa Road "start" point, the County has an easement located between Kaua'i Sands and Islander on the Beach. The path will be located within this easement. As the path heads north along the coastline, it will be located within a County-owned beach reserve which extends as far as the Kaua'i Coast Resort. Although a beach reserve has not been established north of the Kaua'i Coast Resort, development conditions are in place requiring existing (in the case of Courtyard Kaua'i) and future resort development to provide lateral coastal access that would be satisfied by the proposed bike/pedestrian path. Along the southern boundary of Mokihana of Kaua'i, there is an existing mauka-makai beach access route. The path will be located along the length of this access to Kūhiō Highway or, alternatively, take a jog parallel to the coastline then along the south bank of Uhelekawawa Canal. The latter alignment will require acquisition of privately owned land.

Future Development. The parcels on either side of Courtyard by Marriott are proposed for future resort development: the 20-acre Coconut Beach Resort to the south and 12-acre Coconut Plantation Village to the north (see Figure 13). Together, these projects are expected to add approximately 525 multi-family units or hotel rooms and nearly 1,000 parking stalls. As a condition of development, the Kaua'i Planning Commission has mandated bicycle and pedestrian access along the makai frontage of the proposed resort developments.

Potential Impacts and Mitigation Measures

No Action Alternative: The no action alternative will not affect existing land uses. However, as infill resort development occurs, lateral coastal access in Waipouli or the perceived ability to traverse the coast is likely to be impaired.

Build Alternatives:

The build alternatives are not anticipated to have a significant adverse impact on existing or future land uses. The project area is largely developed and the land use character has been established by the pattern of development and expectations conveyed in public policy documents and decisions. Resort development projects on the remaining vacant parcels have completed their respective entitlement processes and the key project dimensions (number of units allowed, parking requirements) have been finalized. To the extent that this project (Phases C & D) is consistent with mandated coastal access requirements in the resort district, this project brings together private obligations and public benefits, but does not fundamentally change the land use outlook.

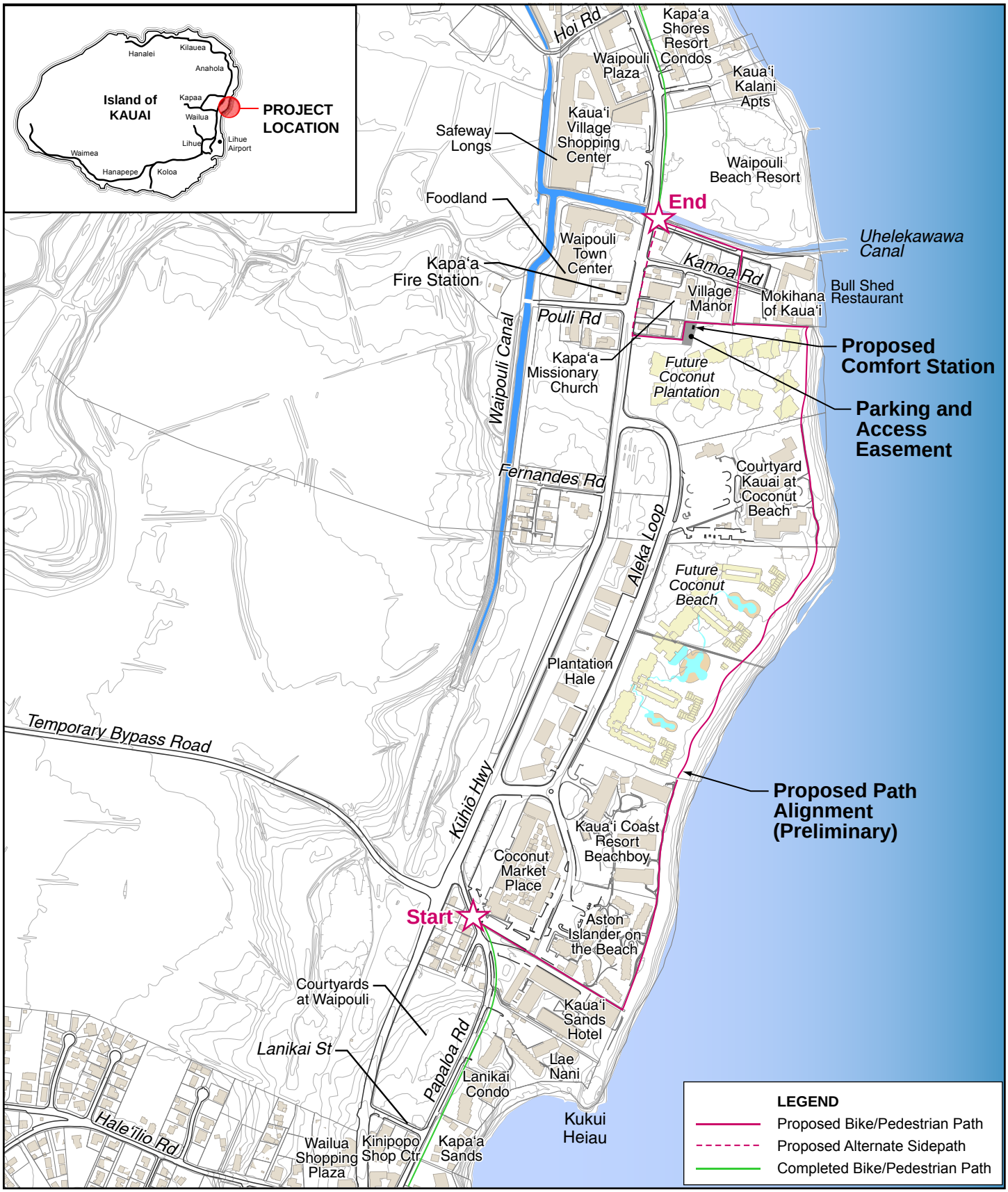
The northern end of the project corridor contains smaller lots and concerns have been raised about compatibility between path uses and activities occurring on adjacent properties.

Cumulative Impacts

With future infill development of the Waipouli resort district, hotels will line virtually the entire coastline from Wailua Bay to Uhelekawawa Canal. While the shared use path is a form of development, it is not expected to adversely impact the human environment. Retaining and improving a well-defined corridor will preserve a margin of coastal open space for the public, enabling the local community to travel accessibly along the shoreline and engage in low-impact recreation.

Mitigation Measures:

To mitigate proximity effects of the path on neighboring residential properties, a combination of walls, fencing, and landscaping will be installed as barriers to shield the path and maintain privacy. Figures 14 through 16 provide simulations of design solutions that could be used in the Village Manor area and along Uhelekawawa Canal. While the drawings are conceptual only, they are intended to convey the range of aesthetic treatments that could be incorporated into the project. Consultations with neighboring property owners will occur during the design phase of the project.



Future resort development based on preliminary plans, subject to change.

0 200 400 800 Feet

Figure 13
FUTURE DEVELOPMENT
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

Aerial view

Mokihana of Kauai tennis court to be relocated makai. Path aligned between Village Manor and relocated court.

Figure 14
VISUAL SIMULATIONS–1

Path along Uhelekawawa Canal—visual simulation of curb and landscaping (concept only)

Path along Uhelekawawa Canal—visual simulation of low fencing (concept only)

Figure 15
VISUAL SIMULATIONS–2

Simulation of proposed path makai of Village Manor complex. Concept drawing for planning purpose only.

Figure 16
VISUAL SIMULATIONS–3

3.4 TRANSPORTATION AND CIRCULATION

3.4.1 Highway Traffic

Kūhiō Highway (State Highway No. 56) is part of the National Highway System and the main land transportation facility through the project area. The highway serves regional through traffic between Līhu'e and the North Shore. It also passes through the heart of the Waipouli-Kapa'a commercial area; therefore, it also serves the local circulation needs of residents and businesses.

In 2010, average daily traffic carried on Kūhiō Highway between Kuamo'o Road and Wana Road ranged from 22,500 to 28,500.

Station Location	**24-Hour Traffic Counts** *Averaged over Two Days (Nov 2010)*		
	Direction 1 (Northbound)	**Direction 2 (Southbound)**	**Both Directions**
Kūhiō Hwy: Kuamo'o Rd to Papaloa Rd	13,845	14,667	28,512
Kūhiō Hwy: Kamoa Rd to Wana Rd	12,199	10,349	22,548

Source: Hawai'i Department of Transportation 2010 Traffic Station Maps, October 2011

Potential Impacts and Mitigation Measures

No Action Alternative: Under the no action alternatives, pedestrians and bicyclists will continue to use existing highway shoulders in the project corridor.

Build Alternatives:

A new crossing is needed at Uhelekawawa Canal and will likely require development in the highway right-of-way for the Uhelekawawa Canal crossing.

Coastal/Highway Alternative:

The Coastal/Highway alternative will require development in the Kūhiō Highway right-of-way. The segment would be approximately 600 feet long.

Besides occupying land within the right-of-way, the proposed path will affect highway traffic. Path users will be traveling in two directions and encouraged to follow the typical convention of staying on the right side of the travel way. Since the path is located on the makai side of Kūhiō Highway, this means that path users going southbound, will be next to motor vehicles traveling northbound or in the opposite direction. In such situations, the path will have to be designed to ensure adequate separation and differentiation between the two transportation facilities, for example, with barriers. Acquisition of private property adjacent to the existing right-of-way may be necessary to provide adequate space.

3.4.2 Bus Service

The Kaua‘i Transportation Agency provides a public bus service, called the Kaua‘i Bus. Operations are split between fixed-route and paratransit service. Buses on fixed routes are outfitted with bicycle racks.

Bus service on the east side of the island is comprised of a main line between Līhu‘e and Hanalei which serves the project area, and two shuttle lines serving Wailua and Kapahi. On weekdays, service runs from approximately 5:30 am-10:30 pm with limited service on weekends and holidays. For the main line, buses are scheduled once an hour.

Potential Impacts and Mitigation

No Action Alternative: The no action alternative will not affect bus service.

Build Alternatives:

The proposed bike/pedestrian path provides increased opportunities for intermodal connection. The alignment passes northbound bus stops at Coconut Marketplace and Kapa‘a Missionary Church, and the southbound bus stop at Kaua‘i Village Shopping Center. The stops allow path users to reach more distant parts of the island via public transit as the buses are now equipped with bike carriers.

Coastal/Highway Alternative: This alternative will have an impact on the Kapa‘a Missionary Church bus stop which is located within the highway right-of-way.

Mitigation Measure: If the coastal/highway alternative is selected, the path’s design will be coordinated with the Transportation Agency to ensure that the requirements of both facilities are accommodated. During the construction period, it may be necessary to temporarily relocate a bus stop. Any such move will be made in consultation with the Transportation Agency.

3.5 PUBLIC INFRASTRUCTURE AND FACILITIES

3.5.1 Drainage System

No improvements to the existing drainage system will be needed for the project. Existing drainage patterns will be maintained. Runoff will continue to sheet flow across the path to unpaved shoulders or existing swales and drainage structures. Owners of units at Islander at the Beach identified a drainage problem at their site and potential adverse impacts associated with the proposed path. During the next engineering design phase, the drainage issue will be investigated to determine the source of the problem and whether the path will exacerbate the existing situation.

Grading of the site will comply with the County’s grading regulations and the recommendations of the geotechnical engineer.

3.5.2 Water and Wastewater Systems

Water Service

The Kaua‘i Department of Water provides water service throughout the island. Water lines are generally located in the streets and distribute potable water for domestic, industrial, and commercial consumption and for fire protection.

Wastewater Service

The wastewater system is also operated by the County. Sewage from the Kapa‘a, Waipouli and Wailua areas is collected through the County sewer system via gravity lines and collected at sewage pump stations located along Kūhiō Highway and Papaloa Road. Sewage is pumped through force mains to the Wailua sewage pump station located at the intersection of Kūhiō Highway and Hale‘īlio Road. Sewage is then pumped via a force main to the wastewater treatment plant located on Leho Drive.

Potential Impacts and Mitigation Measures

No Action Alternative: The no action alternative will have no effect on water and wastewater services.

Build Alternatives:

The proposed action is expected to generate increased water demand for the new comfort station which is expected to include two toilets, a sink, and a water fountain. Water usage is anticipated to be relatively low since the restroom is intended as a way station for path users passing by, rather than a facility supporting large social gatherings. Additional water demand may be needed for the new landscaping—either temporarily during the establishment phase or on a permanent basis. During construction, water will be used for dust control and to expedite the growth of plant cover for erosion control.

The proposed comfort station will also place increased demand on the wastewater system. The comfort station would be hooked up to an existing sewer line near the Mokihana of Kaua‘i tennis court.

Because construction activities may occur in or near roadways, it is likely that the path will be located over or in close proximity to buried water and/or sewer lines. Appropriate engineering and construction methods will be employed to avoid damage to the infrastructure and to comply with all County design standards for utility systems.

Mitigation Measures:

To minimize water use, water efficient fixtures (low-flow toilets) and drought-tolerant native plants will be used to the extent practicable.

3.5.3 Solid Waste Management

The Kaua‘i Department of Public Works, Solid Waste Division operates the primary refuse collection system.

Potential Impacts and Mitigation Measures

No Action Alternative: The no action alternative will not affect the solid waste management resources.

Build Alternatives:

Construction of the path will generate solid waste typical of normal construction-related activities. The solid waste stream will consist primarily of vegetation, rocks, and other debris resulting from clearing and grubbing. In areas where the proposed path will replace existing pavement, the proposed action will also generate old asphalt and concrete that must be recycled or disposed.

Trash receptacles will be installed along the path alignment. Therefore, once the path is operational, trash will be generated by users. As part of the regular maintenance program, receptacles will need to be emptied and the rubbish hauled to the refuse transfer station in Kapa‘a.

Project-related waste material will be a small proportion of the islandwide total, and is not expected to have a large impact on the County’s solid waste facilities.

Mitigation Measures:

The contractor will be required to have a waste disposal plan that specifies proper removal and disposal of all debris from the project area.

3.5.4 Electrical and Telecommunications Systems

Electrical System

The Kaua‘i Island Utility Cooperative (KIUC) is the local utility company that provides electrical power to service customers on the island. A major KIUC overhead pole line system runs along the entire length of the Kūhiō Highway corridor. The overhead system typically

consists of a 57.1 kV transmission circuit, 12.47 kV distribution circuit(s) and secondary lines mounted on joint use poles. Pole-mounted transformers serve the smaller loads, including street lighting. Many larger loads are served from 12.47 kV lines that are run underground from the pole line along Kūhiō Highway to a pad-mounted transformer located on or near the customer's property.

Telecommunications System

Hawaiian Telcom is the utility company that provides land line telecommunications service to customers on the island. The company's main telecommunications lines run along the Kūhiō Highway corridor. These lines consist of a varying combination of cable (copper and fiber optic) and method of distribution (overhead and underground).

There are numerous copper cables that run along Kūhiō Highway. These copper cables support anywhere from several hundred to several thousand pairs of conductors. Except when crossing under the Wailua River and Waika'ea Canal, these many copper cables are routed overhead. The cables are mounted on joint use poles with KIUC cables and on dedicated telecommunications poles. Telecommunications lines may be found on poles on both sides of Kūhiō Highway in some locations. Hawaiian Telcom's fiber optic cables also run along Kūhiō Highway.

While not owned, operated or maintained by Hawaiian Telcom, traffic signal control cables are routed overhead on poles shared with Hawaiian Telcom and/or KIUC along major portions of Kūhiō Highway. Traffic signal cables are owned, operated, and maintained by the State Department of Transportation, Highways Division.

Oceanic Time Warner Cable provides wired cable television (CATV) service on the island. The CATV distribution system generally consists of overhead lines. Oceanic Cable fiber optic and coaxial cables are run overhead on joint use and dedicated telecommunications utility poles along the length of Kūhiō Highway. Laterals are also run overhead along secondary roads to service nearby residential areas.

Sandwich Island Communications reported that their fiber cable and ducts are located along Kūhiō Highway and plans must be submitted for their review

Potential Impacts and Mitigation Measures

No Action Alternative: Electrical and telecommunications systems would not be affected by the no action alternative.

Build Alternatives:

Coastal/Highway Alternative: In this alternative, a 600-foot section of the path would be located along the makai side of Kūhiō Highway, thereby potentially impacting KIUC electrical transmission, distribution, and secondary systems, and telecommunications and CATV overhead systems. In places where the overhead pole line system creates barriers along the path alignment,

it may be necessary to relocate and reroute the affected utility lines. The cost of relocation and the disruption to residents and businesses during the construction work would be high.

Another option may be to route the path around the pole with the installation of bollards or posts to direct flow around the pole and use of reflectors to improve visibility. This option would be contingent on a number of considerations, including separation requirements imposed by utility services and the safety of path users.

Underground ducts and cables will probably remain in place, subject to more detailed design. Close coordination will be required between the County, the path contractor, and the utility companies to minimize impacts.

3.6 PUBLIC HEALTH AND SAFETY

3.6.1 Police Services

The Kaua‘i Police Department has three stations located approximately 25 miles apart. The main station and administrative headquarters is located in Līhu‘e; smaller stations are co-located with fire stations in Waimea and Hanalei. A small substation is located on Kahau Road adjacent to Kapa‘a New Town Park.

3.6.2 Fire and Emergency Medical Services

The Fire Department’s main station and administration headquarters are located in Līhu‘e. One of two fire stations in the Kapa‘a area is located on Kūhiō Highway at Pouli Road, which is near the proposed trailhead parking lot and comfort station. The County has a unified, island-wide system of fire protection and rescue services.

The island’s main trauma center is located at Wilcox Memorial Hospital in Līhu‘e, approximately five miles from the project start point. Emergency room services are also available at Samuel Mahelona Memorial Hospital in Kapa‘a, primarily for the treatment of non-life threatening illnesses, injuries, and conditions.

Potential Impacts and Mitigation Measures

No Action Alternative: The no action alternative would not affect police, fire, and emergency medical service resources above existing levels.

Build Alternatives:

Impacts on Public Safety Services

The proposed path may increase the demand for police and first responder services. As more people use public facilities, requests for surveillance, enforcement, and possible intervention are likely to increase. All sections of the proposed alignment are accessible from existing streets, driveways, and parking areas for emergency response by fire, police, and medical personnel. Project designers will incorporate design elements for public safety and crime deterrence.
In the short-term, construction activities associated with the project may require temporary lane closures to some County roads or disruptions to portions of Kūhiō Highway. If necessary, a traffic control plan will be developed and coordinated with the State Department of Transportation and County agencies for their review and approval. Police officers may be hired to assist with implementing traffic controls during construction. These added services should not negatively impact the Department's regular operations.

The proposed action is not expected to have a significant impact on the Department's fire protection services. There is a potential for an increased number of requests for emergency assistance and medical services related to larger numbers of people engaged in physical activity, but the increase is not expected to adversely affect staff capacity or response times.

The Fire Department has indicated a desire for mauka-makai access routes, lateral access along the path alignment, and space for vehicles to turnaround. In most places, access is already provided by the existing street grid and private driveways and parking lots. More detailed path features will be addressed during the design phase of the project. Project designers will consult with fire department personnel to address emergency response needs.

Crime Impacts

Although there is considerable evidence that paths do not attract crime, this issue remains a source of concern for people living in areas where paths are being planned. Concerns include criminal activity on the trail (such as assault and vandalism), off the trail (such as trespassing and burglary), and nuisance activity (such as littering and loud noises).

The most comprehensive study to date was conducted by the Rails-to-Trails Conservancy (RTC) in cooperation with the National Park Service (Tracy and Morris, 1998). The study examined the extent of criminal activity on 372 trails across the country. Trails were divided by type of environment: urban, suburban, and rural. The Lydgate Park-Kapa'a project corridor best fits the suburban profile. The RTC study covered 1,100 miles of trails on 82 suburban trails; crime data were collected for 1995 and 1996.

- The national rate of suburban muggings is 102 per 100,000 inhabitants; none of the suburban trails reported muggings in 1995 and only one mugging was reported in 1996.

- The national rate of suburban aggravated assaults is 293 per 100,000 inhabitants; 3 assaults occurred on three different suburban trails in 1995 and 2 assaults occurred on suburban trails in 1996.
- The national rate of suburban rape is 29 per 100,000 inhabitants; none of the suburban trails reported a rape in 1995 or 1996.
- The national rate of suburban murders is 4 per 100,000 inhabitants; there were no reports of murder on suburban trails in 1995 or 1996.

The following statistics were reported for minor crimes on suburban trails.

- The national rate of suburban burglary is 820 incidents per 100,000 inhabitants; only one suburban trail reported a break-in to adjacent property in 1996.
- 3 percent of suburban trails reported trespassing
- 17 percent of suburban trails reported graffiti
- 24 percent of trails reported littering
- 22 percent of trails reported sign damage
- 14 percent of suburban trails reported unauthorized motorized usage

The survey findings indicated that graffiti and littering were quickly corrected as part of routine trail management. Letters from law enforcement officials attested that the actual volume of incidents, such as graffiti, littering, sign damage, and motorized use, were minimal. Moreover, the study pointed out that the number of crimes directly affecting adjacent property owners was lower than the rates of trail vandalism.

The study concluded by stating:

> Rail-trails are not crime-free. No place on earth can make that claim. However, when compared to the communities in which they exist, compared to highways and parking lots, and compared to many other public and private places, rail-trails have an excellent public safety record. (p. 14)

Trails and paths have a low crime rate, in part, because they attract people who use the facility legitimately for recreation and transportation.

Mitigation Measures:

One of the most significant measures to deter property crime is already part of the project design—prohibition of motorized vehicles on the path. In addition, the following measures can help address the safety concerns of residents and path users:

- Eliminate overgrown vegetation and tall shrubs to minimize hiding places along the path and maintain long sight lines for users

- Place security lighting where appropriate
- Although mobile phones are ubiquitous, consider emergency phones or call boxes
- Keep paths clean and well maintained to increase a feeling of community ownership of the path and reduce incidents of minor crime, such as litter, graffiti, and vandalism

The Department of Parks and Recreation will have primary responsibility for operation of the path. As in completed sections of the shared use path, the department will monitor complaints and reports of problems.

4 LAND USE PLANS, POLICIES, AND CONTROLS

4.1 HAWAI‘I STATE PLAN

The Hawai‘i State Plan, Chapter 226, HRS, is the umbrella document in the statewide planning system. It serves as a written guide for the long-range development of the state by describing a desired future for the residents of Hawai‘i and providing a set of goals, objectives, and policies that are intended to shape the general direction of public and private development.

Transportation objectives established in the Hawai‘i State Plan include the following policies and objectives that are consistent with, and would be implemented through, the proposed action.

Objectives:

> Sec. 226-17(a)(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economic, safe, and convenient movement of people and goods
>
> Sec. 226-17(b)(1) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State

Policies:

> Sec. 226-17(b)(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development
>
> Sec. 226-17(b)(11) Encourage safe and convenient use of low-cost, energy-efficient, nonpolluting means of transportation

The proposed project would also be in conformance with State Plan objectives and policies for socio-cultural advancement—leisure.

Objective:

> Sec. 226-23(a) Planning for the State’s socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations

Policies:

> Sec. 226-23(b)(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently

Sec. 226-23(b)(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance

Sec. 226-23(b)(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved

Sec. 226-23(b)(5) Ensure opportunities for everyone to use and enjoy Hawai'i's recreational resources

Sec. 226-23(b)(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai'i's people

Sec. 226-23(b)(10) Assure adequate access to significant natural and cultural resources in public ownership

4.2 STATE LAND USE CLASSIFICATION

The State Land Use Commission, pursuant to Chapter 205 and 205A, HRS and Chapter 15-15, Hawai'i Administrative Rules, is empowered to classify all lands in the State into one of four land use districts: urban, rural, agricultural and conservation.

Phases C & D are classified in the Urban District. Lands within the Urban District are regulated by County government.

4.2.1 Coastal Zone Management

Coastal Zone Management ("CZM") objectives and policies (Section 205A-2, HRS) and the Special Management Area ("SMA") guidelines (Section 25-3.2 ROH) have been developed to preserve, protect, and where possible, to restore the natural resources of the coastal zone of Hawai'i. All lands in the State of Hawai'i and the area extending seaward from the shoreline are classified as valuable coastal resources within the State's CZM area.

The project site is within the Kauai County SMA, and is therefore subject to the County's SMA requirements. A SMA Major permit will be obtained for the proposed multi-use path in the next engineering design and construction phase of the project.

Part II of Chapter 205A, HRS contains the general objectives and policies upon which all counties have established Special Management Areas (SMA). The following discusses the project's conformance with the objectives of the State's CZM program:

Recreational Resources

CZM Objective: *Provide coastal recreational opportunities accessible to the public.*

The proposed multi-use path will provide an important link between recently constructed paths (Phases A & B), thereby increasing the connectivity of the existing network. The County's purpose is to provide a bike and pedestrian path that is safer and more accessible than the existing assemblage of highway, local roads, and informal trails. Phases C & D are located in an area with many attractors, including hundreds of visitor units, shops and restaurants.

The path ensures lateral coastal access for the public and appropriate recreational development within the beach reserve. The project corridor is located in a resort district where the remaining vacant parcels are expected to be developed in the near future. Resort projects were entitled with the condition that a paved pathway be provided to enable public access to coastal resources. This project, then, would coordinate and enhance the resort-specific public access requirements with a cohesive and unified design. The path would provide convenient access for people who wish to fish or gather along the coastline. For the large community of walkers, joggers, runners, and bicyclists, the path would be a facility for fitness and physical exercise. For all users, the shared use path would provide an aesthetic experience as this segment offers picturesque views of the Waipouli shoreline.

Historic Resources

CZM Objective: *Protect, preserve, and where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.*

As part of the environmental assessment preparation process, a Section 106, National Historic Preservation Act, Native Hawaiian Organization consultation process was convened to discuss historic and pre-historic resources. The Federal Highway Administration (FHWA) determined that the project will have no adverse effect on historic properties based on surface and subsurface observations, consultations with NHOs and other interested parties, and an evaluation of significance criteria (see Chapter 3.3.1 Archaeological, Historic, and Cultural Resources and Appendix B).

Scenic and Open Space Resources

CZM Objective: *Protect, preserve, and where desirable, restore and improve the quality of coastal scenic and open space resources.*

This project is not anticipated to have noticeable impacts on the coastline. For the most part, the proposed path is a flat, structure-less passage way that will not intrude on the natural landscape. The intent of the path is to create a safe and convenient way for people to enjoy the natural environment and maintain the existing setting.

The path also creates a positive impact by offering people an opportunity to enjoy some of the region's best coastal views and provide lateral access in an area slated for future resort development. Because the path will be accessible and define a clear public pathway, it will expand access to view corridors for a larger segment of the community.

Coastal Ecosystems

CZM Objective: *Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*

The project will not adversely impact coastal ecosystems or water quality. Best management practices and erosion control measures will be employed during construction. The next engineering design and construction phase of the project will determine a more precise alignment of the path. The intent is to locate the path as far mauka from the shoreline as possible to protect valuable coastal ecosystem.

Economic Uses

CZM Objective: *Provide public or private facilities and improvements important to the State's economy in suitable locations.*

The project implements a key phase of the County's pathway known as Ke Ala Hele Makalae that is expected to extend along the east side of Kaua'i from Nāwiliwili in the south to Anahola in the north. It closes a key gap in the recently constructed shared use paths (Phases A & B), and increases the connectivity of the existing network in an area with hundreds of visitor units and many attractions including shops and restaurants.

Coastal Hazards

CZM Objective: *Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.*

The project site is located within the tsunami evacuation area, but will not affect the occurrence or likelihood of damage from tsunami, storm waves, flooding, erosion, or subsidence. In the event of a tsunami, users will be advised to evacuate the area. The project is not within a designated flood hazard area.

Managing Development

CZM Objective: *Improve the development review process, communication, and public participation in the management of coastal resources and hazards.*

Every effort has been made in the review process to inform the community and invite public participation. Public informational meetings were held at the beginning of the EA process, during the 30-day comment period and during the lengthy Section 106, National Historic Preservation Act (NHPA) consultation with Native Hawaiian Organizations.. During the next engineering design and construction phase, a public hearing will be held for the SMA use permit and additional public meetings will be held during the design and construction process.

Public Participation

CZM Objective: *Stimulate public awareness, education, and participation in coastal management.*

An early consultation notice was sent to a number of federal, State and City and County agencies and community organizations. Public informational meetings were held at the beginning of the EA process, during the 30-day comment period and during the lengthy Section 106 NHPA consultation process. During the next engineering design and construction phase, a public hearing will be held for the SMA permit and additional public meetings will be held during the design and construction process

Beach Protection

CZM Objective: *Protect beaches for public use and recreation.*

The Project will not adversely impact public beaches in the area. Instead, it will allow greater access opportunities for bikers, pedestrians, joggers, and all age groups and provide linkages between public beaches along the eastern coastline of Kaua‘i.

Marine Resources

CZM Objective: *Promote the protection, use, and development of marine and coastal resources to assure their sustainability.*

The Project will not impact the protection or use of marine and coastal resources. During construction, best management practices will mitigate erosion and runoff to prevent impacts to coastal water quality and marine resources. The intent is to construct the path as far mauka from the shoreline as feasible.

4.3 COUNTY OF KAUA'I LAND USE REGULATIONS

4.3.1 County General Plan

The County of Kaua'i General Plan was adopted in November 2000. The General Plan establishes policy for the long-range development, conservation, use, and allocation of land, water, and other resources in the county. It includes vision statements that describe the desired state of the County twenty years in the future. Furthermore, the General Plan contains policies intended to achieve that vision, as well as specific implementing actions that set forth recommended actions to carry out the policies. This section discusses the project's conformance and consistency with pertinent policies and implementing actions from the County General Plan.

A. Scenic Views Policies

1. In developing public facilities and in administering land use regulations, the County shall seek to preserve scenic resources and public views. Public views are those from a public place, such as a park, highway, or along the shoreline.
2. The County shall observe the following general principles in maintaining scenic resources:
   (a) Preserve public views that exhibit a high degree of intactness or vividness.
   (b) Preserve the scenic qualities of mountains, hills or other elevated landforms, qualities such as the silhouette against the horizon and mass and shape of the landform.
   (c) Preserve the scenic qualities of lowland/open space features, such as the shoreline, the edge of a coastal bluff, a marsh, a fishpond, or a historic or cultural property. Structures should not impede or intrude upon public views of the feature and should not alter the character of the immediate area around the land feature, historic or cultural property.

B. Historic and Archaeological Sites Policies

1. Preserve important archaeological and historic sites and provide: 1. a buffer area between the site and adjacent uses; and 2. public pedestrian access, as appropriate to the site.

C. Coastal Lands Policies

1. Actively acquire shoreline lands and access-ways to shoreline areas for public use.
2. When developing public facilities or granting zoning, land use permits, or subdivision for development along the coast, the first priority shall be to preserve and protect sandy beaches.
   (a) Strips of land along the shoreline that have been placed in the State Conservation District or in the County Open zoning district are intended to serve as a buffer from coastal erosion. Structures should be sited inland of these coastal buffers on lands that are appropriately zoned.

(b) When development is proposed along a sandy beach, hazards of long-term coastal erosion should be assessed and used to determine appropriate setbacks.

(c) For coastal areas suffering erosion, promote and provide for beach renourishment in conjunction with property owners and the State Department of Land and Natural Resources. Discourage the construction of shoreline protection structures (seawalls, revetments).

(d) Following are general guidelines for coastal development, including resorts and residential subdivisions, but excepting harbors and other uses which are specifically dependent on locating near the water:

(1) Provide a permanent pathway laterally along the coast, located in the buffer zone mauka of the shoreline (e.g., Waipouli Resort pathway).

(2) Site buildings to preserve view corridors from roads or public places to the ocean and from the ocean mauka.

(3) Provide public parking and convenient access to the ocean.

D. Visitor Activities, Parks and Natural Areas Policies

1. Manage beach parks, resources parks, rivers, beaches and other natural areas according to the following policies, in order of priority (County and State)

(a) Conserve resources.

(b) Provide for use by the general public – i.e., individuals, families, 'ohanas.

(c) Allow for group use (including commercial tours and equipment rentals) within conservation limits.

3. (a) Interpretation of natural areas, historic and archaeological sites, traditional agricultural and cultural practices, towns and communities.

4. Improve facilities, maintenance, and management of activities at State and County parks.

(a) Ensure adequate levels of park maintenance, repair, and hygiene and to improve signage and interpretation of natural and cultural features.

E. Open Lands Policies

1. The intent of the Open designation is to preserve, maintain or improve the natural characteristics of non-urban land and water areas that:

(a) Are of significant value to the public as scenic or recreation resources;

(b) Perform essential physical and ecologic functions important to the welfare of surrounding lands, waters, and biological resources;

(c) Have the potential to create or exacerbate soil erosion or flooding on adjacent lands;

(d) Are potentially susceptible to natural hazards such as flood, hurricane, tsunami, coastal erosion, landslide or subsidence; or

(e) Form a cultural, historic or archaeological resource of significant public value.

2. Lands designated Open shall include: important landforms such as mountains, coastal bluffs, cinder cones, and stream valleys; native plant and wildlife habitat; areas of predominantly steep slopes (20 percent or greater); beaches and coastal

areas susceptible to natural hazards such as flood, hurricane, tsunami, coastal erosion or hurricane, scenic resources; and known natural, historic and archaeological resources. Open shall also include parks, golf courses, and other areas committed to outdoor recreation.

3. Lands designated Open shall remain predominantly free of development involving buildings, paving and other construction. With the exception of kuleanas and other small lots of record, any construction that is permitted shall be clearly incidental to the use and open character of the surrounding lands.

F. Scenic Roadway Corridors Policies

1. The purpose of designating Scenic Roadway Corridors is to conserve open space, scenic features, and views within and along Kaua'i's most heavily traveled routes. The policy of conservation recognizes the vital function of these roadways in meeting the public need for transportation. It also recognizes the legitimate desire of private landowners to make economic use of their lands. The intent of this policy is to establish basic principles for roadway design and land use within these scenic corridors and to provide a basis for County action to establish programs and regulations to implement them.
2. Scenic Roadway Corridors are primarily designated in areas between towns where surrounding lands are primarily designated Agriculture and Open. Where a Scenic Roadway Corridor is designated within a town or adjoins an area planned for urban use, the primary intent is to promote setbacks, landscaping, and views of scenic features. Scenic Roadway Corridors are intended to provide design guidance but not to restrict the principal land uses of urban areas.

G. Bikeways Policies

1. Support funding to develop Kaua'i's bikeway system to provide for alternative means of transportation, recreation and visitor activities (economic development).

The General Plan also established broad land use categories to guide the future direction of land development. The land use designation for the entire project area is Resort.
This project does not require any action relative to the General Plan.

4.3.2 Zoning

County zoning provides the most detailed set of regulations affecting land development, prior to actual construction. Zoning is typically limited to land classified as Urban within the State land use system. Figure 17 shows how properties within the project corridor are zoned. The proposed action will not require any zoning changes.

The area makai of Kūhiō Hwy is generally within the Resort District, which allows 20 residential units or 40 hotel rooms per acre. A strip of land adjacent to the highway and another strip of land along the shoreline are in the Open District.

The coastal portion of Phases C & D is expected to lie primarily in the Open District. The Comprehensive Zoning Ordinance defines the Open District as “established and regulated to create and maintain an adequate and functional amount of predominantly open land to provide for the recreation and aesthetic needs of the community or to provide for the effective functioning of land, air, water, plant and animal systems or communities.”

Land coverage (or lot coverage) is a key development standard in the Open District. Land coverage refers to any man-made structure, improvement, or covering that prevents normal precipitation from directly reaching the surface of the land. Structures, improvements, and coverings include roofs, surfaces paved with asphalt and stone (such as roads, streets, sidewalks, driveways, parking lots, tennis courts, patios), and lands used so the soil will be compacted so as to prevent substantial infiltration (such as parking of cars and heavy, repeated pedestrian traffic).

In the Comprehensive Zoning Ordinance, bus stops, bus shelters, and public shared use paths greater than 10 feet in width are excluded from the lot coverage provision. In the case of shared use paths wider than 10 feet, the Planning Director’s approval is required for lot coverage exemption.

4.3.3 Special Management Area (SMA) and Shoreline Setback

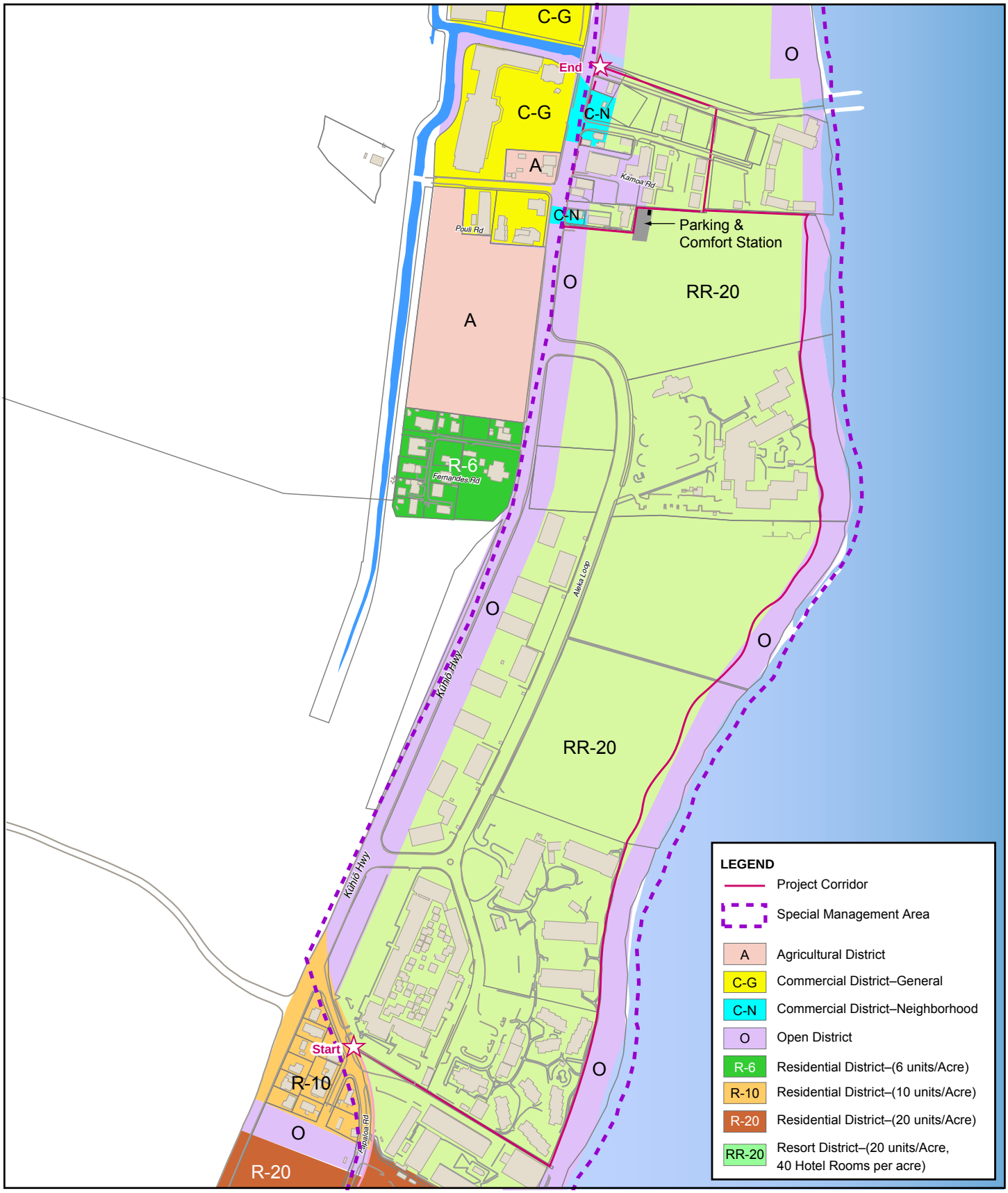
All County beach parks and certain other recreation facilities are affected by the Coastal Zone Management (CZM) program. The objectives and policies of the CZM statute (Section 205A-2, HRS) are to preserve, protect, and, where possible, restore the natural resources of the coastal zone of Hawai‘i. Special controls on development within an area along the shoreline are deemed necessary to avoid permanent loss of valuable resources and the foreclosure of management options, and to insure that public access is provided to publicly-owned or used beaches, recreation areas, and natural reserves, by dedication or other means.

The CZM program is administered locally by each of the counties and the County of Kaua‘i has adopted Special Management Area Rules and Regulations which contain regulatory guidelines and procedures. Any use, activity, or operation proposed with the SMA defined as a “development” is subject to review by the Planning Director, Planning Department, and Planning Commission. Public improvements within the SMA require a permit and, since this project has a development cost exceeding $500,000, will require a major Special Management Area Use Permit. The permitting process provides a heightened level of government and public scrutiny to ensure consistency with SMA objectives.

Figure 17 shows the boundary demarcating the SMA. Phases C & D are located inside the SMA and will require an SMA Major permit.

Because Phases C & D are located on lands abutting the shoreline, it is subject to shoreline setback regulation (Ordinance 887). The setback mandates a minimum amount of space between the shoreline and the improvement.

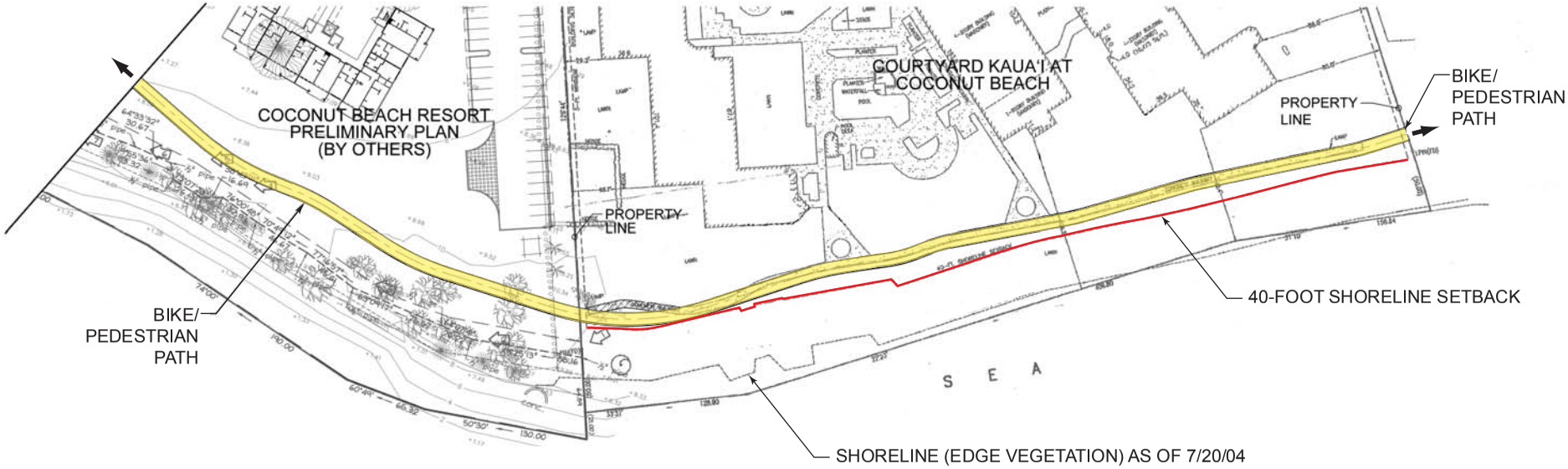
Figure 18 shows a section of the path in relation to a 40-foot shoreline setback line (at TMK: 4-3-02: 16 and 28). While this drawing is indicative only and subject to change, it shows how the various features are likely to relate to each other. The next engineering design and construction phase of the project will include a topographic survey of the area with property metes and bounds, a certified shoreline survey and a shoreline setback determination. With this information, a more precise alignment of the path will be determined. The county is committed to locating the shared use path as far mauka of the regulated shoreline setback to the extent possible. Where adherence to the setback distance cannot be met, a shoreline setback variance will be needed.



Source: Kauai Comprehensive Zoning Ordinance, Wailua-Waipouli Zoning District Map
Zone Boundaries are approximate.

0 200 500 Feet

Figure 17
ZONING/SPECIAL MANAGEMENT AREA
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D



0 25 75 125 Feet

N

Figure 18

CONCEPTUAL LAYOUT

Portion of Project Area
Relative to 40-Foot Shoreline Setback

Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

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4.4 OTHER PLANS

4.4.1 Bike Plan Hawai‘i

Bike Plan Hawai‘i is the statewide bicycle master plan prepared periodically by the State Department of Transportation. The latest update was completed in September 2003. *Bike Plan Hawai‘i* addresses the bicycling component of the Long-Range Land Transportation Plans (LRLTP)—each County has its own plan—and is incorporated into the LRLTP by reference.

The plan is important for several reasons:

- To establish a long-term strategy for transportation facilities improvements
- To enable better coordination between transportation and land-use planning
- To increase the state’s ability to leverage funds for transportation facilities
- To provide a mechanism to achieve community consensus

In order to qualify for federal funds, bikeway and roadway improvements are at an advantage if they are listed and shown in appropriate transportation planning documents. To FHWA, this demonstrates that the projects are part of a coherent transportation system and have been vetted through a public planning process.

The proposal for a “coastal bikepath” from Anahola to Nāwiliwili first appeared in the 1994 edition of *Bike Plan Hawai‘i*. In 2001, the State began updating the bike plan. The coastal bikepath proposal was endorsed by participants who attended two public meetings on Kaua‘i and in comments received during the draft review period.

4.4.2 State Comprehensive Outdoor Recreation Plan (SCORP)

The Hawai‘i Department of Land and Natural Resources, Division of State Parks prepares the *State Comprehensive Outdoor Recreation Plan (SCORP)* as part of a requirement to qualify for federal grants of outdoor recreation projects. The *SCORP* provides technical guidance to various government agencies and private entities that plan, develop, and manage outdoor recreation resources in the state. The current version of *SCORP* was published in April 2009.

In commenting on the original Lydgate Park-Kapa‘a Bike/Pedestrian path project, the Division of State Parks (by letter dated August 22, 2006) noted that the path would increase outdoor recreational opportunities for the Wailua-Kapa‘a communities, including both residents and visitors. Linear paths for walking, jogging, and bicycling, was identified as a priority need in the (2003) *SCORP*; therefore, the project met one of the plan’s strategic objectives.

The 2009 *SCORP* documents the continued popularity of bicycling, jogging, and walking as alternative modes of transportation and for fitness and recreation. SCORP participants

expressed a need to establish more safe and continuous pathways that connect communities, especially paths set apart from roadways.

The following recommendations are from the strategic plan:

> **Meeting the Needs of Recreation Users (Item 3)**
> Increase the number and range of resources and facilities to support expanded participation in walking, jogging, and bicycling as healthy activities and transportation by developing a comprehensive network of safe and well-maintained linear paths and lanes.
>
> **Access to Recreation Resources (Item 1)**
> Improve access to shorelines and public forest areas by protecting existing accesses, creating new accesses, and reestablishing access to areas that are currently blocked or restricted by private landownership and/or development.

4.4.3 Kaua‘i Parks and Recreation Master Plan

The Kaua‘i Department of Parks and Recreation completed a master plan of County parks and recreation facilities in 2013. The plan supports completion of Ke Ala Hele Makalae as envisioned from Nāwiliwili in the south to Anahola in the north, noting that the shared use path has become an acclaimed and well-used recreation facility in east Kaua‘i.

A master plan recommendation is for the department to actively participate in the identification, planning, design, and implementation of new shared use paths.

5 FINDINGS AND REASONS SUPPORTING THE DETERMINATION

5.1 CHAPTER 343 HRS DETERMINATION

Based on the information and analysis in this Environmental Assessment, the County of Kaua‘i, Department of Public Works, has determined that the project will not result in a significant impact on the environment. As such, it is issuing a Finding of No Significant Impact (FONSI), pursuant to the State of Hawai‘i HRS Chapter 343. An Environmental Impact Statement (EIS) is not required.

5.2 CHAPTER 343 HAWAI‘I REVISED STATUTES (HRS) SIGNIFICANCE CRITERIA

In determining whether an action may have significant impact on the environment, the applicant or agency must consider all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long-term effects. The State of Hawai‘i Department of Health Rules Section 11-200-12 (Hawai‘i Administrative Rules, revised 1996) establish 13 “Significance Criteria” to be used as a basis for identifying whether significant environmental impact will occur.

An agency will determine an action may have a significant impact on the environment if it meets any of the following criteria:

SIGNIFICANCE CRITERIA

1. Irrevocable commitment to loss or destruction of natural or cultural resources.

The proposed action will provide paved surfaces for pedestrians, joggers, bicyclists, wheelchair users, and others. Several alternative alignments were examined. Most of them are, or were previously used as, travel ways including informal social paths, beach accesses, and highway shoulders. Paving a pathway will enable people on foot and bicycles to travel with greater ease, comfort, and safety.

The intent of the proposed facility is to enable users to enjoy the outdoor environment; therefore, the improvements are minimal, consisting primarily of the pathway and context-appropriate landscaping. Structures, such as walls, railings, and fencing will be constructed only where necessary for user safety and the privacy of adjacent landowners. The improvements are intended to be permanent. They will require long-term commitments of land, but are not irrevocable. Materials that will be used to construct the path, such as concrete (for pavement) are common and plentiful.

The proposed project will not have a significant adverse effect on natural and cultural resources. There will be no destruction or loss of threatened or endangered plant or animal species. For the coastal sections, the path will be sited within or adjacent to areas already developed for resort and urban use. A burial treatment plan to be approved by the Kaua‘i/Ni‘ihau Island Burial Council will be implemented for the disposition of human remains found during an archaeological inventory survey. Additionally, an archaeological monitoring program will be implemented during construction and legally prescribed procedures will be followed if inadvertent discoveries of cultural artifacts and human remains are made during construction. The project sponsor has committed to other mitigation measures that were developed, in part, through Section 106, National Historic Preservation Act (NHPA) consultations with Native Hawaiian Organizations and other stakeholders (see Chapter 3 of the environmental assessment document).

2. Curtailment of the range of beneficial uses of the environment.

The project will not curtail the range of beneficial uses of the environment. For many people, the bike/pedestrian path is expected to increase coastal access, provide more travel options, and create new opportunities for outdoor recreation and fitness.

3. Conflicts with the State’s long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.

The proposed project is consistent with the environmental policies, goals, and guidelines defined in Chapter 344, HRS. In particular, the project is consistent with the following guidelines by improving the regional transportation and recreation infrastructure.

Parks, Recreation and Open Space

A. Establish, preserve and maintain scenic, historic, cultural, park and recreation areas, including the shorelines, for public recreational, educational and scientific uses.
B. Protect the shorelines of the State from encroachment of manmade improvements, structures, and activities.
C. Promote open space in view of its natural beauty not only as a natural resource but as an ennobling, living environment for its people.

Transportation

A. Encourage transportation systems in harmony with the lifestyle of the people and environment of the State.
B. Adopt guidelines to alleviate environmental degradation caused by motor vehicles.

Community Life and Housing

A. Foster lifestyles compatible with the environment; preserve the variety of lifestyles traditional to Hawai‘i through the design and maintenance of neighborhoods which reflect the culture and mores of the community.

B. Develop communities which provide a sense of identity and social satisfaction in harmony with the environment and provide internal opportunities for shopping, employment, education, and recreation.

C. Encourage the reduction of environmental pollution which may degrade a community.

D. Recognize community appearances as major economic and aesthetic assets of the counties and the State; encourage green belts, plantings, and landscape plans and designs in urban areas; and preserve and promote mountain-to-ocean vistas.

4. Substantially affects the economic welfare, social welfare, and cultural practices of the community or State.

The project will provide transportation and recreation facilities for the Wailua-Kapa‘a community and, overall, is expected to have a positive impact on the economic and social welfare of the community. Short-term negative impacts to surrounding residents and businesses will be associated with construction noise, dust, and traffic disruption—the latter in areas adjacent to heavily traveled roadways. These impacts will be temporary and addressed through best management practices during the several weeks when the path is under construction.

Adjacent landowners have expressed concerns about security and compromised privacy. In response, the path will be designed with a combination of solid walls, rail or lattice fencing, and/or landscaping to provide physical and perceptual barriers. Because other sections of the path have been built in similar environments (for example, adjacent to the Kahai Nani Condominiums at Lydgate and Pono Kai Condominiums in Kapa‘a, and in detached residential subdivisions), the project sponsor has accumulated experience in context sensitive design. Additional consultations with adjacent landowners will take place during the project’s design phase.

The path will provide a key link between completed phases of the pathway known as Ke Ala Hele Makalae, and provide lateral access to the coastline for non-motorized transportation, recreation and exercise.

The path’s impact on cultural practices of the community was addressed during the Section 106, NHPA consultation with Native Hawaiian Organizations. The Section 106 process resulted in a Federal Highway Administration (FHWA) determination of “no adverse effect” with mitigation commitments.

5. Substantially affects public health.

The proposed path is anticipated to have a beneficial effect on public health. Widespread news coverage has focused attention on the growing number of obese adults and children and the need to encourage a sedentary population to exercise more. Walking is reported to be especially beneficial because it is low cost and easy. Completed sections of the path are popular with fitness seekers. Phases C & D will create a longer, continuous route by filling an existing gap in Waipouli. Because Phases C & D connect to numerous destinations—such as hotels, restaurants, and shopping areas—it is expected that this section will be used by people making short utilitarian trips, thereby replacing a number of vehicular trips and their associated emissions.

6. Involves substantial secondary impacts, such as population changes or effects on public facilities.

The project is seen as an amenity for the community that will contribute to an enhanced quality of life and make the living environment more attractive. However, the project area is largely built out or entitled for future development (where the built out limit has been established). Therefore, the path is not expected to result in population increases or increase demand on public facilities.

7. Involves substantial degradation of environmental quality.

The path will not substantially degrade environmental quality. By design and function, the proposed path is intended to provide access while minimizing harm to the surrounding environment. In parks and wildlife refuges, it is common to remind visitors to “stay on the path.” In a similar fashion, the proposed bike/pedestrian path will define a travel corridor that helps to contain and manage human impacts in a particular area.

8. Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for large actions.

The proposed project is part of a larger vision to build Ke Ala Hele Makalae as a world-class path in east Kaua‘i. The overall plan is being phased into fundable increments. The phases are being studied and evaluated in relation to the whole and as self-contained projects. Therefore, implementation of Phases C & D (of the Lydgate Park to Kapa‘a path) will not commit resources for, or compel the construction of, any other phase. However, it should be noted that this particular project has an important connectivity purpose and need. As the path grows, there is a cumulative benefit since the network allows users to reach a greater number of places.

9. Substantially affects a rare, threatened, or endangered species, or its habitat.

Most of the project area has been urbanized. Several lots along the proposed route are currently vacant, but entitled or zoned for development, including two large-scale resort developments. The proposed path will not have a significant adverse effect on rare, threatened, or endangered species or their habitats. The endangered Hawaiian monk seal and, possibly, the green sea turtle, are known to periodically haul out onto the beaches of Waipouli where they are protected by the protocols established by federal agencies and carried out, in part, by trained volunteers. The proposed path is located on elevated upland and away from the sandy beaches thus minimizing interactions between people and seals. To minimize harm to protected seabirds, exterior lighting is not proposed for this project, except as needed for safety or security (for example, at the comfort station). In such instance, any exterior lighting would use full-cutoff or shielded fixtures.

10. Detrimentally affects air or water quality or ambient noise levels.

There will be minimal short-term impacts on air quality and noise levels during the construction period. Mitigation measures will be implemented to minimize construction-related noise and dust impacts. Long-term, adverse impacts to air and water quality and ambient noise levels are not expected. The proposed comfort station will be connected to a nearby sewer line.

11. Affect or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater, or coastal waters.

This project is located in the tsunami inundation zone; however, no occupied structures are proposed.

12. Substantially affects scenic vistas and view planes identified in county or state plans or studies.

Although this project does not affect identified scenic vistas and view planes, people who use the path will be afforded beautiful coastal and ocean views.

13. Requires substantial energy consumption.

Fuel will be consumed by construction vehicles and equipment, but this use will be comparable to other urban construction projects. To the extent that trips taken on the completed path replace travel by motor vehicles, the project will help to reduce the consumption of non-renewable fossil fuel.

CONCLUSION

Shared use paths are transportation facilities that give pedestrians, bicyclists, wheelchair users, and other "human-powered" traveler's routes that are largely separate from cars and trucks. For this reason, whenever possible, paths should be located away from roadways, driveways, and cross streets that increase the possibility of conflict between vehicles and people. Locating paths away from roads usually means locating them on the outskirts of urban development.

The preferred alignment for Phases C & D is located along the coast where there is a combination of safety, scenic, and destination factors. This stretch of coastline has been subject to concentrated resort and commercial development. Sidewalks or paths already exist along the makai frontage of some properties. These paths will be reconstructed for public use. The beachfront resorts are required by their development permits to provide lateral coastal access. This project would create a cohesive path out of what might otherwise be ad hoc segments and also provide enhancements and mitigations to accommodate public use. Design elements will address compatibility with the surrounding environment, appropriate selection of materials, and the use of screens, dividers, and landscaping. Temporary, construction-related impacts will be mitigated through best management practices.

Through route selection, design, and proposed mitigation measures, the analysis contained in this environmental assessment has determined that the project will not have significant adverse impacts. Anticipated impacts can be mitigated to less than significant levels.

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7 CONSULTATION AND COORDINATION

7.1 OVERVIEW OF CONSULTATIONS

The project team conducted a range of outreach activities as part of the planning process for Phases C & D. These activities included a written request for comments from property owners and agencies with facilities or regulatory authority within the project area, a public information meeting, and a series of five consultation meetings pursuant to Section 106 of the National Historic Preservation Act. The input and feedback received through these various channels provided the project team with information used to assess the alternatives.

7.2 PUBLIC INFORMATION MEETING

February 21, 2012, 6:00 PM
Kapa'a Middle School

Twenty-four members of the community attended a public information meeting held in the early stage of project planning. The meeting provided background information about Phases C & D and reviewed progress on other phases of the original project corridor. Questions and comments were raised about the following topics. Full meeting notes are provided in Appendix A.

- ADA accessibility
- Land ownership
- Historic properties impacts
- Public (beach access) easements in the vicinity
- Existing coconut trees
- Path maintenance
- Hazards of path along the highway
- Parking
- Crossing for Uhelekawawa Canal
- Proximity of the path to residences and buildings
- Integration of the path with public bus service
- Public amenities along the path
- Access for fishing

7.3 PRE-ASSESSMENT CONSULTATION AND COMMENTS

As part of the early consultation process, a pre-assessment letter was sent to the following agencies and organizations on July 20, 2011 with a request for comments to help identify issues that should be addressed in the Draft Environmental Assessment. Comments were requested by August 22, 2011. A copy of the letter requesting pre-assessment comments is reproduced at the end of this chapter.

Federal

Army Corps of Engineers, Regulatory Branch
Fish and Wildlife Service
National Marine Fisheries Service

State

Department of Accounting and General Services
Department of Business, Economic Development & Tourism
- Office of Planning

Department of Hawaiian Home Lands
Department of Land and Natural Resources
- Division of State Parks
- Office of Conservation and Coastal Lands
- State Historic Preservation Division

Department of Health
- Environmental Planning Office

Office of Hawaiian Affairs (Honolulu and Kaua‘i)

County of Kaua‘i

Department of Parks and Recreation
Department of Water
Fire Department
Kaua‘i Historic Preservation
Office of Economic Development
Planning Department
- Kaua‘i Historic Preservation Review Commission

Police Department
Transportation Agency

Elected Officials

Council Chair Jay Furfaro
County Vice Chair JoAnn Yukimura
Councilmember Tim Bynum
Councilmember Dickie Chang
Councilmember Kipu Kai Kuali‘i
Councilmember Mel Rapozo

Councilmember Nadine Nakamura
Senator Ronald Kouchi, 7th Senatorial District
Representative Derek Kawakami, 14th Representative District

Utilities

Hawaiian Telcom
Kaua‘i Island Utility Cooperative (KIUC)
Oceanic Time Warner Cable
Sandwich Isles Communications

Organizations

Kapa‘a Business Association
Kaua‘i Chamber of Commerce
Kaua‘i Path
Niu Pia Land Company, Ltd

Individuals

Name and address as provided on the Kaua‘i Real Assessment Property Record for the following TMKs.

4-3-001: 005	4-3-002: 012	4-3-007: 011, 021
4-3-001: 006	4-3-002: 013	4-3-007: 013
4-3-001: 007	4-3-002: 014	4-3-007: 014
4-3-001: 008	4-3-002: 015, 016	4-3-007: 016
4-3-001: 009	4-3-002: 018	4-3-007: 018
4-3-001: 010	4-3-002: 020	4-3-007: 019
4-3-001: 011	4-3-007: 003	4-3-007: 022
4-3-001: 012, 018	4-3-007: 005, 006	4-3-007: 027
4-3-001: 013	4-3-007: 007	4-3-007: 028
4-3-001: 019	4-3-007: 008	4-3-008: 001
4-3-001: 020	4-3-007: 009	

Pre-Assessment Comments Received

Responses were received from 18 agencies, organizations, and individuals, of which 14 provided substantive comments. Letters, emails, and telephone notes are reproduced at the end of this chapter. Comments and responses are summarized in the table below.

Table 7-1: Summary of Comments Received During the Pre-Assessment Consultation Period

Respondent	Comments	Response
Federal Government		
George P. Young, Chief, Regulatory Branch, U.S. Army Corps of Engineers Letter dated 7-28-11	Project Reference No.: POH-2011-00187 Project appears to be absent of jurisdictional navigable waters therefore Sec. 10 authorization may not be required. Any activity that may result in the discharge of dredged and/or fill material in jurisdictional waters will require Sec. 404 authorization.	Project will not involve discharges in waters of the U.S.
Loyal Mehrhoff, Field Supervisor, Fish and Wildlife Service Letter dated 5-9-12	Protected species in the vicinity of the path include: • Hawaiian hoary bat (endangered) • Green sea turtle (threatened) • Newell's shearwater (threatened) • Hawaiian petrel (endangered) • Band-rumped storm petrel (candidate for listing) • Wedge-tailed shearwater (protected) Recommendations: • Use path during daytime only and exclude path lighting • If lights needed, they should be positioned low to ground and shielded and/or full cut-off • Path should be constructed during daylight hours only • Prohibit off-leash movement of pets • Use animal-proof garbage containers to reduce attraction of non-native, feral species • Use native species for landscaping	The DEA will evaluate protected species that may be found in the project vicinity. Project design and mitigations: The County does not intend to light the linear portion of the path. If lights are required for safety or security; for example, at the proposed comfort station, they will be shielded or full cut-off. Construction will not occur after dark, i.e., lighting will not be used for construction. The County regulates dogs on shared use paths, including the requirement that, at all times, dogs must be on a leash no more than six feet in length (retractable leashes are not allowed). Animal-proof garbage containers will be used as practicable. Native plant species will be used for landscaping to the extent practicable.

Respondent	Comments	Response
		Woody plants greater than 15 feet tall will not be disturbed, removed or trimmed between June 1 and Sept 15, birthing and pup rearing season for bats Any construction between August – October; survey for nesting areas and delay construction until nest abandoned
David Nichols, National Marine Fisheries Service Email dated 4-20-12	Potential for Hawaiian monk seals to be in or near the project area Green sea turtles also may haul out in the vicinity Hawksbill turtles may be found in nearshore waters Critical habitat proposed for the Hawaiian monk seal, including terrestrial habitat 5 meters inland from the shoreline	The DEA will address protected marine animal species that may be found in the project vicinity. To mitigate potential adverse effects, informational signs will be posted to educate path users about the protected species and to provide instruction on appropriate actions.
State Government		
Bruce A. Coppa, State Comptroller, Department of Accounting and General Services Letter dated 8-4-11	Project does not impact any of the DAGS's projects or existing facilities on Kaua'i . No comments at this time.	
Albert "Alapaki" Nahalea-a, Chairman, Department of Hawaiian Home Lands Letter dated 8-14-11	No comments.	
Division of Forestry and Wildlife, Department of Land and Natural Resources Memorandum attached to letter from Russell Y. Tsuji, Land Administrator dated 8-22-11	No comments.	
Land Division-Kaua'i District, Department of Land and Natural Resources Memorandum attached to letter from Russell Y. Tsuji, Land Administrator dated 8-	No objections.	

Respondent	Comments	Response
22-11		
Samuel J. Lemmo, Administrator, Office of Conservation and Coastal Lands, Department of Land and Natural Resources Letter dated 8-1-11	Supportive of realigning path because it will improve coastline access. Conditions to be observed: • In areas where beach is threatened by erosion, path should be located farther mauka • Path construction should use modular building materials so can be relocated inland, as necessary • If shoreline is seasonally dynamic, path should be built to allow beach to fluctuate (typically with an elevated boardwalk style construction) • Any beach quality sand that is displaced during construction should be placed on the makai face of the frontal dune Path should be built mauka of the certified shoreline location	The path will be located mauka of the sandy beach and, to the extent possible, mauka of the 40-foot shoreline setback. The path is proposed to be constructed with concrete in a manner similar to existing sidewalks found on adjacent hotel properties. The exact method and materials will be determined in the next design phase of the project.
Daniel S. Quinn, State Parks Administrator, Department of Land and Natural Resources Letter dated 8-18-11	Makai alignment affects the northern portion of the 6(f) property within Wailua Beach Park (TMK 4-3-02). 6(f) designation requires that land be retained in public outdoor recreation in perpetuity. In previous review of EA for Lydgate Park to Kapa'a Bike/Pedestrian Path, letter dated 8-22-06, State Parks stated that path will increase outdoor recreational opportunities for Wailua-Kapa'a communities, including residents and visitors. Demand for more linear paths was identified in the State Comprehensive Outdoor Recreational Plan; therefore, this project meets one of the objectives in the SCORP strategic plan. Because path promotes outdoor recreation and will remain under the jurisdiction of County parks, there should not be a taking according to 6(f) requirements. However, recommend that SEA evaluate and address potential impacts on existing	The proposed path is part of the County's Ke Ala Hele Makalae facility, which is operated as a linear park by the Dept of Parks and Recreation.

Respondent	Comments	Response
	recreational activities and public access.	
Clyde W. Namuo, Chief Executive Officer, Office of Hawaiian Affairs Letter dated 12-3-10, resubmitted by e-mail from Keola Lindsey, Compliance Monitoring Program on 8-16-11	The letter from OHA was originally submitted for the Cultural Impact Assessment CIA should address the cumulative impacts of the overall project, rather than the relatively narrow scope of Phases C and D, pointing out that Phase B in within the traditional landscape of Wailuanuiahoano and is extremely sensitive. Many of the concerns related to traditional cultural practices detailed in the (original) FEA are applicable to the SDEA. Potential for encountering iwi kupuna and cultural resources within beach sand deposits along coastal portions of project clearly identified in the FEA. Urge that a comprehensive analysis and consultation on this issue be completed before any revised alignment is selected and design and engineering plans developed. Alignment will extend through what are known as "coastal reserves." While increasing access to the shoreline can increase the ability to exercise traditional and cultural gathering practices, this can also place additional pressures on resources and adversely impact those who currently exercise these practices without the project. This issue should be addressed in the CIA. A memorandum of agreement was executed in 2006 under the National Historic Preservation Act. OHA expects the terms and provisions of this MOA to be fully implemented should the alignment be revised. OHA recommends consultations with the following groups and individuals: Nathan Kalama, Waldeen Palmeira, Kehaulani Kekua, Val Ako, Kaua'i /Niihau Island Burial Council, and Kahau Historical Society. This list is not intended to be all encompassing.	Since the County began planning for Phases C & D of the shared use path, construction of the Wailua River crossing and Phases A & B were completed per the original environmental assessment. The completed sections incorporate design changes and features that responded to the importance of the Wailua traditional cultural property: • extensive landscaping was installed at the rest area near Aloha Beach Hotel to deter access to Hikinaakala Heiau and Hauola • the path along Wailua Beach was relocated to the highway shoulder • informational markers have been installed along the route Phases A & B were completed in compliance with the 2007 Section 106 memorandum of agreement (MOA). The MOA will continue to govern the majority of Phases C & D, as they were also components of the build alternative in the final environmental assessment for the original project.
County Government		

Respondent	Comments	Response
Leonard Rapozo, Jr., Director, Department of Parks and Recreation Letter dated 8-15-11	Department supports the construction and use of the bike/pedestrian path. Expect positive economic, social, and health impacts. Request that potential manpower needs for this section of the path be addressed.	The positive effects of the proposed path are included in the section on Park Facilities. The need for additional personnel to maintain the facility is addressed under Fiscal Impacts.
Gregg Fujikawa, Chief of Water Resources and Planning, Kaua'i Department of Water Letter dated 9-1-11	No objections to the SEA for the proposed Waipouli connection. Request for water service will be dependent on adequacy of the source, storage, and transmission facilities at the time. DOW currently owns and operates water system facilities along the proposed path. The proposed path may affect water facilities. Recommend submittal of construction drawings to the DOW for review and approval.	Water service would be needed for the proposed comfort station and for possible irrigation. Coordination with the Dept of Water, including submittal of construction drawings, will occur during the design phase of the project.
Capt. Daryl Date, Kaua'i Fire Department Phone conversation on 8-8-11	Path should provide access points for emergency vehicles. No standard intervals for access. Possibly every 1000 ft. to ¼ mile, depending on adjacent land uses.	Phases C&D of the path traverses an urbanized area. The path will be accessible through the existing network of public and private roads, driveways, and parking areas.
Utilities, Organizations, and Individuals		
Alicia Kaauwai, neighbor Phone conversation on 8-9-11	Residence located between Kamoa Road and Uhelekawawa Canal. Raised several questions and concerns: • Doesn't want to be "boxed in" by paths • Disruptions to the character of the neighborhood • Lowered property values • Poor maintenance • Will there be fencing? • Will Mokihana Road be closed? • Will the coconut trees be taken down? • When will the path be constructed? • Possible subsurface cultural artifacts	The County has completed several sections of Ke Ala Hele Makalae that are located adjacent to residences—along Ala Road and Moanakai Road, fronting Kapa'a Beach Park, and at Hundley Heights. Through these projects, the County has gained experience in mitigating impacts on nearby properties and minimizing disruptions to the neighborhood. Fencing and landscaping are some of the design tools that may be used to develop a path that is attractive and comfortable to users and adjacent landowners. The County will consult further during the design phase of the project.

Respondent	Comments	Response
	Suggested that path should be aligned along existing right-of-way (beach access) and highway Asked to be kept informed of project planning	Although effects on specific property values cannot be predicted, in general, new paths have tended not to lower property values. The Dept of Parks and Recreation will be responsible for maintaining the path. In some cases, the County may partner with adjacent resort owners to share maintenance duties. Kamoa Road and the driveway to Mokihana/Bull Shed will remain open Some of the coconut trees along Uhelekawawa Canal will need to be removed or relocated if the path is constructed along the southern bank (the preferred alignment). The project is expected to begin construction in the 2014-15 timeframe. Because there is a possibility of encountering subsurface cultural deposits, the County undertook an archaeological inventory survey to obtain more information. Through historic preservation consultation, mitigation measures have been developed and will be implemented to avoid and minimize adverse impacts. These include archaeological and cultural monitoring during construction.
Randall C. Blake, Executive Director, Kaua‘i Path Letter dated 8-15-11	Kaua‘i Path Board unanimously supports makai path alignment. Benefits include safe and more inviting facility, expand opportunities for non-motorized travel and recreation; provide connectivity to shopping, dining, and resort areas; and preserve coastal access in perpetuity for island residents. Phase D alignment takes path users away from roadway thereby avoiding the potential danger of crossing heavily	The scope of the project has expanded to include a comfort station. However, there are no plans for rest pavilions in Phases C & D.

Respondent	Comments	Response
	trafficked Kūhiō Highway. Concur with cantilever path across Uhelekawawa Canal because it minimizes right-of-way purchases and is economical to construct. Existing sections have set a high standard with more people using for health and well-being. Consider addressing the following in the supplemental EA: at least one comfort station and two or more rest pavilions to be located near the midpoint between Lihi Park and Lydgate Park, ideally with ocean view. Distance between these two points is more than two miles, which is too long for many path users to travel without shelter and relief.	
Lloyd Nishikawa, neighbor Email dated 8-7-12	Property would be affected by proposed path which passes near the north and east boundaries. The alternate path alignment would have the least impact on private properties and should be chosen. Concerned about disruption to neighborhood—privacy, noise, and security. What are options for opposing the path?	The path would be designed with fencing and/or landscaping to mitigate noise and privacy impacts on adjacent properties. Other sections of the path have been built in residential areas and the County would apply its experience in addressing proximity concerns. Concerns should be submitted during the DEA comment period. The final decision will reflect probable impacts, including cumulative impacts, of the proposed improvements on the public interest.
Sonny Perreira, Network Operations Manager, Sandwich Isles Communications, Inc. Letter dated 8-15-11	Sandwich Isles Communications (SIC) facilities located along Kūhiō Hwy will be impacted if Phase E is designed and built. Request that SIC be given ample time to review plans if any work is done in this (Phase E) area.	Additional consultation will occur during the design phase of the project.
Rayne Regush, Executive Committee, Kaua'i Group, Sierra Club Letter dated 4-6-12 *This letter was submitted*	Request information regarding the following: • detailed identification of path location relative to stands of ironwood trees • location of existing footpaths	Because of FHWA project funding policies, detailed project design is not allowed prior to completion of the EA. However, Figure 18 shows a section of the path in relation to the existing ironwood stand and 40-foot

Respondent	Comments	Response
for the Section 106 (historic preservation) consultations, but is included here because of comments on other environmental resources	• locations of current certified shoreline and all previous certified shorelines The path should be placed sufficiently mauka of the certified shoreline: • there has been long-time public access along the coast for fishing and interaction with nature • the ironwood stands should be retained to preserve the historic, scenic and cultural qualities of the area; the trees also support the shoreline berm • given evidence of high wave activity mauka of the 2005 certified shoreline, the expected rise in sea level, and beach habitat used by Hawaiian monk seals and sea turtles (protected species), the proposed path should be located as far mauka as possible	shoreline setback line (at TMK: 4-3-02: 16 and 28). While this drawing is indicative only and subject to change, it shows how the various features are likely to relate to each other. The County is committed to locating the shared use path mauka of the regulated shoreline setback to the extent possible. Future disposition of the ironwoods is at the discretion of the landowners.

7.4 COMMENTS RECEIVED DURING DRAFT-EA COMMENT PERIOD

A notice of availability of the Draft Environmental Assessment was published in the Office of Environmental Quality Control (OEQC)'s *The Environmental Notice* on January 23, 2014. This commenced a 30-day public comment period that ended on February 24, 2014. Notice of Draft EA availability was sent to the following agencies and organizations on January 22, 2014, with a request for comments. On February 19, 2014, a second public information meeting was held at the Kapa'a Middle School to present the findings of the Draft EA. Meeting attendees were encouraged to comment by mail, email or comment sheet provided at the meeting, and comments were accepted even after the end of the official 30-day period.

Federal

Army Corps of Engineers, Civil Works Technical Branch
Army Corps of Engineers, Regulatory Branch
Fish & Wildlife Service, Pacific Islands Office
NOAA National Marine Fisheries Service, Pacific Islands Regional Office
U.S. Department of Transportation, Federal Highway Administration, Hawaii Division Office

State

Department of Business, Economic Development & Tourism
- Chairperson
- Office of Planning

Department of Hawaiian Home Lands
Department of Health
- Environmental Planning Office
- Hawaii Disability and Communication Access Board (DCAB)

Department of Land and Natural Resources
- Chairperson
- Division of State Parks
- Office of Conservation and Coastal Lands
- State Historic Preservation Division

Office of Hawaiian Affairs (Honolulu and Kaua'i)
Department of Transportation
- Director
- Kaua'i District
- Highways

University of Hawaii Environmental Center

County of Kaua'i

Department of Parks and Recreation
Department of Water
Fire Department
Planning Department
- Director
- Kaua'i Historic Preservation Review Commission

Police Department
Transportation Agency

Elected Officials

Mayor Bernard P. Carvalho, Jr.
Council Chair Jay Furfaro
County Vice Chair Mason K. Chock, Sr.
Councilmember Tim Bynum
Councilmember Gary L. Hooser
Councilmember Ross Kagawa
Councilmember Mel Rapozo
Councilmember JoAnn A. Yukimura
Senator Ronald Kouchi, 8th Senatorial District
Representative Derek Kawakami, 14th Representative District
Representative James Kunane Tokioka, 15th Representative District

Utilities
Hawaiian Telcom
Kaua‘i Island Utility Cooperative (KIUC)
Oceanic Time Warner Cable
Sandwich Isles Communications

Organizations
Kapa‘a Business Association
Kaua‘i Chamber of Commerce
Kaua‘i Path
Niu Pia Land Company, Ltd

Individuals
Letters were sent to same list of property owners and individuals who attended the first public informational meeting as well as all participants of the Section 106 National Historic Preservation Act, Native Hawaiian Consultation process.

Draft-EA Comments Received

Written comments were received from 10 government agencies, 6 organizations and 18 individuals. Letters, emails, and telephone notes are reproduced at the end of this chapter. Comments and responses are summarized in the table below.

Table 7-2: Summary of Comments Received During the Draft-EA Comment Period

Respondent	Comments	Response
State Government and Utilities		
Rodney Kaulupali, Director of Construction Services, Sandwich Isles Communications, Inc. Letter dated 1-29-14	Sandwich Isles Communications (SIC) has underground fiber cable and ducts along Kūhiō Hwy. Submit plans for Kūhiō Hwy. segments for review.	Will comply.
Laura Leialoha Phillips McIntyre, AICP, Program Manager, State Department of Health, Environmental Planning Office Letter dated 1-30-14	Review Standard Comments on DOH website and adhere to all applicable standard comments.	Project will adhere to all Standard Comments.
Russel Y. Tsuji, Land Administrator, Department of Land and Natural Resources Letter dated 1-31-14	Land Division, Kaua‘i District: no comments. Engineering Division: confirmed project FIRM designations.	No action required.
Samuel J. Lemmo, Administrator, State	The proposed work will not be located within the State Land Use Conservation District; no	Acknowledged. County will apply for SMA

Respondent	Comments	Response
Department of Land and Natural Resources, Office of Conservation of Coastal Lands Letter dated 2-7-14	approvals will be required from this office. Portions of the proposed project are sited within the County of Kaua'i Special Management Area (SMA).	Use permit during next phase of project.
Jesse K. Souki, Director, Office of Planning, State of Hawaii Letter dated 2-3-14	1. County of Kaua'i Planning Commission is SMA permit authority, correct reference on page 1-5. 2. Valuation threshold between the SMA Use Permit and SMA Minor Permit raised from $125,000 to $500,000. Correct references accordingly. 3. Because shoreline setback requirements are related to depth of lots and coastal erosion rate, Final EA should update stated shoreline setback based on parcel specific information from County. 4. Final EA should attach archaeological monitoring plan to be reviewed and concurred by State Historic Preservation Division prior to construction activities. 5. Final EA should include assessment as to how the proposed action conforms to CZM objectives and its supporting policies. 6. Final EA should indicate that a federal consistency review will be required from the Office of Planning, Hawaii CZM Program.	1. Statement corrected. 2. Statement corrected. 3. Next phase of project will include a SMA Use permit and engineering design. Topographic survey and certified shoreline survey will be prepared and used by County as basis for shoreline setback determination. 4. An archaeological monitoring plan will be completed during design phase, and is intended to be used during construction. These issues were discussed in depth and agreed upon with Native Hawaiian organizations during the Section 106 NHPA consultation. 5 and 6. Information added to Final EA.
Francine Wai, Executive Director, Disability and Communication Access Board Letter dated 2-4-14	DCAB staff advice and recommendations provided: Include the statement provided (regarding conformance with applicable accessibility standards) in the plan. New construction and alterations are required to comply with the 2010 ADA Standards for Accessible Design (2010 Standards) . We strongly encourage the use of the listed accessibility guidelines. Although not yet required, they provide guidance for a minimal level of accessibility for those elements not addressed by the enforceable 2010 ADA Standards. We recommend the following language [provided] regarding construction of path in compliance with relevant existing ADA guidelines, cited proposed guidelines, etc.:	Final EA includes the general statement you provided. Other recommendations pertain to the subsequent design phase, and will be forwarded to the County for coordination with your agency during the design and construction phase.

Respondent	Comments	Response
	Please note that all individual pedestrian and bicycle district and route projects must still be submitted to DCAB for review per HRS §103-50.	
Alec Wong, P.E., Chief, Clean Water Branch, State Department of Health Letter dated 2-6-14	1. Any project and its potential impacts to State waters must meet State's water quality policies and criteria, pertaining to antidegradation policy, designated uses, and water quality. 2. National Pollutant Discharge Elimination System (NPDES) permit coverage is required for pollutant discharges into State surface waters and for certain situations involving storm water. 3. If project involves work in, over, or under waters of the United States, recommend contacting the Army Corps of Engineers, Regulatory Branch regarding permitting requirements. 4. All discharges related to the project construction or operation activities must comply with the State's Water Quality Standards.	Project will adhere to all applicable water quality standards and criteria. NPDES permit willl be obtained for construction period stormwater discharge. Project does not include work in or discharge into waters of the U.S. No permit is required from the U.S. Army Corps of Engineers. All project discharges will comply with State water quality standards.
Alvin A. Takeshita, Highways Administrator, State Department of Transportation Letter dated 2-14-14	HDOT will review the document and send any comments directly to the County of Kaua'i, Department of Public Works.	Comment acknowledged. No action required.
Kamana'opono M. Crabbe, Ph.D. Ka Pouhana, Chief Executive Officer, Office of Hawaiian Affairs Letter dated 3-3-14	Waipouli is a historically and culturally significant area, and it is known to have a high likelihood of burials. Two burial sites were discovered during the Archaeological Inventory Survey and there is high likelihood that more burial sites will be discovered (during construction), due to nature of the area. Anticipated path excavation to maximum of one foot does not preclude discovery of burials, especially in sand dunes in eroding area. Archaeological monitor and execution of burial treatment plan important, because of high likelihood of inadvertent discoveries. Concur with the State of Hawai'i Department of Land and Natural Resources Office of Conservation and Coastal Lands' letter of August 1, 2011 regarding the effect rising sea levels and beach erosion will have on project. The pathway should be constructed as far mauka as possible due to the high fluctuation of the coastline, and all sand displaced during construction should be	Section 106, National Historic Preservation Act consultation was conducted over an 18-month period and resulted in a "no adverse effect" determination, conditioned on agreed-upon mitigations. Mitigation commitments emphasize knowledgeable on-site archaeological monitor, and involving Section 106 NHO participants and the Kaua'i /Niihau Island Burial Council in determining treatment of inadvertent discoveries. Regarding rising sea levels and beach erosion, County has made commitment to locate the path as far mauka

Respondent	Comments	Response
	placed on the makai face of the frontal dune.	as possible.
Organizations		
Reverend Jed Young, Senior Pastor, Kapa‘a Missionary Church Letter dated 2-18-14	Do not agree with the "Build Alternative" running on Kūhiō Highway. Recent increases in bicycle and pedestrian traffic in front of the Kapa‘a Missionary Church makes it difficult to turn in to the church property. Placing path on Kūhiō Highway will increase traffic and safety hazards. Ask that path be placed along the canal and behind the Village Manor (Proposed Additional Alignment).	Concerns regarding Kūhiō Highway alignment and your preference for the alternative between the Village Manor Apartments and along Uhelekawawa Canal are noted.
Reverend Jed Young, Senior Pastor, Kapa‘a Missionary Church Letter dated 2-21-14	Attached is a list of names and signatures of people who do not want the "Build Alternative" (2007 FEA) route approved for Phase C. We would like to see the path run along the canal and behind the Village Manor (Proposed Additional Alignment). This is a much safer route for users of the path and a much nicer one as well.	Comments acknowledged.
Tommy A. Noyes, Secretary, Kaua‘i Path Inc. Board of Directors Letter dated 2-10-14	Kaua‘i Path Inc.'s board of directors firmly and unanimously supports the near-term construction of new path and supporting amenities as described in the DEA.. This coastal path alignment has been extensively reviewed and should proceed without delay. This will result in the best, most attractive facility that will benefit the largest number of Kaua‘i residents.	Acknowledge your support for the coastal path alignment away from Kūhiō Highway.
Rayne Regush, Sierra Club of Hawaii, Kaua‘i Group Executive Committee Letter dated 2-21-14	Sierra Club is writing to express concern about inaccurate conclusions drawn from testimony (both written and verbal) during the Section 106 Consultation meetings and reflected in FHWA letter to DLNR dated Nov. 26, 2013. On page 10, first paragraph, Footpath through Ironwoods CTMK: 4-3-007:027) it references Sierra Club's April 4, 2012 letter (to Mr. Glenn M. Okimoto, Director, Hawaii DOT) and my comments at public meetings #4 and #5. However, that paragraph only cites the TMK for Coconut Plantation, and omits TMK 4-3-02:15 & 16 for the Coconut Beach Development parcel. Similarly, Cultural Surveys Hawaii commented only on the northern most parcel (Coconut Plantation). Our testimony was inclusive of both undeveloped resort parcels which have existing footpaths through mature Ironwood trees. These trees are located on the public beach.	Comments forwarded to FHWA. Since their letter has already been submitted to DLNR, your letter with clarifications of Sierra Club positions will become part of the project record.

Respondent	Comments	Response
	Therefore, jurisdiction over the future disposition of the ironwoods does not rest solely with the developer. On page 10, paragraph 2, last sentence, FHWA's letter states: "To the extent feasible, the bike/pedestrian will seek to incorporate the existing footpath." Whereas Sierra Club testimony focused on preserving the footpaths and trees and locating the Path mauka, this statement indicates that the footpath will be replaced with a 12-ft wide cement multi-use path. On pages 11-12, in the chart called **Summary of Site Specific Mitigation Measures**, for TMK 4-3-007:027 (Coconut Plantation) it states: "Path to follow the existing footpath where feasible". Again, this statement is absolutely contrary to our testimony. Furthermore, the Coconut Beach Development property has a non-buildable, 100-foot Open District designation along the coastline, allowing the county to establish the shoreline setback for the Path, mauka of these trees, without needing a Variance Permit. I hope you will agree to take corrective action to clarify these inadvertent mischaracterizations in the FHWA's 2013 letter to William Aila. And, we would also appreciate if your assessment could be submitted for the record for the Draft Environmental Assessment, which also published your FHWA letter.	
Sid Jackson, Secretary, Wailua-Kapa'a Neighborhood Association Letter dated 2-22-14	We object to any Shoreline Setback Variances along the coastline fronting the undeveloped resort parcels owned by Coconut Beach Development (TMK 4-3-002:015 and 01 6) and Coconut Plantation (TMK 4-3-007 :007). Development of these parcels is not a given; expiration dates of these County SMA Use Permits need to be included in the DEA. Path should not be located within shoreline setback through these two parcels. Negative impacts could include : 1) impede recreational use of the public beach; 2) eliminate a mature stand of Ironwood trees that provide shade and beauty, and whose roots secure the coastal berm; 3) thwart the haul-out activities of the endangered Hawaiian monk seal and threatened green sea turtles and other flora/fauna; 4) constrict traditional and well-used fishing and	Would like to clarify that County would request Shoreline Setback Variance only if sufficient land is unavailable along the coast. You are correct in that the undeveloped resort properties will not require a shoreline setback variance because of the required 100-foot shoreline setback, conditions of their SMA permits. For other already developed parcels, detailed topographic surveys, certified shoreline survey and shoreline setback determination will be done in next phase of project. This will be used to more

Respondent	Comments	Response
	diving beach; and 5) infringe on cultural and social traditions within the coastal environment. We request that the County not seek a SSV for the above referenced TMKs.	precisely locate the path. County's intent is to locate the path as far mauka from the shoreline as possible.
Rayne Regush, Sierra Club of Hawaii, Kaua'i Group Executive Committee Letter dated 2-24-14	Request that Sierra Club be consulted during the design phase, particularly for the coastal portions adjacent to two large undeveloped resorts parcels: ***(see response #1)***. **Omissions and Corrections** On page 3-39, Figure 12, **Historical and Cultural Mitigations**, we strongly object to the DEA conclusion "to the extent feasible, the bike/pedestrian path will seek to incorporate the existing footpath." ***(see response #2).*** The footpath should remain intact and the Path needs to be sited landward of it. **Related to Significance Criteria:** On Page 5-3 Item 4 - 4. The term "cultural practices" has been omitted. ***(see response #3)*** **Page 8-11 Chart - Pre-Assessment Comments Received.** The public beach extends to where the high wash of the waves reaches and goes beyond these trees, as evidenced since 2005. **Significance Criteria §11-200-12 B . 11** - Why wouldn't the Path be considered a structure that can be significantly damaged due to high water events if positioned too close to the ocean? ***(see response #4)*** **Shoreline Setback Variance (SSV)** Will th variance be for Phse C & D in its entirety or for particular areas? ***(see response #5)*** Shoreline setback variance can undermine CZM protections. Without knowing the Path's specific alignment, how can the DEA justify that the Path is in compliance with the following beach protections? ***(see response #6)*** **Page 4-4. E. Open Lands Policies** - Item 3. Lands designated Open shall remain predominantly free of development involving buildings, paving and other construction. ***(see response #7)***	1. There will be public meetings during the design phase of the project and Sierra Club representatives will be invited to attend. 2. Page 3-39. The map label will be corrected to say "locate path as far mauka as feasible." 3. Page 5-3. Omission regarding cultural practices noted and will be corrected. 4. Significance Criteria. A path is neither an "occupied" structure nor a structure as defined by the Kaua'i County Flood Plain Management Ordinance. 5. Shoreline Setback Variance. Precise location of path cannot be determined until next phase which includes topographic survey map with property lines plotted, certified shoreline and shoreline setback determination. 6. Shoreline Setback Variance. Compliance with beach protections will be finalized during SMA compliance process. 7. Page 4-4 E. Open Land Policies. A public facility such as a multi-use path is expressly permitted in the open zone. 8. Coastal Erosion. Costal erosion rates will be addressed during the SMA compliance process.

Respondent	Comments	Response
	Coastal Erosion What are the shoreline eroson rates along the coastal corridor of Phase C&D? What ar the erosion rates in the areas with concentrated cultural deposits? ***(see response #8)*** According to page 3-3 in the DEA, the path is **proposed for construction on berms to avoid excavation in areas with concentrated cultural deposits.** These cultural deposits must be avoided, however, placing fill in close proximity to active beach processes can have negative impacts as well. . ***(see response #9)*** Page 3-5: Is the water line the certified shoreline? Is it the high water mark at high tide? Isn't it possible that a SSV could result in precisely this unintended consequence? ***(see response #10)*** QUESTION: If the Path is intended to be constructed within the setback, rather than landward of the setback, how will you demonstrate it won't interfere with coastal processes? ***(see response #11)*** On page 4-8, Figure 18 shows a **Conceptual Layout of a Portion of Project Area Relative to 40-Foot Shoreline Setback**. Can additional illustrations like this be prepared for all portions of the Path corridor, prior to the FEA? ***(see response #12)*** According to the SMA Permit for Coconut Beach Development resort, "The coast line fronting the property is also designated as an Open District with a depth of 100 feet inland from the certified shoreline" and that "No buildings are proposed within the Open District along the shoreline". QUESTION: Does this enable the County to adhere to the shoreline setback distance, aligning the Path 40-feet landward of the certified shoreline plus 70-feet multiplied by the annual coastal erosion rate? ***(see response #13)*** **Biological Environment.** Please identify the species counts for the Waipouli corridor, separate from Wailua and Kapa'a in order to more accurately assess possible impacts for Phase C&D. ***(see response #14)*** National Marine Fisheries Service (NMFS)	9. Page 3-3. Any fill will be with appropriate material and will be addressed during the SMA compliance process. 10. Page 3-5. The water line in the diagram is not the certified shoreline. The high water mark is at high tide. The SSV issue will be addressed during the SMA compliance process. 11. Impacts to the coastal processes will be addressed during the SMA compliance process. 12. Page 4-8, Figure 18. Similar maps will be provided during the SMA compliance process. 13. SMA permit for Coconut Beach. This issue will be addressed during the SMA compliance process. 14. Avian makeup of Waipouli, Wailua and Kapa'a areas are the same. Species recorded within any of these three areas are found at least occasionally in other two sites. There is no significant difference in the avifauna within the three areas. 15. The grove of mature coconut trees are identified by Exceptional Tree No. K-12-Coconut Grove. The coconut trees on parcel 27 are on the exceptional tree list. The grove does not extend to the shoreline and there does not appear to be any coconut trees where the path will be aligned. However, if a coconut tree is found within proposed

Respondent	Comments	Response
	proposes revising the current critical habitat for the Hawaiian monk seal by extending the current terrestrial habitat 5 meters (approximately16-4 feet) from the shoreline. Important to site Path no less than the 40-foot shoreline setback requirement to keep buffer between Path activities and seal and threatened green sea turtle habitat. Best mitigation is avoidance. Page 3-16 states "users who stay on the path itself are highly unlikely to encounter a hauled out seal since the path is on the elevated flat land above the beach." This is not consistently true because the beach elevation changes so dramatically and can align with inland elevations, allowing the seals a direct line of sight to human activities. QUESTION: Is the grove of existing mature coconut palms on TMK 4-3-007:027 (Coconut Plantation) recognized and protected by Kaua'i County Exceptional Tree Ordinance? If so, please describe how the Path will impact these trees and mitigation efforts ***(see response #15)*** Ironwood trees along seaward side of undeveloped parcels are located where, from time to time, the high tide reaches. Therefore, these trees are part of the public beach. Their root system holds the berm and mitigates beach erosion, they minimize adverse impacts on public views from and along the shoreline, and they can serve as a buffer between the Path activities and beach activities. **Foot path through the Ironwood Trees** The mature ironwood trees along the shore are within the active beach corridor. This means that the tree's future disposition is not solely in the hands of the landowner.	alignment, County Arborist Committee will be consulted regarding measures to replace or avoid tree.
Individuals		
Mary Ransbury, Islander on the Beach owner Email dated 1-23-14	Please consider the path alternative to run between the Coconut Market Place and Islander on the Beach rather than directly in front [makai side] of the Islander on the beach. The Coconut Market Place needs patrons and visibility.	Your preferred route is noted. Because the path runs along the parking lot of the Coconut Marketplace, path users will have opportunities to patronize shops when these phases are completed.
Brad and Wendy Kreller, Islander on the Beach	We strongly urge you to consider the route to run between the Coconut Market Place and Islander	Surface water runoff and drainage issues will be

Respondent	Comments	Response
owners Email dated 1-23-14	on the Beach (instead of in front [makai side] of the Islander complex) for the following reasons: 1) There could be some serious drainage issues which could cause major damage to the ground floor units. 2) Resort guests would have to cross the path to get to the beach, creating a hazard for both bikers and resort guests.	addressed in the next engineering design phase of the project. The multi-use path will be designed according to nationally recognized design guidelines which address safety issues. Signage and markers will be installed to warn users of safety concerns. The multi-use path is designed for bicycles as well as pedestrians and joggers of all ages.
Gregg and Debbie Gray, Islander on the Beach owners Email dated 1-26-14	Our units will be greatly affected by Spur D section of bike path. The small grass area fronting these buildings is too narrow to allow a busy bike lane without endangering our constant crossing to and from the beach. Elderly residents who would cross the path is a particular hazard. A liability to both the County and owners of Islander on the Beach is avoidable by rerouting a section of the path to a safer area more appropriate for bikes. There are drainage issues that will cost much more than anticipated to address properly.	The multi-use path will be designed according to nationally recognized design guidelines which address safety issues. Signage and markers will be installed to warn users of safety concerns. Surface water runoff and drainage issues will be addressed in the next engineering design phase of the project. The multi-use path is designed for bicycles, pedestrians, and joggers of all ages. Experience with completed phases of the path has been that bicyclists are aware of pedestrians, elderly and children and proceed cautiously.
Charles N. Baker Email dated 2-2-14	My partner and I own the commercial building at 4-734 Kūhiō Hwy. The alternative along Kūhiō Hwy. would destroy our commercial use and jeopardize parking at this location. Having bicycle riders along this section [could cause] an accident, potential deaths, and lawsuits. I support the proposed additional alignment as the best possible solution to the above problems. Mayor Baptiste promised the route would not go in front of our business location during previous public meetings.	We agree that this route is less than optimal given the safety issues, disruption to commercial activity, and cost to tax payers. We also note that you support the alignment that runs between the Village Manor apartments and along Uhelekawawa Canal.

Respondent	Comments	Response
	As a taxpayer, I do not want to share in the expense of compensating commercial property owners affected by the alignment along Kūhiō Hwy.	
Sean Daunt Email dated 2-13-14	I'm an avid user of the path to Keālia Beach and truly appreciate your efforts. I believe the pathway plan is one of the best projects that the County has designed. The problem with going in front of the Islander is the lack of space between the units, path and beach. It's just too tight an area to cross in front of the units of the Islander. I'm hoping that you can look into alternate routes.	The next engineering design phase of the project will survey the properties and address the lack of space between the units, path, and beach in front of the Islander on the Beach. Additional public meetings will be held to present findings and determine the precise locations of the multi-use path.
Gary Lamouria, Islander on the Beach owner Email dated 2-16-14	I have never been on a bike path with such close proximity to private buildings and lanais. How will security issues arising from private property owners and path users be addressed by the County? There is little land between our properties and the beach. Safety issues between bikes, walkers, children, strollers, and unleashed dogs is a real concern. I am also extremely concerned with drainage on the property which is currently being studied and under review. I want to see how this issue could be fixed correctly before construction of the path. There are other routes this bike path can take.	Surface water runoff and drainage issues as well as the precise location of the multi-use path will be determined in the next engineering design phase. The multi-use path will be designed according to nationally recognized design guidelines which address safety issues. Signage and markers will be installed to warn users of safety concerns.
Neill Sams, Kapa‘a Business Association Vice President Comment submitted 2-17-14	The Kapa‘a Business Association supports all coastal routes when feasibly possible. We prefer the “green” route as shown in the presentation.	Comment noted. Thank you for your comments
Gabriela Taylor Comment submitted 2-19-14	I am in favor of the proposed coastal path as designated in the maps displayed at the public meeting.	Comment noted. Thank you for your comments
Esti Grinpas Comment submitted 2-19-14	I support the option along the canal. Walking along the highway is not safe for pedestrians, provides poor air quality, and is noisy.	We note that you support the route that runs along Uhelekawawa Canal instead of along Kūhiō Highway.
Bruce Richardson Email dated 2-19-14	The path is a wonderful addition to the island and is in constant use by all manner of walkers, runners, skaters, bikers, and people with impaired mobility. Far from impacting the coast negatively, users will do as they have along existing parts of	We note your support for the coastal route, the positive benefits for walkers, runners, skaters, bikers and people with

Respondent	Comments	Response
	the path where they actively care, collect refuse, and monitor potential abuse of monk seals or turtles. Placing the path between the highway and the beach will help separate the beach from traffic and increase its appeal. Please do everything possible to place the path along the water where proposed.	impaired mobility, and appreciation for the culture of path users that includes caring for the path.
Glenn Mickens Email dated 2-19-14	I) How does the total length of this path keep changing? ***(See Response 1)*** 2) Paving a county road at 20' wide by 1-mile long costs about $ 147,000. Using this formula, a ten-foot wide path should cost about $73,000. However, this path is costing $5 million dollars a mile [in some areas, more]. How can that cost per use ever be justified? ***(See Response 2)*** 3)The proposed bike path provides none of the traffic mitigation benefits found in other highway projects. Considering the path's cost, there is no comparison. 4) How was the usage of this path changed from a "transportation" path to satisfy Transportation Enhancement qualifications to a dog-walking path as being used today? ***(See Response 3)*** 5) A Council member who has pushed this path from the beginning once said it would take vehicles off the road and lessen the carbon monoxide going into the air. This has never happened and never will happen, as people will continue to use their vehicles for their transportation needs. Our time, resources and money should be used to build alternate roads.. 6) Where is the local, State and Federal oversight to find out where this obscene amount of money is going to build this path? ***(See Response 4)*** 7) At its current pace, it would take 30 years or more to complete the path. 8) This path was planned wrong from the beginning which is causing outrageous amounts of money and delays. 9) How will the rules of this path, which say no motor vehicles permitted, be enforced?	1. Responding to community requests, the county seeks to extend the path whenever opportunities arise. 2. Repaving an existing road does not compare to the cost to plan and build a new multi-use path. Federal Highway Administration funds 80% of the total cost of the path. 3. According to the U.S. Department of Transportation, Federal Highway Administration website, "Bicycle and Pedestrians", Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guides, "A shared-use path serves as part of a transportation circulation system and supports multiple recreation opportunities, such as walking, bicycling, and inline skating…Shared use paths provide a transportation function." 4. Multiple County, State, and Federal agencies are involved in the planning, environmental documentation, engineering design and construction of the multi-use path.
Glenn Head, President, Lanikai AOAO	I'm writing to express our support for the multi-use path as presented last night at the public meeting.	Comment noted. Thank you for your comments.

Respondent	Comments	Response
Email dated 2-20-14	Our 17 owners look forward to enjoying the ocean side path including the short variation near the Bull Shed on the north end - the green line. Going out along the highway is simply too dangerous.	
Email on behalf of Kaua‘i .surfrider.org dated 2-20-14	The Surfrider Foundation is always concerned whenever anything is built too close to the beach. Coastal erosion and sea level rise, long term, will mean that these structures are in danger of washing away, or worse, might beget a coastal armoring project such as a seawall. For this reason, we urge the EA to proceed without any assumption of, as one of your slides said, "obtaining coastal setback variances." The Environmental Assessment should assume that the County will obey its own coastal setback law without seeking a variance.	We note your concerns. Surveys and studies will be completed in the next engineering design phase of the project to determine the final alignment for the multi-use path and will seek a shoreline setback variance only if needed. The county’s intent is to locate the path as far mauka from the shoreline as feasible.
Tom Kremer and Pat White Email dated 2-22-14	(1) We support the continuing planning & funding of the entire bike path. (2) We do NOT support any plan that crosses either Kūhiō Highway or the by-pass road due to safety concerns. (3) We generally support how the county is approaching the planning and engineering/construction of the path .	We note your concerns and overall support for the planning and construction of the entire path system.
Andy Bushnell Email dated 2-23-14	The path should be sited as far mauka, away from the beach, as possible. No variances to the shoreline setback should be sought! It is important for the project to preserve as many of the ironwood trees as possible. The trees will provide a screen between beach goers and the path and their root systems play an important role in holding the sand. I would not be surprised if the roots are helping to hold in place sand burials. Finally, please have appropriate experts look over the interpretive signage before it is put up. That way, perhaps, silly mistakes such as the faulty signage at Kapa'a Park can be avoided.	We note your concerns. Our next phase of the project will include studies and surveys to determine the best alignment for the path and a shoreline setback variance will be sought only if sufficient space is unavailable. The county’s intent is to locate the path as far mauka as feasible.
Wendy Raebeck Email dated 2-23-14	Aleko [Aleka] Loop is a rarely used road and almost-never-used sidewalk which is where the path should be constructed. Aleka Loop feeds directly into the Coconut Marketplace where pedestrians and cyclists could get food and refreshment, use restrooms, and spend money. The Coconut Marketplace also links up directly to Papaloa Rd. where the path route continues. There should be no variance permitted for the	Aligning the path along Aleka Loop was studied earlier and dismissed because Aleka Loop is privately owned. The county already owns a beach access and a beach reserve along the proposed route. Future development

Respondent	Comments	Response
	construction of the bike path in the Waipouli Beach area. All coastline must be rigorously protected, and that is why these important laws have been implemented. The mature Ironwood trees in Waipouli also need complete protection as this phase unfolds. I implore Public Works to respect the locals, respect Hawaiians, respect the ecosystem, and stop favoring tourists. It is appalling that Kaua'i would offer up its natural beauty and peace for more concrete and humans.	projects on these vacant parcels are required to grant a lateral easement for the multi-use path as a condition of their Special Management Area permit. Our next phase of the project will include studies and surveys to determine the best alignment for the path and a shoreline setback variance will be sought only if sufficient space is unavailable. The county's intent is to locate the path as far mauka as feasible.
Margery Freeman Email dated 2-232-14	After the meeting on the bike path phase C, I want to remind you of the tree I mentioned that I hope will be saved even if it means making a small detour. (Location of tree cited in letter). Don't know the type but it is a beautiful tree and should be saved. Please try to be sure this is done.	We will evaluate your recommendation to save the large tree that stands at the point where the path either goes straight to the highway or turns right into the parking lot.
Troy Arnold Email dated 2-24-14	I **strongly** support the makai route for this section of the path. Having to cross Kūhiō Highway, particularly at those locations is an absolutely awful alternative, one that is barely an improvement over no path at all.	We note that you strongly support the makai route and object to crossing Kūhiō Highway.

Pre-Assessment Consultation Correspondence

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HONOLULU DISTRICT
FORT SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF:

July 28, 2011

Regulatory Branch

POH-2011-00187

RECEIVED AUG 0 3 2011

Kimura International Inc.
Glenn T. Kimura
1600 Kapiolani Blvd., Suite 1610
Honolulu, HI 96814

Dear Mr. Kimura:

We have received your request for the Department of the Army to review and comment on the proposed Lydagate Park-Kapa'a Bike/Pedestrian Path, Waipouli Connection project on the Island of Kauai. We have assigned the project the reference number POH-2011-00187. Please cite the reference number in any correspondence with us concerning this project. We completed our review of the submitted document. Because the document addresses potential impacts associated with the speculative renovations and developments, the U.S. Army Corps of Engineers (Corps) is providing only general comments regarding Regulatory Program considerations.

Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires that a Department of the Army (DA) permit be obtained from the Corps prior to undertaking construction, dredging and other activities occurring in, over, or under navigable waters of the U.S. The line of jurisdiction extends to the Mean High Water Mark (MHWM) for tidal waters. Section 404 of the Clean Water Act (Section 404) requires that a DA permit be obtained for the discharge (placement) of dredge and/or fill material into waters of the U.S., including wetlands. The line of jurisdiction extends to the Mean Higher High Water Mark (MHHWM) for tidally influenced waters, the Ordinary High Water Mark (OHWM) for non-tidal waters and the approved delineated boundary for wetlands.

Based on the information provided, the project site appears to be absent of navigable waters subject to Corps jurisdiction. Therefore, authorization under Section 10 may not be required. Also from the drawings provided, it appears that the section located mauka of the Kuhio Highway and along the Waipouli drainage canal may result in the discharge of dredged and/or fill material considering that the Waipouli canal is perennial and leads to the Pacific Ocean, a traditionally navigable water. However, there is insufficient information provided to determine if the proposed project will involve activities under Section 404. To avoid unintentional violation to federal regulation and law, we advise you to contact our office prior to conducting any activity that may result in the discharge of dredged and/or fill material. As such, Section 404 authorization may be required for this action.

When developing the Environmental Assessment, we recommend you conduct a thorough aquatic resource survey, describing information regarding any potential water bodies, including wetlands, drainage ditches, gulches, stream, etc., on-site, especially those that may be impacted

by the proposed project. The survey should include descriptions of aquatic feature proposed for impact, flow duration and the flow path of each feature into navigable waters. Providing photographs of the parcel would also expedite our review.

If any water bodies are determined to be waters of the U.S., the applicant must obtain authorization from the Corps prior to discharge of dredged or fill material into these water bodies. Fill material, permanent or temporary, may include, but is not limited to: rock, dirt, sandbags, silt fences or concrete. The applicant should contact the Corps to determine if any of the proposed work constitutes a "discharge of fill" and submit an application with associated drawings that meet our drawing recommendations found on http://www.poh.usace.army.mil/EC-R/EC-R.htm. Click on "Apply for a Permit" on the right-hand side, and then click on "Rec – Sect 404 Clean Water Act Drawings." As a reminder, only the Corps of Engineers has authority to determine if any of these features are or are not waters of the U.S. and, potentially subject to regulations under Section 404 of the Clean Water Act. A request for an approved JD can be submitted prior to, or concurrently with, an application for the proposed work.

Thank you for contacting us regarding this project and providing us with the opportunity to comment. Should you have any questions regarding our Regulatory Program or the permit application process, please contact Ms. Deserie Bala at (808) 438-9258 or via email at Deserie.M.Bala@usace.army.mil.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

RECEIVED MAY 11 2012

In Reply Refer To:
2012-TA-0257

Mr. Glenn T. Kimura
Kimura International, Inc.
1600 Kapiolani Boulevard, Suite 1610
Honolulu, Hawaii 96814

MAY 09 2012

Subject: Technical Assistance for Lydagate Park Kapaa Bike and Pedestrian Path Supplemental Environmental Assessment, Kauai

Dear Mr. Kimura:

The U.S. Fish and Wildlife Service (Service) received your letter, dated April 2, 2012, requesting our comments to assist you with the development of a supplemental Environmental Assessment (EA) for the construction and operation of the Lydagate Park Kapaa Bike and Pedestrian Path on the island of Kauai. In 2007, the Kauai Department of Public Works (DPW) completed an EA for the project and made a finding of no significant impact (FONSI). The project is partially funded by the Federal Highway Administration (FHWA), which made a determination that the path's construction and use would not affect federally listed species that occurred in the vicinity. We previously provided comments on the 2007 project in a letter to FHA dated May 4, 2007 (Service File 2007-TA-0140).

The original EA identified the preferred placement of a section of the path landward, or *mauka*, of Kuhio Highway and along the Waipouli drainage canal. It is our understanding that additional studies have concluded that the original alignment would not be optimal for path users. The County of Kauai has therefore re-examined placement alternatives that were analyzed in the 2007 EA and determined that a route seaward, or *makai*, of Kuhio Highway is the most feasible. This section of the path, known as the "Waipouli Connection," would be constructed along the ocean, within portions of the County's existing beach reserve.

We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Program and the Hawaii GAP Program. Our information indicates that the federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) and threatened green sea turtle (*Chelonia mydas*) may be present in the vicinity of the proposed path. The federally threatened Newell's shearwater (*Puffinus auricularis newelii*), endangered Hawaiian petrel (*Pterodroma sandwichensis*), and a candidate for listing, the band-rumped storm-petrel (*Oceanodroma castro*) (collectively referred to as seabirds) may fly over

the project area when traversing between the ocean and mountainous breeding colonies. Additionally, the wedge-tailed shearwater (*Puffinus pacificus chlorhynchus*) may nest in vegetation along the project area. While this species is not listed under the Endangered Species Act, it is federally protected under the Migratory Bird Treaty Act [16 U.S.C. 703-712].

In addition, the endangered Hawaiian monk seal (*Monachus schauinslandi*) may use beach habitat in the vicinity of the proposed path. However, the National Marine Fisheries Service (NMFS) is the Federal agency that consults on potential impacts to monk seals, both in their on-shore and ocean habitats. Therefore, we did not review the proposed project for potential project impacts to monk seals. We recommend that you contact NMFS regarding the presence of monk seals in the area and potential impacts to the species from the project.

Hawaiian hoary bat

Hawaiian hoary bats roost in both exotic and native woody vegetation and leave their young unattended in "nursery" trees and shrubs when they forage. If trees or shrubs suitable for bat roosting are cleared during the bat breeding season, there is a risk that young bats could inadvertently be harmed or killed. To minimize impacts to the endangered Hawaiian hoary bat, woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15). Path construction should be timed to avoid disturbance to possible nesting Hawaiian hoary bats in the project area.

Green sea turtle

Sea turtles are susceptible to artificial lighting that can disorient turtles away from the ocean. Sea turtles come ashore to nest on beaches from May through September, peaking in June and July. Optimal nesting habitat is a dark beach free of barriers that restrict their movement. Nesting turtles may be deterred from approaching or laying successful nests on lighted or disturbed beaches. If they do come ashore, they may become disoriented by artificial lighting, leading to exhaustion and placement of a nest in an inappropriate location (such as at or below the high tide line where nests are unlikely to be successful). Hatchlings that emerge from unprotected nests may be disoriented by artificial lighting. In addition, turtle nests and hatchlings are susceptible to human disturbance and predation by feral mammals such as small Indian mongoose (*Herpestes auropunctatus*), cats (*Felis catus*), dogs (*Canis familiaris*).

Seabirds

Seabirds, including the Newell's shearwater, Hawaiian petrel, and band-rumped storm-petrel fly at night and are attracted to artificially-lighted areas that can result in disorientation and subsequent fallout due to exhaustion or collision. Seabirds are also susceptible to collision with objects that protrude above the vegetation layer when traversing between the ocean and their mountainous breeding areas, such as utility lines, guy-wires, and communication towers. Additionally, once grounded, they are vulnerable to predators and are often struck by vehicles along roadways. Any increase in the use of nighttime lighting, particularly during each year's peak fallout period (September 15 through December 15), could result in additional seabird injury or mortality.

Wedge-tailed shearwaters
Unlike other Hawaiian seabird species, wedge-tailed shearwaters nest in littoral vegetation along coastlines. Nesting adults, eggs, and chicks are particularly susceptible to impacts from human disturbance and predators. Surveys should be conducted along the proposed path route during the species' peak breeding season (August through October) to determine the location of nesting areas. If it is found that wedge-tailed shearwaters nest along the proposed alignment, the path should be redirected to an area where they do not nest to avoid take.

Lighting Recommendations
The supplemental EA should identify whether lights are proposed to be installed along the bike path. We recommend the bike path should be for day use only and lighting should not be included in this project. If lights cannot be eliminated due to safety or security concerns then they should be positioned low to the ground and shielded and/or full cut-off. Effective light shields should be completely opaque, sufficiently large, and positioned so that the bulb is only visible from below and light from the shielded source cannot be seen from the beach. Path construction activities should occur during daylight hours only.

Additional Recommendations
To minimize potential adverse impacts to listed wildlife, we suggest that free movements of pets (*i.e.* dogs off leash) be prohibited on the bike path. Furthermore, educational signs should be used to inform path users of leash laws and the presence of sensitive species. We also recommend the use of sturdy animal-proof garbage containers that reduce the attraction of the area to non-native and feral species, such as house mice, rats, and feral cats. As exotic invasive species currently dominate Hawaiian native ecosystems and coastal areas, if landscaping is proposed, we suggest the use of native plants in the development of the path.

In addition, we recommend FHWA contact our office early in the planning process so that we may assist with ESA compliance pursuant to section 7(a)(2). If you have questions regarding this letter, please contact Michelle Bogardus, Consultation and Habitat Conversation Planning Program (phone: 808-792-9473; fax: 808-792-9581).

Sincerely,

Loyal Mehrhoff
Field Supervisor

cc: Pat Phung, FHWA

Attachment

Nancy Nishikawa

From: David Nichols
Sent: Friday, April 20, 2012 3:50 PM
To: nnishikawa@kimurainternational.com
Cc: Patrick Opay
Subject: Kauai Bike Path SEA (Waipouli Connection)
Attachments: Hawaii Species List May 2011-1.pdf; David_Nichols.vcf

Aloha,

This responds to Glenn T. Kimura's April 2, 2012 letter regarding the preparation of a supplemental environmental assessment for the County of Kauai, Department of Public Works that will examine the impacts of a proposed connection for the Lydgate Park to Kapaa bike/pedestrian path (Waipouli Connection). Specifically you are requesting comments from our agency related to endangered or threatened plant and animal species that may occur in the project area. Under our statutory authorities under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. §1531 *et seq.*), we provide the following ESA-listed marine protected species information.

The coastal areas of Kauai are known to have Hawaiian monk seals hauled out at multiple locations to rest, give birth to pups, or nurse/rear pups. Based on the information and the maps provided, there is a potential for monk seals to be in or near the project area. Green sea turtles may also be found hauled out onshore and basking on the beaches near the proposed path and hawksbill turtles may be found nearshore in this area. A complete list of Hawaii's marine protected species under NMFS's jurisdiction is attached for your review.

No additional marine species are proposed or are candidates for listing under the ESA at this time, however, critical habitat has been proposed for the Hawaiian monk seal around Kauai. This area includes terrestrial habitat 5 meters inland from the shoreline, through the shoreline into the marine environment out to the 500-m depth (except those portions of the areas that have been identified as not included in the designation). For further information on the proposed rulemaking to revise the critical habitat for Hawaiian monk seals please visit our website at http://www.fpir.noaa.gov/PRD/prd_critical_habitat.html.

For more information related to the ESA Section 7 consultation process, please visit http://www.fpir.noaa.gov/PRD/prd_esa_section_7.html.

Thank you for working with NMFS to protect our nation's living marine resources. Should you have further questions regarding this project or the ESA Section 7 consultation process, please don't hesitate to contact me.

David S. Nichols
Endangered Species Biologist

NEIL ABERCROMBIE
GOVERNOR

BRUCE A. COPPA
COMPTROLLER

JAN S. GOUVEIA
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)1166.1

AUG - 4 2011

RECEIVED AUG 05 2011

Mr. Glenn Kimura
Kimura International, Inc.
1600 Kapiolani Blvd., Suite 1600
Honolulu, Hawaii 96814

Dear Mr. Kimura:

Subject: Lydgate Park-Kapa'a Bike/Pedestrian Path, Waipouli Connection
Waipouli, Kaua'i, Hawai'i
TMK: (4) 4-3-02 and (4) 4-3-07
Pre-Assessment Consultation

Thank you for the opportunity to provide comments for the subject project. The project does not impact any of the Department of Accounting and General Services' projects or existing facilities on Kaua'i and we have no comments to offer at this time.

If you have any questions, please call me at 586-0400 or have your staff call Mr. Myles Nakamura of the Public Works Division at 586-0491.

Sincerely,

BRUCE A. COPPA
State Comptroller

c: Mr. Ryan Nishikawa, DAGS Kauai District Office

NEIL ABERCROMBIE
GOVERNOR
STATE OF HAWAI'I

ALBERT "ALAPAKI" NAHALE-A
CHAIRMAN
HAWAIIAN HOMES COMMISSION

MICHELLE K. KAUHANE
DEPUTY TO THE CHAIRMAN

M. WAIALEALE SARSONA
EXECUTIVE ASSISTANT

STATE OF HAWAI'I
DEPARTMENT OF HAWAIIAN HOME LANDS

P.O. BOX 1879
HONOLULU, HAWAI'I 96805

August 4, 2011

RECEIVED AUG 13 2011

Glenn T. Kimura
President
Kimura International Inc.
1600 Kapiolani Blvd., Suite 160
Honolulu, Hawaii 96814

Aloha Mr. Glenn Kimura

Subject: LYDAGATE PARK-KAPA'A BIKE/PEDESTRIAN PATH,
WAIPOULI CONNECTION WAIPOULI, KAUA'I, HAWAI'I
TMK: [4] 4-3-02 AND [4]4-3-07
PRE-ASSESSMENT CONSULTATION

Mahalo for the opportunity to provide comments regarding the subject proposal.

The Department of Hawaiian Home Lands has no comments to offer. Should you want to discuss this matter further, please call the Planning Office at (808) 620-9480.

Me Ke aloha,

for Albert "Alapaki" Nahale-a
Chairman
Department of Hawaiian Home Lands

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED AUG 23 2011

August 22, 2011

Kimura International Inc.
Attention: Mr. Glenn T. Kimura
1600 Kapiolani Blvd., Suite 1610
Honolulu, HI 96814

Dear Mr. Kimura:

SUBJECT: Pre-Assessment Consultation for Lydgate Park to Kapa'a Bike/Pedestrian Path, Waipouli Connection, Kauai, Hawaii; TMK: (4) 4-3-02 and 4-3-07

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from (a) Division of Forestry & Wildlife; and (b) Land Division – Kauai District on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at 587-0417. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosures

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 22, 2011

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
x Engineering Division
✓x Div. of Forestry & Wildlife
x Div. of State Parks
x Commission on Water Resource Management
x Office of Conservation & Coastal Lands
x Land Division –Kauai District
x Historic Preservation

Charlene

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Pre-Assessment Consultation for Lydgate Park to Kapa'a Bike/Pedestrian Path, Waipouli Connection
LOCATION: Island of Kauai
APPLICANT: Kimura International Inc. on behalf of County of Kauai, Department of Public Works

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by August 18, 2011.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0414. Thank you.

Attachments

( ) We have no objections.
(x) We have no comments.
( ) Comments are attached.

Signed: Ry Ig
Date: 7/22/11

RECEIVED
LAND DIVISION
2011 JUL 27 P 3:09
DEPT OF LAND & NATURAL RESOURCES
STATE OF HAWAII

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 22, 2011

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
x Engineering Division
x Div. of Forestry & Wildlife
x Div. of State Parks
x Commission on Water Resource Management
x Office of Conservation & Coastal Lands
✓ x Land Division –Kauai District
x Historic Preservation

Charlene

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Pre-Assessment Consultation for Lydgate Park to Kapa'a Bike/Pedestrian Path, Waipouli Connection
LOCATION: Island of Kauai
APPLICANT: Kimura International Inc. on behalf of County of Kauai, Department of Public Works

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by August 18, 2011.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0414. Thank you.

Attachments

(X) We have no objections.
( ) We have no comments.
( ) Comments are attached.

Signed: _____
Date: July 9, 2011

PM 3:54:57
JUL 26 '11

DLNR KDLD RCVD

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

GUY H. KAULUKUKUI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Office of Conservation and Coastal Lands
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

DLNR:OCCL:.CC

Correspondence File: KA-12-013

AUG - 1 2011

Mr. Glenn T. Kimura, President
Kimura International, Inc.
1600 Kapiolani Blvd., Suite 1610
Honolulu, HI 96814

RECEIVED AUG 0 3 2011

Dear Mr. Kimura,

Subject: RE: Pre-Assessment Consultation, Lydgate Park-Kapaa Bike/Pedetrian Path, Waipouli Connection, Waipouli, Kauai, Hawaii. TMK (4) 4-3-002 & (4) 4-3-007.

The Office of Conservation and Coastal Lands (OCCL) has received your request for pre-assessment comments for the supplemental environmental assessment (SEA) for the County of Kauai 'Waipouli Connection' to the coastal bike/pedestrian path.

The OCCL is supportive of realigning the bike path through this section, as it will improve access along the coastline. It is likely to be more accessible to the public without crossing Kuhio Highway two times.

The beach along this section of coastline shows both erosion (over a foot per year in locations) and accretion (also over a foot per year in locations). The varied long-term nature of the coastline, combined with seasonal and episodic erosion events necessitates care in developing and constructing an along-shore access.

Though the OCCL is supportive of the concept, though there are several important conditions that should be observed:

- No portion of the bike path should be considered a higher priority than the beach, meaning portions threatened by erosion should be migrated mauka;
- Path construction should utilize modular building materials, so that portions may be easily migrated inland as needed;
- Those sections that are built above seasonally dynamic shorelines, where the path may be impinged upon by seasonal erosion, should be built to allow the beach to fluctuate beneath it without impairing the beach. Typically this can be accomplished through and elevated boardwalk style construction;
- Any beach quality sand that is displaced during the construction process should be placed on the makai face of the frontal dune; and
- The path should be built mauka of the certified shoreline location.

Should you have any questions, please contact Sea Grant Extension Agent Chris Conger, at the OCCL, at Chris.L.Conger@hawaii.gov.

Sincerely,

SAMUEL J. LEMMO, Administrator
Office of Conservation and Coastal Lands

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

GUY H. KAULUKUKUI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF STATE PARKS

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 18, 2011

RECEIVED AUG 23 2011

Mr. Glenn Kimura, President
Kimura International, Inc.
1600 Kapi'olani Blvd., Suite 1610
Honolulu, Hawai'i 96814

Dear Mr. Kimura:

SUBJECT: Pre-Assessment for Waipouli Connection of the Lydgate Park to Kapa'a Bike/Pedestrian Path
Waipouli, Kaua'i TMK: 4-3-02 and 4-3-07

Thank you for the opportunity to comment on the preparation of a supplemental environmental assessment for the Lydgate Park to Kapa'a Bike/Pedestrian Path in the area of Waipouli. The *"makai"* alignment for the Waipouli Connection appears to affect the northern portion of the 6(f) property within Wailua Beach Park (TMK: 4-3-02). A map is attached for your reference and evaluation relative to the path route. The 6(f) designation refers to the previous use of federal grant funds through the Land and Water Conservation Fund (LWCF) program for the acquisition and development of land for public outdoor recreation. A requirement of the 6(f) designation is that the land must be retained in public outdoor recreation in perpetuity.

In our previous review of the Environmental Assessment for the Lydgate Park to Kapa'a Bike/Pedestrian Path, we had identified Wailua Beach Park as 6(f) property within the project area. In our letter dated August 22, 2006, we noted:

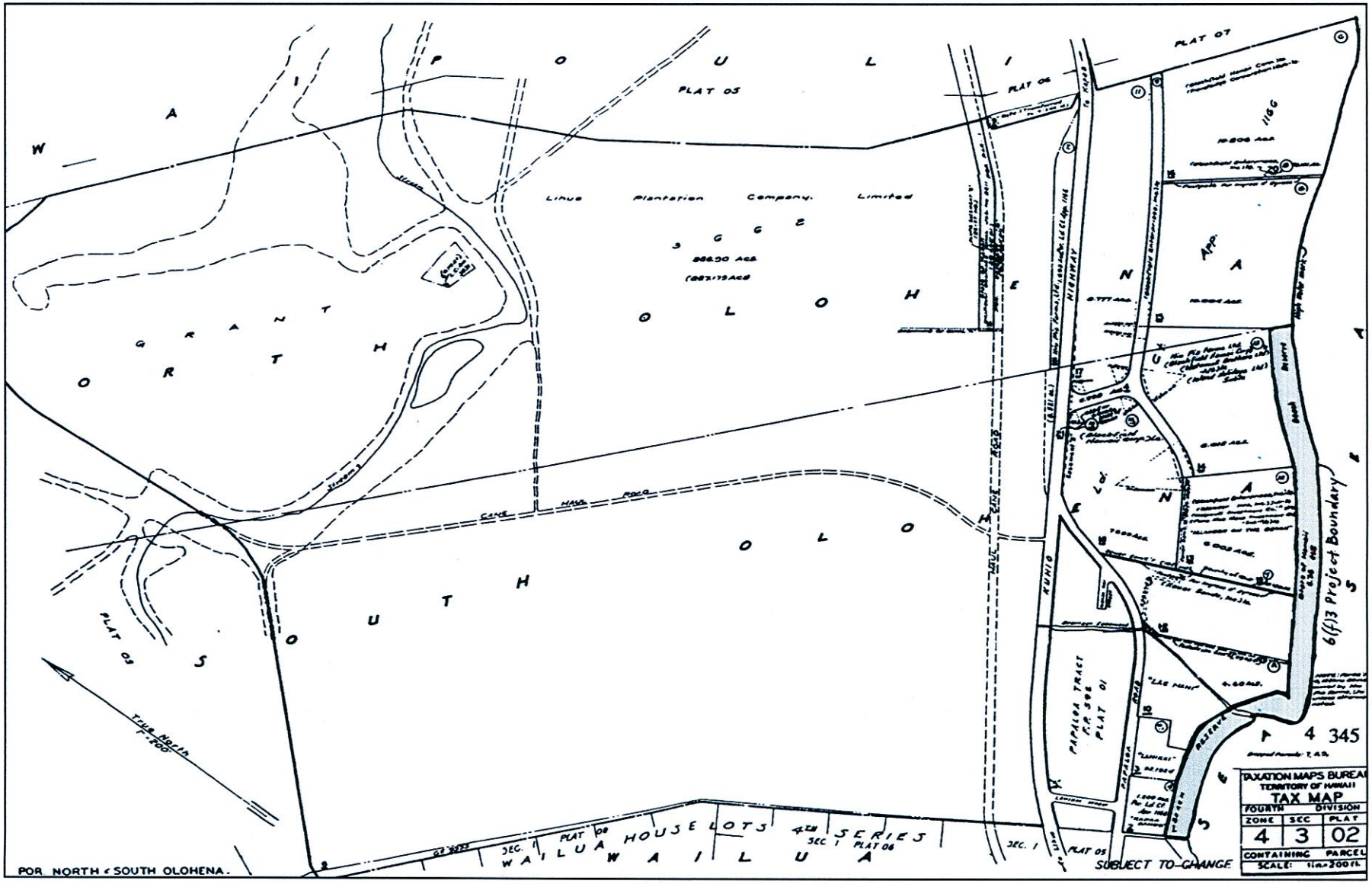
> *In general, we believe that this path will increase the outdoor recreational opportunities available for the Wailua-Kapa'a communities of southern Kaua'i, including both residents and visitors. The demand for more linear paths for walking, jogging, and bicycling, was identified as a priority recreational need in Hawai'i's 2003 Statewide Comprehensive Outdoor Recreational Plan (SCORP). Therefore, this project meets one of the objectives in the SCORP strategic plan.*

Because the *"mauka"* route for this Waipouli section had been considered in the FEA, the *"makai"* route was not specifically addressed in regards to the 6(f) impacts. Because the path promotes outdoor recreation and will remain under the jurisdiction of the County parks, there should not be a "taking" according to the 6(f) requirements. However, in the SEA, it is recommended that the impact to the 6(f) property be evaluated and the potential impacts on existing recreational activities and public access be addressed.

If you have any questions, please feel free to contact Martha Yent, Hawai'i LWCF Coordinator, at 587-0287 or Martha.E.Yent@hawaii.gov

Very truly yours,

DANIEL S. QUINN
State Parks Administrator


W A I P O U L I
PLAT 05
PLAT 06
PLAT 07
Linue Plantation Company, Limited
3 G G E
88.50 Acs
(88.178 Acs
NORTH OLOHENA
SOUTH OLOHENA
GRANT
Stream
CANE HAUL ROAD
KUHIO HIGHWAY
Kuhio
Lot A
App. A
6(f)3 Project Boundary
PAPAUA TRACT R.P. 398 PLAT 01
"LAS MANA"
RESERVE
PLAT 05
True North
1" = 200'
SEC. 1 PLAT 08 WAILUA HOUSE LOTS 4TH SERIES SEC. 1 PLAT 06
WAILUA
SEC. 1
PLAT 05
POR. NORTH & SOUTH OLOHENA.
SUBJECT TO CHANGE
4 345
TAXATION MAPS BUREAU
TERRITORY OF HAWAII
TAX MAP
FOURTH DIVISION
ZONE 4 | SEC 3 | PLAT 02
CONTAINING PARCEL
SCALE: 1 in. = 200 ft.

PHONE (808) 594-1888

FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

COPY

HRD10/0093E

December 3, 2010

Margaret Magat, Researcher
Cultural Surveys Hawai'i, Inc.
P.O. Box 1114 Kailua, Hawai'i 96734

RE: Pre- Cultural Impact Assessment Consultation
Lydgate Park/Kapa'a Bike Path Project
Kawaihau, Island of Kaua'i

Aloha e Margaret Magat,

The Office of Hawaiian Affairs (OHA) is in receipt of your November 13, 2010 letter initiating consultation ahead of a cultural impact assessment (CIA) for "Phases C and D" of the Lydgate Park/Kapa'a Bike Path Project (project) proposed by the County of Kaua'i.

The County of Kaua'i-Department of Public Works (DPW) has accepted a "finding of no significant impact" determination contained within a 2007 final environmental assessment (FEA) for the project which will construct a shared use path extending approximately 2 miles from Lydgate Park to Waika'ea Canal in Kapa'a on the Island of Kaua'i. The project is part of a larger effort to construct a continuous pathway extending 16 miles from Nāwiliwili to Anahola. The FEA provided a detailed examination of the "preferred alternative" which has been selected as the final project alignment (alignment). Because Federal Highways Administration funding is also being used to support completion of this project, compliance with the National Environmental Policy Act (NEPA) and a Section 4(f) evaluation pursuant to the Department of Transportation Act were also required.

It is our understanding that the County of Kaua'i is now proposing revisions to the alignment for "Phases C and D" of the project, triggering the requirement for a supplemental draft environmental assessment (SDEA) pursuant to Chapter 343, Hawaii Revised Statutes. The CIA will be incorporated into the SDEA as a support document.

It is critical that the CIA address the cumulative impacts the overall project (as opposed to the relatively narrow scope of Phases C and D) will have on traditional and customary practices. You may be aware that the "Phase B" alignment of this project, which is within the

traditional landscape of Wailuanuiho'āno and crosses the scared sands of 'Aliō is an extremely sensitive issue, which from certain perspectives has never been resolved to the point of lifting kaumaha and healing 'eha.

It is with this in mind that we point out that many of the concerns related to traditional cultural practices detailed in the FEA are still applicable to the SDEA. The potential for encountering iwi kūpuna and cultural resources within beach sand deposits along the coastal portions of the project is clearly identified in the FEA. We urge that a comprehensive analysis (including an archaeological literature review of previous projects in the vicinity) and consultation on this issue be completed before any revised alignment is selected and design and engineering plans developed.

The alignment will extend makai of certain coastal developments through what are known as "coastal reserves", which are intended to facilitate lateral public access along the shoreline. While facilitating, or increasing access to the shoreline can increase the ability to exercise traditional and cultural gathering practices, this also has the potential to place additional pressures on resources and adversely impact those currently exercising these practices without the project. This is an issue which should be addressed in the CIA.

Because of the use of Federal funds, the provisions of the National Historic Preservation Act are guiding the overall effort to identify historic properties and cultural sites within the area of potential effect for this project. A memorandum of agreement executed in 2006 for this project between the FHWA, DPW and State Historic Preservation Officer provide detailed mitigation measures for the adverse effect this project will have on historic properties and cultural sites. We will expect that the terms and provisions of this MOA will be fully implemented should the alignment be revised.

OHA recommends consultation with the following groups and individuals who may be willing to share their thoughts with you: Nathan Kalama, Waldeen Palmeira, Kehaulani Kekua, Val Ako, the Kaua'i/Ni'ihau Island Burial Council and the Kaua'i Historical Society. Please remember that this list is not all encompassing and we are sure additional groups and individuals will be identified as you move forward with your consultation process. Those consulted in the FEA should also be considered.

Thank you for initiating consultation at this early stage. We look forward to reviewing the CIA. Should you have any questions, please contact Keola Lindsey at 594-0244 or keolal@oha.org.

'O wau iho nō me ka 'oia'i'o,

Clyde W. Nāmu'o
Chief Executive Officer

C: OHA- Kaua'i Community Outreach Coordinator

Bernard P. Carvalho, Jr.
Mayor

Gary K. Heu
Managing Director

Leonard A. Rapozo, Jr.
Director

Ian K. Costa
Deputy Director

DEPARTMENT OF PARKS & RECREATION
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 105, Līhu'e, Hawai'i 96766
TEL (808) 241-4460 FAX (808) 241-5126

August 15, 2011

RECEIVED AUG 17 2011

Kimura International Inc.
1600 Kapi'olani Blvd., Suite 1610
Honolulu, HI 96814
Attention: Glenn T. Kimura

Dear Mr. Kimura,

The Department of Parks & Recreation fully supports the construction and use of the bike/pedestrian path. We expect positive returns that will provide economic, social and healthy impacts to the surrounding area upon its completion.

As a Department, we request the potential manpower needs for this section of the path. Should you have any questions, please feel free to contact me at 241-4456.

Sincerely yours,

Leonard Rapozo, Jr.
Director

Department of Water
County of Kaua'i

Water has no substitute.....Conserve it

September 1, 2011

RECEIVED SEP 0 3 2011

Mr. Glenn Kimura
Kimura International, Inc.
1600 Kapiolani Blvd., Suite 1610
Honolulu, HI 96814

Dear Mr. Kimura:

Subject: Lydgate Park-Kapaa Bike-Pedestrian Path, Waipouli Connection, TMK: 4-3-02: and TMK: 4-3-07, Waipouli, Kauai

This is in regard to your letter dated July 20, 2011. We have no objections to the proposed supplemental environmental assessment (SEA) for the proposed connection for the Lydgate Park to Kapaa bike/pedestrian path. The following are the Department of Water's (DOW) comments to the proposed project.

The applicant is made aware that:

1. Requests for water service will be dependent on the adequacy of the source, storage, and transmission facilities existing at that time.
2. The DOW currently owns and operates water system facilities, including water mains, along the proposed path.
3. The proposed pathway may affect the DOW's water facilities. It is recommended that the applicant submit the construction drawings t the DOW for review and approval.

If you have any questions concerning the construction drawings or Certification of Completion, please contact Mr. Keith Aoki at (808) 245-5411. For other questions, please contact Mr. Edward Doi at (808) 245-5417.

Sincerely,

Gregg Fujikawa
Chief of Water Resources and Planning

ED:loo
T-13351 Supplemental EA-Lydgate Park-Kapaa Bike-Pedestrian Path

c: Keith Aoki

4398 Pua Loke St., P.O. Box 1706, Lihue, HI 96766 Phone: 808-245-5400
Engineering and Fiscal Fax: 808-245-5813, Operations Fax: 808-245-5402, Administration Fax: 808-246-8628

Phone conversation with Alicia Kaauwai
Property owner and resident at 4462 Kamoa Road
Ph. (808) 822-5289
Tuesday, August 9, 2011, 11:45 a.m.

Alicia Kaauwai's property is located between Kamoa Road and Uhelekawawa Canal. She expressed the following concerns:

- Doesn't want to be "boxed in"—by the two alternative path alignments
- She lives in a nice neighborhood where neighbors have known each other over many years; concerned about disruption to the character of this neighborhood
- Lowering of property value
- She has walked on the Kealia path and seen trash and dog poop—that path is not well-maintained; there are not enough trash receptacles. Even now, plastic bottles and other trash is thrown into canal and fears it will get worse

Will there be fencing?
County would look at issues like this during the design phase. In the current planning phase, focusing on route alignment

Will Mokihana Road be closed?
No. Path would be located between the driveway and the canal

Will the coconut trees be taken down?
May need to be relocated

She is aware of the existing right-of-way (referred to as Basuel's), and feels that the connection via the highway (with utility pole relocation) would be (most) appropriate.
The County is looking at that alignment as an alternative, but also wants to explore an alternative that is away from the highway. The purpose of the EA is to assess relative impacts of the alternatives

When will this be done? In two years?
No, it will likely take longer. The County may need to acquire additional right-of-way and fund design and construction.

Because properties were part of old Hawaiian land grant, possibility of discovering cultural artifacts. Notes that iwi found on Waipouli Beach Resort property and creation of cultural preserve. Trenching has occurred on or near her property in the past.
Acknowledged the importance of cultural properties

Have you received other calls?
No, you're the first. But please discuss with your neighbors. We welcome all comments as part of the environmental review process.
Surprised you haven't heard from Missionary Church, Village Manor. Don't want to go out in the heat (I'm 75 years old), but will go knocking on doors if I have to.

Would like to be kept informed of progress in planning and allowed to participate.
Briefly reviewed environmental review process, including publication of DEA and opportunity for public review and comment. She will be mailed copy on CD. County will be holding public information meeting, but has not been scheduled yet.

Please notify in writing since might miss announcements in newspaper. Letter was addressed to "Alice," but her name is "Alicia"—please correct.
Apologized and said mailing list will be corrected.

P. O. Box 81 :: Lihue, HI 96766
phone 808.635-8823 :: fax 808.822.5075
www.KauaiPath.org
execdir@kauaipath.org

a registered 501 (C) 3 non-profit

August 15, 2011

Mr. Glenn T. Kimura
Kimura International, Inc.
1600 Kapiolani Blvd. Suite 1610
Honolulu, HI 96814

Subject: **Comments on the Lydgate Park-Kapaa Bike/Pedestrian Path Supplemental Environmental Assessment Waipouli Connection, Waipouli, Kauai, Hawaii, TMK: [4] 4-3-02 and [4] 4-3-07**

Aloha Mr. Kimura,

Thank you for your pre-assessment consultation letter of July 20, 2011 providing Kauai Path Inc.'s board the opportunity to register our comments on the above referenced supplemental environmental assessment.

Following discussion among our board and referring to the map exhibit enclosed with your letter, we wish to be on the record as unanimously supporting the *makai* path alignment. We believe that this alignment has several benefits. It will contribute to a safer and more inviting facility. The *makai* alignment will expand opportunities for non-motorized travel and recreation; provide connectivity to shopping, dining and resort areas; and preserve lateral coastal access in perpetuity to all the island's residents.

We reasoned that at the beginning of Phase D, after a brief period of travel through the vicinity of the Kinipopo Shopping Center, turning off of Papaloa Road and heading makai takes path users back to the coastal area. This assures that all path users may avoid the potential danger of crossing the heavily trafficked Kuhio Highway.

Once at the coast and heading north, the proposed path alignment proceeds through three properties already developed, and three as yet undeveloped properties. Building the path there now will assure lateral coastal access in perpetuity. Having traversed the majority of Phase C the pathway returns to Kuhio Highway at an area that already has established signalized crossings to additional shopping and trip generators.

We concur that a cantilevered path attached to the existing bridge best accomplishes the crossing of the Uhelekawawa Canal. This will minimize the right-of-way purchases required in this restricted travel area, and is economical from a construction standpoint.

A world-class standard has been set with the design and construction of Ke Ala Hele Makalae Phases I and II, and as a result this linear park is being enjoyed by an ever-increasing number people in need of the mild exercise that improves their health and well-being. The path system is

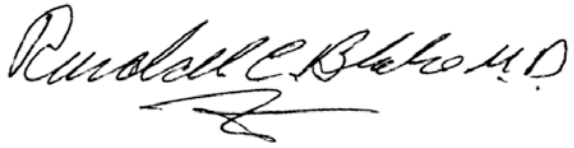
appreciated as an exemplary source of pride for our community—an example of a major civic project that is being done right. Accordingly, we recommend that the following facilities be designed and built in the area addressed in this supplemental environmental assessment:

- at least one comfort station
- two or more rest pavilions

These facilities should be located near the mid-point between Lihi Park and Lydgate Park, ideally at spots with an ocean view as done in Phases I and II. The over two-mile distance from central Lydgate Park to Lihi Park is too great for many path users to comfortably traverse without the cool shade, shelter from rain, and relief that these additional amenities will provide.

Mahalo for Kimura International's willingness to continue working on this important yet challenging project, and for this opportunity to register Kauai Path, Inc.'s comments and recommendations.

Very truly,



Randall C Blake, MD
Executive Director
Kauai Path Inc.

cc: Mayor Bernard P. Carvalho, Jr.
Kauai County Council Chair Jay Furfaro
Mr. Larry Dill
Mr. Doug Haigh

From: Doug Haigh
Sent: Tuesday, August 07, 2012 1:58 PM
To: 'Lloyd Nishikawa'
Cc: Lenny Rapozo; John.Nickelson@dot.gov; Mauna Kea Trask; Nancy Nishikawa
Subject: RE: 4460 Kamoa Road

We will have preliminary answers to your questions when we publish the draft environmental assessment. I am asking our consultant to send you a copy of that document (expected this fall) and you can submit any further comments and questions at that time.

Your concerns will be reviewed, considered, and responded to before publishing the final environmental assessment.

From: Lloyd Nishikawa
Sent: Tuesday, August 07, 2012 3:48 AM
To: Lenny Rapozo; John.Nickelson@dot.gov; Mauna Kea Trask; Doug Haigh
Subject: 4460 Kamoa Road

Gentlemen,
I recently purchased the empty lot on Kamoa road (4460 Kamoa). One of the options for the Lydgate Park-Kapa'a bike/pedestrian path runs along the eastern and northern borders of my property.
I live in Washington state and will not be able to make the meeting this thursday (8/9/12) and wanted to document my concerns on the impact to my property and the surrounding community.

The following are some of my concerns:
1. **Why is the alternate path not being chosen?** This has the least impact on private property as it uses established public paths. It also limits the impact on residential areas as it only runs along the north-west border of the Village Manor. The other path passes by the north-east boarder of Village Manor and then through two residential private properties and then along the stream that passes by 4 residential properties. I would like to know why the alternate path is not the route of choice for this bike/pedestrian path and why it should over-ride the concerns of private residential property owners. I also do not understand financially why the alternate path is not a more feasible option since it does not appear to require as much purchase of private property.
As a private property owner that intends on using my lot for a home of my own, I am strongly against this proposed path especially when an alternate path is readily available for the project.

2. If the committee pushes on to use the proposed path I would like to know **what will be done to insure that privacy, noise, and security will be maintained** for private property owners. I am concerned that the bike/pedestrian path will disrupt the neighborhood in a negative way and result in loss of all of these attributes. The alternate path is much less of an impact on these issues and, again, available for the committee to select with no clear disadvantages that I can see.

Please let me know that you have received this email and that the committee will contemplate my concerns. I would also like to know **what my legal options are for opposing the path** that runs past my property.

Mahalo,
Lloyd Nishikawa

Sandwich Isles Communications, Inc.
A Waimana Company

RECEIVED AUG 16 2011

August 15, 2011

Mr. Glenn T. Kimura
Kimura International Inc.
1600 Kapiolani Blvd., Suite 1610
Honolulu, Hawaii 96814

Dear Mr. Kimura:

Subject: Lydgate Park – Kapaa Bike/Pedestrian Path, Waipouli Connection
Waipouli, Kauai, Hawaii
TMK: [4] 4-3-02 and [4] 4-3-07
Pre-Assessment Consultation

Thank you for requesting the Sandwich Isles Communication (SIC) review of the subject project in Waipouli, Kauai.

SIC's initial comments are as follows:

1. The existing SIC facilities are located along Kuhio Highway and will be impacted should you design and build Phase E
2. Please provide SIC ample time to review any plans prior to finalizing any work in this area.

Thank you for the opportunity to comment. If you have additional questions please contact Sonny Perreira by phone at (808)524-8400 or via e-mail at sperreira@sandwichisles.com

Sincerely,

Sonny Perreira
Network Operations Manager
Sandwich Isles Communications, Inc.

1003 Bishop Street, Pauahi Tower 27th Floor, Honolulu, HI 96813 ~ (808) 524-8400 ~ Fax (808) 599-4653
email: info@sandwichisles.com

SIERRA CLUB Kaua`i Group of the Hawai`i Chapter
Post Office Box 3412, Lihu`e, Kauai, Hawai`i, 96766

April 6, 2012

VIA EMAIL: Glenn.Okimoto@hawaii.gov

Mr. Glenn M. Okimoto
Director of Transportation
Hawai'i Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

RE: National Historic Preservation Act, Section 106 Consultation - Lydgate Park to Kapa'a Bike/Pedestrian Path Phases C&D - Federal Aid Project CMAQ-0700(49)

Aloha Director Okimoto,

The Kaua'i Group of the Sierra Club Hawai'i Chapter thanks you for contacting us as a consulting party. We appreciate the opportunity to provide comments.

The Club has always supported public access and believes that a multi-use path along the Waipouli coast of East Kaua'i would further such access. However, it is important that in creating such a path, the currently undeveloped portions of the coastal environment be left unchanged to the greatest degree possible in order to preserve the natural landscape, views, shoreline and natural beach processes, and subsistence and recreational activities that take place in the coastal area.

The maps that were provided to the Sierra Club in your packet of materials indicated only the general alignment of the proposed path. This made it difficult to adequately ascertain the potential adverse environmental, cultural and historic impacts that could occur along the coastal portion of the proposed path. We therefore request the following additional information and the opportunity to provide comments based on that information:

1) Detailed identification of the path's proposed location, including information as to whether the path would be sited mauka of, or would displace, the stands of coastal ironwood trees that currently exist along the undeveloped properties owned by Coconut Beach Development LLC and Coconut Plantation LLC;
2) Identification on the maps of the existing footpaths; and
3) Identification on the maps of the locations of the current certified shoreline and all previous certified shorelines.

At this time, we are troubled by the statement (in the section headed "Proposed Area of Potential Effect" on page 4 of your February 24, 2012 letter) that reads: "the exact placement

of the path will not be determined until the final design phase." The determination of the path's location should occur long before the final design phase, to enable potential location-based impacts to be taken into account in determining the routing of the path.

This coastal corridor is both environmentally and culturally sensitive. Therefore, every effort should be made to place the path sufficiently mauka of the certified shoreline:

a) There has been public access along this coastal route for generations, and historically, people have long been drawn here to fish and interact with nature.

b) The stands of mature ironwood trees along the coast are an important historic characteristic of the area and need to be retained in order to preserve the historic, scenic and cultural qualities of the area. The trees also support the integrity of the shoreline berm.

c) Along the undeveloped Coconut Beach Resort property, for example, recent evidence indicates that the high water mark is as much as 15 feet or more mauka of the 2005 certified shoreline. In fact, the high wash of the waves has reached the mauka side of the existing footpath that weaves through the ironwood trees along that coastline (see photos below). In light of both this historical shoreline retreat and the expected rise in sea level during the coming century, the prudent expenditure of federal funds mandates that the proposed multi-access path be located as far mauka of the existing footpath as possible.

High wash of waves is evidenced by the debris line mauka of coastal ironwoods footpath

The continued viability of traditional activities, the scenic qualities of the coastal area, the preservation of any cultural sites, the health of shoreline processes, and the preservation of the mature ironwood trees and the beach habitat that provides a resting place for endangered Hawaiian monk seals and threatened sea turtles are tightly and inextricably

linked. For these reasons, we recommend that the planning of the proposed multi-use path locate the path as far mauka of the shoreline setback area as possible.

Finally, the proposed delegation of the administration of aspects of the Section 106 process for this sensitive stretch of coastline from the Federal Highway Administration to the State DOT to the County of Kaua'i raises concerns due to the County's inexperience in this area. We therefore strongly urge that the state provide strong guidance and oversight in this area, to ensure compliance with both the spirit and the letter of the Section 106 process.

Sincerely,

Rayne Regush
On behalf of the Executive Committee of the Kaua'i Group of the Sierra Club

cc: Doug Haigh, County of Kaua'i, Building Division
Ray McCormick, HDOT, Kaua'i District Engineer

Draft EA Comments and Responses

Sandwich Isles Communications, Inc.

A Waimana Company

January 29, 2014

Mr. Douglas Haigh, Chief Building Division
County of Kaua'i
Department of Public Works
4444 Rice Street, Suite 175
Lihue, Hawaii 96766

Subject: Sandwich Isles Communications, Inc.'s Comment to
Draft Environmental Assessment
Lydgate Park-Kapa'a Bike/Pedestrian Path, Phases C & D

Dear Mr. Haigh:

I have reviewed the environmental assessment and I have only one comment. Sandwich Isles Communications (SIC) has underground fiber cable and ducts along Kuhio Hwy. For the segments that run along Kuhio Hwy the engineering plans should be submitted to SIC for review: Attention: Lew Biven, P.O. Box 893189, Mililani, HI 96789. The plans can also be emailed to lbiven@sandwichisles.com.

Sincerely,

Rodney Kaulupali
Director of Construction Services

Fax to Kimura International
808-941-8999

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Mr. Rodney Kaulupali,
Director of Construction Services
Sandwich Isles Communications, Inc.
P.O. Box 893370
Mililani, HI 96789

Dear Mr. Liu:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D

Thank you for your Draft EA comment letter dated January 29, 2014. Thank you for informing us the Sandwich Isles Communications has underground fiber cable and ducts along Kuhio Highway. If the path runs along Kuhio Highway, we will notify Mr. Lew Biven and submit plans for his review.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

AACTING DIRECTOR OF HEALTH
Gary L. Gill

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:
14-021
Lydgate Park

January 30, 2014

RECEIVED FEB 04 2014

County of Kauai
Department of Public Works
Mr. Douglas Haigh, Chief
Building Division
4444 Rice Street, Suite 175
Lihue, Hawaii 96766

Dear Mr. Haigh:

SUBJECT: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C & D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007: various parcels

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of the subject project from Kimura International, Inc. The document was routed to the relevant Environmental Health divisions and offices. They will provide specific comments to you if necessary. EPO recommends that you review the standard comments at:
http://health.hawaii.gov/epo/home/landuse-planning-review-program/.
You are required to adhere to all standard comments specifically applicable to this application.

EPO suggests that you examine the many sources available on strategies to support the sustainable and healthy design of communities and buildings, including the:
State of Hawaii, Office of Planning: www.planning.hawaii.gov and the new 2013 ORMP;
U.H., School of Ocean and Earth Science and Technology: www.soest.hawaii.edu;
U.S. Health and Human Services: www.hhs.gov/about/sustainability;
U.S. Environmental Protection Agency's sustainability programs: www.epa.gov/sustainability;
U.S. Green Building Council's LEED program: www.usgbc.org/leed; and
International Well Building Standard: http://delosliving.com

The DOH encourages everyone to apply these sustainability strategies and principles early in the planning and review of projects. We also request that for future projects you consider conducting a Health Impact Assessment (HIA). More information is available at: www.cdc.gov/healthyplaces/hia.htm. We request you share all of this information with others to increase community awareness on sustainable, innovative, inspirational, and healthy community design.

We request electronic response confirming receipt of this letter and any other letters you receive from DOH in regards to this project. Please email: epo@doh.hawaii.gov. We anticipate that our letter(s) and your electronic response(s) will be included in the final document. If you have any questions, please contact me at (808) 586-4337 or laura.mcintyre@doh.hawaii.gov

Mahalo,

Caroline Blinda

FOR Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

c: ✓ Leslie Kurisaki, Kimura International, Inc.

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Ms. Laura McIntyre, Program Manager
Environmental Planning Office
Department of Health
State of Hawaii
919 Ala Moana Blvd., Suite 312
Honolulu, HI 96814

Ref: 14-021 Lydgate Park

Dear Ms. McIntyre:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your letter dated January 30, 2014 regarding this project. We have reviewed the Standard Comments on the Department of Health website related to 1) Hazard Evaluation and Emergency Response, 2) Clean Air, 3) Clean Water, 4) Safe Drinking Water, 5) Solid and Hazardous Waste, 6) Wastewater, and 7) Indoor and Radiological Health. The project will adhere to all applicable Standard Comments.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

February 24, 2014

County of Kaua`i, Department of Public Works
Attn: Mr. Douglas Haigh, Chief, Building Division via email: dhaigh@kauai.gov
4444 Rice Street, Suite 175
Lihu`e, HI 96766

Dear Mr. Haigh,

SUBJECT: Lydgate Park-Kapa`a Bike/Pedestrian Path, Phases C & D

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from (1) Land Division – Kauai District; and (2) Engineering Division. No other comments were received as of our suspense date. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at 587-0439. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)

c: Kimura International, Inc.
Attn: Ms. Leslie Kurisaki
lkurisaki@kimurainternational.com

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

January 28, 2014

MEMORANDUM

TO: **DLNR Agencies:**
__ Div. of Aquatic Resources
__ Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__ Div. of State Parks
__ Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division Kauai District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Lydgate Park-Kapa`a Bike/Pedestrian Path, Phases C & D
LOCATION: Kawaihau District, Island of Kaua`i; Tax Map Key Number: 4-3-001, 002, and 007: various parcels
APPLICANT: County of Kaua`i, Department of Public Works, by its consultant, Kimura International, Inc.

Transmitted for your review and comment on the above-referenced document which can be found here:

1. Go to: https://sp01.ld.dlnr.hawaii.gov/LD
2. Login: Username: LD\Visitor Password: 0pa$$word0 (first and last characters are zeros)
3. Click on: Requests for Comments
4. Click on the subject file "Lydgate Park-Kapa`a Bike/Pedestrian Path, Phases C & D" then click on "Files" and "Download a copy".

We would appreciate your comments on this document. Please submit any comments by February 21, 2014. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
(X) We have no comments.
( ) Comments are attached.

Signed: [signature]
Print Name: MARVIN MIKASA, ACTING DISTRICT LAND AGENT
Date: Jan. 31, 2014

cc: Central Files

RECEIVED
LAND DIVISION
2014 FEB -3 AM 10:15
DEPT OF LAND & NATURAL RESOURCES
STATE OF HAWAII

'14 JAN 29 PM 4 37 ENGINEERING

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

January 28, 2014

MEMORANDUM

TO: FR!

DLNR Agencies:
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
__Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Kauai District
X Historic Preservation

FROM: TO:
Russell Y. Tsuji, Land Administrator
SUBJECT: Lydgate Park-Kapa`a Bike/Pedestrian Path, Phases C & D
LOCATION: Kawaihau District, Island of Kaua`i; Tax Map Key Number: 4-3-001, 002, and 007: various parcels
APPLICANT: County of Kaua`i, Department of Public Works, by its consultant, Kimura International, Inc.

RECEIVED
2014 FEB 19 PM 2:43
DEPT OF LAND & NATURAL RESOURCES
STATE OF HAWAII
LAND DIVISION

Transmitted for your review and comment on the above-referenced document which can be found here:

1. Go to: https://sp01.ld.dlnr.hawaii.gov/LD
2. Login: Username: LD\Visitor Password: 0pa$$word0 (first and last characters are zeros)
3. Click on: Requests for Comments
4. Click on the subject file "Lydgate Park-Kapa`a Bike/Pedestrian Path, Phases C & D" then click on "Files" and "Download a copy".

We would appreciate your comments on this document. Please submit any comments by February 21, 2014. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed:
Print Name: Corry S. Chang, Chief Engineer
Date: 2/18/14

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji
REF: DEA for Proposed Lydgate Park – Kapa'a Bike/Pedestrian Path, Phases C & D, Kawaihau District Kauai.002

COMMENTS

(X) **We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone X. The National Flood Insurance Program (NFIP) does not regulate developments within Zone X.**

( ) Please take note that the project site according to the Flood Insurance Rate Map (FIRM), is located in Zone ___.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

( ) Mr. Mario Siu Li at (808) 768-8098 or Ms. Ardis Shaw-Kim at (808) 768-8296 of the City and County of Honolulu, Department of Planning and Permitting.
( ) Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
( ) Mr. Carolyn Cortez at (808) 270-7813 of the County of Maui, Department of Planning.
( ) Mr. Stanford Iwamoto at (808) 241-4884 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments: _____

_____

( ) Other: _____

_____

Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 2/12/14

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Mr. Russell Y. Tsuji, Land Administrator
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Tsuji:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your letter dated February 24, 2014 transmitting comments from the DLNR Land Division and Engineering Division.

The following responds to the checked items in the CWRM comments:

Item 1. The DLNR Acting District Land Agent has no comments.

Item 2. The DLNR Engineering Division confirms that the project site, according to the Flood Insurance Rate Map, is located in Zone X and that the National Flood Insurance Program does not regulate developments in Zone X.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF: OCCL: AJR

COR: KA-14-119

FEB - 7 2014

RECEIVED FEB 08 2014

Douglas Haigh, Chief
County of Kauai - DPW
4444 Rice St., Ste. 175
Lihue, HI 96766

SUBJECT: **DRAFT ENVIRONMENTAL ASSESSMENT (DEA) REVIEW FOR THE PROPOSED LYDGATE PARK-KAPA'A BIKE/PEDESTRIAN PATH PROJECT**
Kawaihau District, Island of Kauai
TMK: (4) 4-3-001: various, (4) 4-3-002: various & (4) 4-3-007: various

Dear Mr. Haigh,

The Office of Conservation and Coastal Lands (OCCL) is in receipt of your letter, dated *January 23, 2014,* regarding a proposal to complete Phase C & D of an existing 10 to 12 foot wide bike/pedestrian path; Phase A & B have already been completed. A review of our records and maps indicates that the proposed work will not be located within the State Land Use Conservation District; therefore no approvals will be required from this office. We recognize that portions of the proposed project are sited within the County of ~~Kaua'i Special~~ Management Area (SMA) and we understand you are pursuing the appropriate approvals to conduct work in this area.

If you have questions regarding this correspondence please contact Alex J. Roy, M.Sc. of our Conservation and Coastal Lands staff at 808-587-0316.

Sincerely,

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

CC: *KDLO*
State Parks
County of Kaua'i – Dept. of Planning
Leslie Kurisaki, c/o Kimura International, Inc., 1600 Kapiolani Blvd., Ste. 1610, Honolulu, 96814

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Mr. Samuel Lemmo, Administrator
Department of Land and Natural Resources
Office of Conservation and Coastal Lands
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Lemmo:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your letter dated February 7, 2014 indicating that your records and maps indicate that the proposed work will not be located within the State Land Use Conservation District and therefore no approvals are required from your office. The County will be preparing an SMA permit during the next phase of this project.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

OFFICE OF PLANNING
STATE OF HAWAII

NEIL ABERCROMBIE
GOVERNOR

JESSE K. SOUKI
DIRECTOR
OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: http:/planning.hawaii.gov/

Ref. No. P-14270

February 3, 2014

RECEIVED FEB 05 2014

Mr. Douglas Haigh, Chief
Building Division
Department of Public Works
County of Kauai
4444 Rice Street, Suite 175
Lihue, Hawaii 96766

Dear Mr. Haigh:

Subject: Draft Environmental Assessment (EA) for Lydgate Park-Kapa'a Bike/Pedestrian Path, Phases C & D; Tax Map Key: 4-3-001, 002 and 007: various parcels

Thank you for the opportunity to provide comments on the subject Draft Environmental Assessment (EA).

According to the Draft EA, the County of Kauai Department of Public Works proposes to construct a shared use path for pedestrians, bicyclists, and other users from Papaloa Road to Uhelekawawa Canal, a distance of approximately 1.2 mile. The project aims to provide a safer bike and pedestrian path, and ensure lateral coastal access for the public and appropriate recreational development within the beach reserve. The design elements include grading, retaining walls, railing or fencing, landscaping, signage, and user amenities such as benches, water fountains, and trash receptacles. The proposed improvements include upgrading the existing County-owned parking lot, and a new comfort station.

The preliminary cost, which does not include land acquisition, is $2 million. The project will be funded, in part, by the U.S. Department of Transportation, Federal Highway Administration. The project is programmed for construction in 2015, and expected to take 12 months to complete.

The Office of Planning has reviewed the subject Draft EA, and has the following comments.

1. Page 1-5, strike text in brackets and add the underscored as follows: "This project will require a Special Management Area (SMA) permit, which entails a public hearing and approval by the County [Council] Planning Commission." The County of Kauai Planning Commission is the SMA permit authority pursuant to Hawaii Revised Statutes (HRS) § 205A-22.

2. Act 153, Session Laws of Hawaii 2011, effective on July 1, 2011, raises the valuation threshold between the SMA Use Permit and SMA Minor Permit from $125,000 to $500,000. The cost threshold on page 4-6 that "since this project has a development cost exceeding $125,000" shall be corrected accordingly.

3. Pages 1-4 and 3-16, the Draft EA indicates the County has 40-foot shoreline setback requirements. As the shoreline setbacks are related to the depth of lots and coastal erosion rates, the Final EA should update the shoreline setback requirements from the County Planning Department for the specific parcels where the proposed path is preferred.

4. **Section 3.3.1 Archaeological, Historic, and Cultural Resources** of the Draft EA applies "archaeological monitoring plan" as the proposed mitigation measures. To ensure that historic resource objectives and its supporting policies set forth in HRS § 205A-2 will be met for the proposed path project, the Final EA should attach an archaeological monitoring plan, which should be reviewed and concurred by the State Historic Preservation Division prior to any construction activities.

5. HRS Chapter 205A requires all State and County agencies to enforce the coastal zone management (CZM) objectives and policies. The Final EA should include an assessment as to how the proposed action conforms to CZM objectives and its supporting policies set forth in HRS § 205A-2. The assessment on compliance with HRS Chapter 205A is an important component for satisfying the requirements of HRS Chapter 343 and obtaining the County SMA use approval.

6. As the project will be partly funded by the U.S. Department of Transportation, Federal Highway Administration, the Final EA should indicate that a federal consistency review will be required from the Office of Planning, Hawaii CZM Program.

If you have any questions regarding this comment letter, please contact Leo Asuncion, CZM Program Manager, at (808) 587-2846.

Sincerely,

Jesse K. Souki
Director

c: ✓ Ms. Leslie Kurisaki

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Mr. Jesse K. Souki, Director
Office of Planning
State of Hawaii
235 South Beretania Street, 6th Floor
Honolulu, HI 96813

Dear Mr. Souki:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your letter dated February 3, 2014 regarding this project. We provide the following responses to your comments:

1. The Special Management Area permit will require a public hearing by the County Planning Commission. Page 1-5 will be corrected to state that the "This project will require a Special Management area (SMA) permit, which entails a public hearing and approval by the County Planning Commission."

2. Page 4-6 will be revised correct the valuation threshold between the SMA Use Permit and SMA Minor Permit to $500,000 instead of $125,000.

3. Pages 1-4 and 3-16 the Draft EA indicates that the County has a 40-foot shoreline setback requirement. The next phase of this project will include a Special Management Area permit as well as engineering design. During this phase, a topographic survey and certified shoreline survey will be prepared and used by the County Planning Department as the basis for the shoreline setback determination.

4. Section 3.3.1 Archaeological, Historic and Cultural Resources of the Draft EA applies "archaeological monitoring plan" as the proposed mitigation measures. The FEA should attach the AMP that was reviewed and approved by SHPD.
Response: The archaeological monitoring plan is a mitigation measure that will be completed during the design phase of the project and it is designed to be used during construction period, not for determining environmental, historical or cultural impacts. These issues were discussed

and evaluated in depth with Native Hawaiian organizations during the Section 106 National Historic Preservation Act process.

5. The Final EA will provide an assessment relative to how the proposed action conforms to CZM objectives and policies as set forth in HRS §205-A-2.

6. The Final EA will indicate that a federal consistency review will be required from the Office of Planning, Hawaii CZM Program.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

DISABILITY AND COMMUNICATION ACCESS BOARD

919 Ala Moana Boulevard, Room 101 • Honolulu, Hawaii 96814
Ph. (808) 586-8121 (V/TDD) • Fax (808) 586-8129

February 4, 2014

Mr. Doug Haigh
Department of Public Works
County of Kauai
4444 Rice Street
Suite 175
Lihue, HI 96766

Regarding: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path

Dear Mr. Haigh,

The Disability and Communication Access Board (DCAB) would like to thank you for the opportunity to review the Draft Environmental Assessment for Lydgate Park-Kapaa Bike/Pedestrian Path. The purpose of this review is to ensure that this project will take into account accessibility design requirements for persons with disabilities.

The following general statement should be included in the Plan:

> *"All buildings, facilities, and sites shall conform to applicable federal, state, and county accessibility guidelines and standards. Hawaii Revised Statutes §103-50 requires all State of Hawaii or County government buildings, facilities, and sites to be designed and constructed to conform to the Americans with Disabilities Act Accessibility Guidelines, the Federal Fair Housing Amendments Act, and other applicable design standards as adopted and amended by the Disability and Communication Access Board. The law further requires all plans and specifications prepared for the construction of State of Hawaii or County government buildings, facilities, and sites to be reviewed by the Disability and Communication Access Board for conformance to those guidelines and standards."*

New construction and alterations are required to comply with the Department of Justice's (DOJ) 2010 ADA Standards for Accessible Design (2010 Standards) http://www.ada.gov/2010ADAstandards_index.htm. To be consistent with the DOJ's standard, DCAB adopted the 2004 Americans with Disabilities Act Accessibility Guidelines (ADAAG) as of January 1, 2011 and passed interpretive opinions consistent with the 2010 ADA Standards. All new Interpretive Opinions can be viewed or downloaded at http://www.health.hawaii.gov/dcab/facility-access/interpretive-opinions.

In addition to the Bike/Pedestrian Path, the Plan proposes to include and possibly expand existing County parking areas, development of a comfort station, and installation of amenities such as trash receptacles, benches, and water fountains.

Page 2-16 states, "The path will be constructed in compliance with relevant design guides issues under the Americans with Disabilities Act. Thereby accommodating people requiring mobility aids." We strongly encourage the use of the following accessibility guidelines, published by the U.S. Access Board. These accessibility guidelines are not yet enforceable by the U.S. DOJ under the Americans with Disabilities Act (ADA), nor have they been adopted by state rules under Hawaii Revised Statutes (HRS) §103-50. However, these accessibility guidelines provide guidance for a minimal level of accessibility for those elements not addressed by the enforceable 2010 ADA Standards.

We recommend the following language: "The path will be constructed in compliance with relevant existing design guidelines on the Americans with Disabilities Act as well as:

- Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way, published in the Federal Register on July 26, 2011.
- Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way; Shared Use Paths, Supplemental Notice of Proposed Rulemaking, published in the Federal Register on February 13, 2013."

The above reflects DCAB staff advice and recommendations for the Draft Enviromental Assessment for Lydgate Park-Kapaa Bike/Pedestrian Path and is not a formal Board recommendation. Please note that all individual pedestrian and bicycle district and route projects must still be submitted to DCAB for review per HRS §103-50.

Should you have any further questions, feel free to contact Ms. Mona Higa, Facility Access Coordinator at (808) 586-8121.

Sincerely,

Francine Wai

FRANCINE WAI
Executive Director

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Ms. Francine Wai
Executive Director
Disability and Communication Access Board
State of Hawaii
919 Ala Moana Boulevard, Room 101
Honolulu, Hawaii 96814

Dear Ms. Wai:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your Draft EA comment letter dated February 4, 2014. We will revise the Final EA by including the general statement:

"All buildings, facilities, and sites shall conform to applicable federal, state, and county accessibility guidelines and standards. Hawaii Revised Statutes §103-50 requires all State of Hawaii or County government buildings, facilities, and sites to be designed and constructed to conform to the Americans with Disabilities Act accessibility Guidelines, the Federal Fair Housing Amendments Act, and other applicable design standards as adopted and amended by the Disability and Communication Access Board. The law further requires all plans and specification prepared for the construction of State of Hawaii or County government buildings, facilities, and sites to be reviewed by the Disability and Communication access Board for conformance to those guidelines and standards."

Your other comments pertain to non-enforceable design standards and recommendations which are intended to ensure a minimal level of accessibility for the path and its associated amenities. We will pass on your recommendations to the county so they may coordinate these design and construction elements with your agency. Plans will be submitted to DCAB for review during the next design phase.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

GARY L. GILL
ACTING DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
EMD/CWB

02011PCTM.14

February 06, 2014

Mr. Douglas Haigh
Chief, Building Division
County of Kauai, Department of Public Works
4444 Rice Street, Suite 275
Lihue, Hawaii 96766

Dear Mr. Haigh:

SUBJECT: Comments on the Draft Environmental Assessment for the Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C & D Project Kawaihau District, Island of Kauai, Hawaii

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated January 6, 2014, requesting comments on your project. The DOH-CWB has reviewed the subject document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://health.hawaii.gov/epo/files/2013/10/CWB_Oct22.pdf

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. National Pollutant Discharge Elimination System (NPDES) permit coverage is required for pollutant discharges into State surface waters and for certain situations involving storm water (HAR, Chapter 11-55).

   a. Discharges into Class 2 or Class A State waters can be covered under an NPDES general permit only if all of the NPDES general permit requirements are met. Please see the DOH-CWB website (http://health.hawaii.gov/cwb/) for the

NPDES general permits and instructions to request coverage.

b. All other discharges into State surface waters and discharges into Class 1 or Class AA State waters require an NPDES individual permit. To request NPDES individual permit coverage, please see the DOH-CWB forms website located at: http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/forms/

c. NPDES permit coverage for storm water associated with construction activities is required if your project will result in the disturbance of one (1) acre or more of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. NPDES permit coverage is required before the start of the construction activities.

   Land disturbance includes, but is not limited to clearing, grading, grubbing, uprooting of vegetation, demolition (even if leaving foundation slab), staging, stockpiling, excavation into pavement areas which go down to the base course, and storage areas (including areas on the roadway to park equipment if these areas are blocked off from public usage, grassed areas, or bare ground).

3. If your project involves work in, over, or under waters of the United States, it is highly recommend that you contact the Army Corp of Engineers, Regulatory Branch (Tel: 438-9258) regarding their permitting requirements.

   Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and Hawaii Administrative Rules (HAR), Chapter 11-54.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

If you have any questions, please visit our website at: http://health.hawaii.gov/cwb, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

ALEC WONG, P.E., CHIEF
Clean Water Branch

CTM:tg

c: Ms. Leslie Kurisaki, Kimura International, LLC
[via email LKurisaki@kimurainternational.com only]
DOH-EPO #14-021 [via email only]

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Mr. Alec Wong, P.E., Chief
Clean Water Branch
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, HI 96801-3378

Dear Mr. Wong:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

1. The project will meet all DOH criteria related to impacts to State waters (anti-degradation, designated uses, water quality).

2. A National Pollutant Discharge Elimination System (NPDES) permit will be obtained for stormwater associated with construction activities if applicable (to be determined during design).

3. The U.S. Army Corps of Engineers (USACE) Regulatory Branch has been contacted, and confirmed that the project does not involve work within or discharge into waters of the U.S. As such, no Department of the Army permit is required. Best management practices will be utilized during construction of the path to avoid discharge of pollutants into navigable waters.

4. All discharges related to construction or project operation will comply with State Water Quality Standards. A copy of your letter will be provided to the design team and applicable conditions will be included on the project specifications for the construction contractor.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
DIR 0134 & HWY 1883
HWY-DD 2.6349

February 14, 2014

RECEIVED FEB 15 2014

Mr. Glenn Kimura, President
Kimura International, Inc.
1600 Kapiolani Boulevard, Suite 1610
Honolulu, Hawaii 96814

Dear Mr. Kimura:

Subject: Lydgate-Kapaa Bike/Pedestrian Path, Phases C & D
Federal-aid Project No. CMAQ-0700(49)

The Hawaii Department of Transportation (HDOT) has received the Draft Environmental Assessment for the subject project. HDOT will review the document and send any comments directly to the County of Kauai, Department of Public Works.

Should you have any questions, please call Christine Yamasaki at 692-7572 or Holly Yamauchi at 692-7574 of our Design Section, Design Branch, Highways Division, and reference letter no. HWY-DD 2.6349 as noted above.

Very truly yours,

Alvin A. Takeshita
Highways Administrator

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Mr. Alvin A. Takeshita
Highways Administrator
Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Takeshita:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your Draft EA comment letter dated February 14, 2014. We note that Hawaii DOT will review the DEA and send any comments directly to the County of Kauai, Department of Public Works.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

PHONE (808) 594-1888

FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
737 IWILEI ROAD, SUITE 200
HONOLULU, HAWAI'I 96817

HDR14-0093K

March 3, 2014

County of Kaua'i, Department of Public Works
Mr. Douglas Haigh
Chief Building Division
4444 Rice Street, Suite 175
Līhu'e, HI 96766

Re: Request for comments on the Draft Environmental Assessment (DEA) for the Lydgate Park-Kapa'a Bike/Pedestrian Path, Phases C & D.

Dear Mr. Haigh:

The Office of Hawaiian Affairs (OHA) is in receipt of your January 22, 2014 letter requesting comments on the Draft Environmental Assessment for the Lydgate Park-Kapa'a Bike/Pedestrian Path, Phases C & D. The purpose of the project is to provide a bike and pedestrian path that is safer and more accessible than the existing assemblage of highway, local roads, and informal trails. Phases C & D close a gap in the recently constructed shared use paths (Phases A & B). The shared use path is to ensure lateral coastal access to the public and appropriate recreational development within the beach reserve.

OHA appreciates the overall purpose of the project, but has serious concerns regarding Phase C & D, as the pathway goes through the area of Waipouli. It is a historically and culturally significant area, and it is known to have a high likelihood of burials. In fact, previous projects and archaeological surveys in the area have uncovered at least 69 burials over the years, in the Makai Wailua to Waipouli area.

There are 11 documented historical properties on the State Inventory of Historic Places (SIHP) with the State Historic Preservation Division, of which nine are burials. Of those burials, two sites were discovered during the Archaeological Inventory Survey conducted for this project.

Of the 11 SIHP sites, Cultural Surveys Hawaii determined that six sites will have no adverse effect *with mitigation*, while the project will have no effect on the remaining five sites. Of the six sites that will be affected, five are burials. The County has made efforts to realign the pathway in order to avoid all known burial sites. However, there is high likelihood that more will be discovered, as shown from the above numbers, and the very nature of the area. The County has stated that "excavation requirements will be relatively shallow – the path itself typically involves excavation to a maximum of one foot." OHA would like to emphasize that excavating only one foot does not preclude the discovery of burials, especially when dealing with sand dunes in a heavily eroding area. OHA is aware that an archaeological monitor will be present during all levels of excavation as part of the mitigation plan. However, OHA would like to stress the importance of the monitor, and the execution of a burial treatment plan, because of the high likelihood of inadvertent discoveries.

Lastly, OHA concurs with the State of Hawai'i Department of Land and Natural Resources Office of Conservation and Coastal Lands' letter of August 1, 2011. They expressed concerns regarding the effect rising sea levels and beach erosion will have on the project. The coastline shows heavy erosion and accretion in varied locations of over a foot per year. OHA further agrees that the pathway should be constructed as far mauka as possible due to the high fluctuation of the coastline, and that all sand displaced during construction should be placed on the makai face of the frontal dune.

Thank you for continuing the opportunity to comment on this project. Should you have any questions, please contact Jeannin Jeremiah at 594-1790 or by email at jeanninj@oha.org.

'O wau iho nō,

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KMC;jj

C: Kimura International, Inc.
OHA Trustee Dan Ahuna
OHA Kaua'i Community Outreach Coordinator

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Mr. Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer
Office of Hawaiian Affairs
State of Hawaii
737 Iwilei Road, Suite 200
Honolulu, HI 96817

Ref: HDR14-0093K

Dear Dr. Crabbe:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your letter dated March 7, 2014 regarding this project. We note your concern regarding the likelihood of discovering more burials within the path corridor and the importance of having an archaeological monitor and a burial treatment plan. Over the course of 18 months, we convened a Section 106, National Historical Preservation Act consultation process with Native Hawaiian Organizations (NHO) and the public. The outcome was a "no adverse effect determination" by the Federal Highways Administration, which was conditioned on a long list of mitigation measures that were described in the DEA. Ms. Kaliko Santos of OHA's Kauai office was an active participant and provided excellent guidance throughout the process.

The mitigation commitments acknowledge the high potential for encountering burials, emphasize the need for a knowledgeable on-site archaeological monitor, and the importance of involving State Historic Preservation Division and the Kauai/Niihau Island Burial Council in determining the respectful treatment of any inadvertent discoveries.

Regarding concerns over rising sea levels and beach erosion, the county has made a commitment to locate the path as far mauka as feasibly possible.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Kapa'a Missionary Church
loving God, living aloha

January 29, 2014

RECEIVED JAN 31 2014

County of Kaua'i
Department of Public Works
4444 Rice Street, Suite 175
Lihu'e, HI 96766
Attention: Mr. Douglas Haigh, Chief, Building Division

Dear Mr. Haigh:

We received a letter with the proposed bike and pedestrian path through Waipouli connecting Lydgate to the existing Kapa'a path.

We would like to comment on the Phase C portion of the path. According to the proposal the "Build Alternative" will run on Kuhio Highway. Therefore, we do not agree with that proposal.

Recently, there seems to be an increase in bicycle and pedestrian traffic on Kuhio Highway in front of the Kapaa Missionary Church. It is more difficult to turn in to the church property from Kuhio Highway with this increased traffic. We believe that placing the path on Kuhio Highway will increase traffic and pose serious safety hazards for our attendees, those using the path and to the other businesses that the path on Kuhio Highway would run past.

We humbly ask that you seriously consider our concerns and place the path along the canal and behind the Village Manor (Proposed Additional Alignment).

Sincerely,

Reverend Jed Young

Reverend Jed Young
Senior Pastor, Kapaa Missionary Church

cc: Kimura International, Inc.

4-758 Kuhio Hwy. • Kapa'a, Kauai, HAWAII 96746 • Phone: (808) 822-5594
e-mail: office@kapaamissionary.com

COPY

Kapa'a Missionary Church

loving God, living aloha

February 18, 2014

RECEIVED FEB 21 2014

County of Kaua'i
Department of Public Works
4444 Rice Street, Suite 175
Lihu'e, HI 96766
Attention: Mr. Douglas Haigh, Chief, Building Division

RE: The proposed bike and pedestrian path through Waipouli connecting Lydgate to the existing Kapa'a path – Phase C

Dear Mr. Haigh:

Attached is a list of names and signatures of people who do not want the "Build Alternative" (2007 FEA) route approved for Phase C.

These people are attendees of Kapaa Missionary Church who make turns from Kuhio Highway onto the Kapaa Misionary Church property on a regular basis. They are very concerned with the potentially higher risk of an accident if there are bicyclists and pedestrians constantly crossing the driveway entrance.

We would like to see the path run along the canal and behind the Village Manor (Proposed Additional Alignment). This is a much safer route for users of the path and a much nicer one as well. We request that the County of Kauai not allow the bike and pedestrian path to run on Kuhio Highway.

Respectfully submitted,

Kapaa Missionary Church Elders' Board

cc: Kimura International, Inc.

4-758 Kuhio Hwy. • Kapaa, Kauai, HAWAII 96746 • Phone: (808) 822-5594
e-mail: office@kapaamissionary.com

To the County of Kauai:

We are attendees and/or supporters of the Kapaa Missionary Church. We agree with KMC that the Phase C "Build Alternative (2007 FEA)" route for the Bike/Pedestrian Path is not safe or reasonable (where it would run on Kuhio Hwy). Please approve the "Proposed Additional Alignment" which will have the path go past the Uhelekawawa Canal and behind the Village Manor condominiums.

NAME (Print First & Last)	SIGNATURE
Caroline O Kasako	
Linda L. Kelekoma	
Merle Spence	
Veronica Cook	
Sumiko I. Kondo	
PATRICIA L. SIMPSON	
Sophie Fujimoja	
Helene K. Yamagata	
Deborah Byrnes	
Joseph + DENBEAU	
MARK E. HORST	
Jessie Muraman	
Sandy Takaezu	
Joseph V. CHURINO Jr	
EDWARD KA'AHEA	
Donna Whitaker	
PJ Medeiros	
KATHLEEN WOODWARD	
Kea Kayealu	
Tara Purzal	

To the County of Kauai:

We are attendees and/or supporters of the Kapaa Missionary Church. We agree with KMC that the Phase C "Build Alternative (2007 FEA)" route for the Bike/Pedestrian Path is not safe or reasonable (where it would run on Kuhio Hwy). Please approve the "Proposed Additional Alignment" which will have the path go past the Uhelekawawa Canal and behind the Village Manor condominiums.

NAME (Print First & Last)	SIGNATURE
Joan N YADAO	
June Kodani Lizama	
Merna Jim	
Lani Pedro	
Anniece Sherwood	
JED Young	
VELVIA L LAI	
Judi Young	
Stephanie Cursaba	
Carol Moriguchi	
MYRON JIM	
JEFFREY ANNIS	
Janice S. Bond	
RON KADEY	
John Stem	
Natasha Tracho	
Alyce L. Price	
Kathleen Young	
ARNOLD MORALES	
Rebeka Morales	

To the County of Kauai:

We are attendees and/or supporters of the Kapaa Missionary Church. We agree with KMC that the Phase C "Build Alternative (2007 FEA)" route for the Bike/Pedestrian Path is not safe or reasonable (where it would run on Kuhio Hwy). Please approve the "Proposed Additional Alignment" which will have the path go past the Uhelekawawa Canal and behind the Village Manor condominiums.

NAME (Print First & Last)	SIGNATURE
Gene Moriguchi	
Stacie T Victorino	

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Reverend Jed Young
Kapaa Missionary Church
4-758 Kuhio Highway
Kapaa, Kauai, Hawaii 96746

Dear Reverend Young:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your letter dated January 29, 2014 and the follow on letter dated February 18, 2014 regarding this project. We note your concern as well as members of your congregation regarding the alternative alignment that runs along Kuhio Highway and the preference for the alternative that goes between the Village Manor Apartments and along Uhelekawawa Canal.

Thank you also for attending the public meeting and voicing your concerns.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

RECEIVED FEB 12 2014

COPY

P. O. Box 81 :: Lihue, HI 96766
phone 808.639.1018 :: fax 808.822.5075
www.KauaiPath.org
news@kauaipath.org

a registered 501 (C) 3 non-profit

February 10, 2014

County of Kaua'i
Department of Public Works
4444 Rice Street, Suite 175
Līhu'e, HI 96766
Attn. Mr. Douglas Haigh, Chief, Building Division

Subject: **Lydgate Park-Kapa'a Bike/Pedestrian Path, Phases C & D (Waipouli Connection) Draft Environmental Assessment (343 HRS)**

Aloha Mr. Haigh,

Mahalo for the opportunity to comment on the Lydgate Park-Kapa'a Bike/Pedestrian Path, Phases C & D (Waipouli Connection) Draft Environmental Assessment ("DEA").

Kauai Path Inc.'s board of directors firmly and unanimously supports the near-term construction of new path and supporting amenities as described in the above referenced DEA. This segment will complete the connection between the first two Phases of Ke Ala Hele Makalae, resulting in a contiguous coastal green belt system that links the island's primary residential area to the region's most popular park.

There are multiple benefits to expeditiously completing this connection. Most importantly, Hawaii is engaged in battling the obesity epidemic. An attractive facility sited along the waterfront like Ke Ala Hele Makalae rewards active lifestyles and is a proven contributor to improved fitness and health. People who will use the path for transportation relieve motor vehicle traffic in this congested corridor. The economic boost experienced by local businesses is a thoroughly documented result from such an investment in active transportation.

This coastal path alignment has been extensively reviewed and should be transformed into pathway enjoying the shoreline for the general benefit without delay. Any recommendation that the path be relocated away from the shore, moved further inland, or aligned beside Kuhio Highway should be respectfully declined since those alternatives have previously been thoughtfully considered and rejected. Using public lands for the path to follow the coast will result in the best, most attractive facility that will most profoundly benefit the largest number of Kauai residents.

Sincerely,

Tommy A. Noyes
Secretary, Kauai Path Inc. board of directors

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Tommy A. Noyes
Secretary, Kauai Path Board of Directors
P.O. Box 81
Lihue, Kauai, Hawaii 96766

Dear Tommy Noyes:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your letter dated February 10, 2014 supporting this project. The points you make regarding the path's benefits that promote active lifestyles, improved fitness and health, a useful transportation alternative that reduces traffic congestion and the economic boost to our local economy are noted. We further acknowledge your support for the coastal path alignment away from Kuhio Highway.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

SIERRA CLUB OF HAWAI'I
KAUA'I GROUP

MALAMA I KA HONUA
Cherish the Earth

February 21, 2014

Meesa T. Otani
Environmental Engineer
U.S. Department of Transportation, Federal Highways Admin.
300 Ala Moana Blvd., Room 3-306
Honolulu, HI 96850

VIA EMAIL: meesa.otani@dot.gov

Dear Ms. Otani:

RE: NHPA Section 106 Determination for Lydgate Park-Kapa'a Bike/Pedestrian Path, Phases C&D (Waipouli) TMK 4-3-001, 002 and 007. [FHWA Letter to William Aila/DLNR, Nov. 26, 2013]

In followup to our phone conversation yesterday and at your suggestion, the Sierra Club of Hawai'i Kaua`i Group is writing to express concern about the inaccurate conclusions drawn from our testimony (both written and verbal) during the Section 106 Consultation meetings.

In the FHWA letter referenced above, on page 10, first paragraph, Footpath through Ironwoods (TMK: 4-3-007:027) it references Sierra Club's April 4, 2012 letter (to Mr. Glenn M. Okimoto, Director, Hawai'i DOT) and my comments at public meetings #4 and #5. However, that paragraph only cites the TMK for Coconut Plantation, and omits TMK 4-3-02:15 & 16 for the Coconut Beach Development parcel. Similarly, Cultural Surveys Hawaii commented only on the northern most parcel (Coconut Plantation). Our testimony was inclusive of both undeveloped resort parcels which have existing footpaths through mature Ironwood trees.

As you know, our Sierra Club April 2012 letter showed photographs of ocean debris washed up and over the footpath through the ironwoods, adjacent to Coconut Beach Development property, indicating that these trees are located on the public beach. Therefore, jurisdiction over the future disposition of the ironwoods does not rest solely with the developer.

On page 10, paragraph 2, last sentence, FHWA's letter states: "To the extent feasible, the bike/pedestrian will seek to incorporate the existing footpath." When this letter was presented at Meeting #5, you may recall my shock, concern and strong comments about this statement. Whereas Sierra Club testimony focused on preserving the footpaths and trees and locating the Path mauka, this statement indicates that the footpath will be replaced with a 12-ft wide cement multi-use path.

On pages 11-12, in the chart called **Summary of Site Specific Mitigation Measures**, for TMK 4-3-007:027 (Coconut Plantation) it states: "Path to follow the existing footpath where feasible". Again, this statement is absolutely contrary to our testimony. We proposed that these mature trees remain as a buffer between the shoreline/beach and the proposed Path and the undeveloped resort properties. This would allow beach users, fishers, and traditional cultural practitioners, to be left moderately undisturbed by Path activities and able to celebrate the quiet enjoyment of this beautiful coastline.

Furthermore, the Coconut Beach Development property has a non-buildable, 100-foot Open District designation along the coastline, allowing the county to establish the shoreline setback for the Path, mauka of these trees, without needing a Variance Permit.

I hope you will agree to take corrective action to clarify these inadvertent mischaracterizations in the FHWA's 2013 letter to William Aila. And, we would also appreciate if your assessment could be submitted for the record for the Draft Environmental Assessment, which also published your FHWA letter.

In creating the Multi-use Path, it is important that the coastal environment be left unchanged to the greatest degree possible to preserve the shoreline and natural beach processes, historic properties, views, the natural landscape, and traditional and cultural subsistence and recreational activities.

Sincerely,

Rayne Regush

Rayne Regush
Sierra Club of Hawaii, Kaua`i Group Executive Committee

Footpath through Ironwood trees in TMK 4-3-02:15 & 16 - Coconut Beach Development.
Looking south; ocean on the left.

WAILUA - KAPA'A
NEIGHBORHOOD
ASSOCIATION

February 22, 2014

(VIA EMAIL: dhaigh@kauai.gov &
lkurisaki@kimurainternational.com)

Doug Haigh, Chief Building Division
County of Kaua'i, Public Works Department
4444 Rice Street, Suite 175
Lihu'e, HI 96766

RE: Draft EA for Bike/Pedestrian Path Phase C & D - Waipouli

Aloha Mr. Haigh:

As stated in the DEA, the County will be seeking Shoreline Setback Variances (SSV), and we are writing to object to any variances along the coastline fronting the undeveloped resort parcels owned by Coconut Beach Development (TMK 4-3-002:015 and 016) and Coconut Plantation (TMK 4-3-007:007).

Shoreline setbacks serve a real and critical purpose in protecting our beaches, our recreational ocean access, our coastal wildlife, and even our coastal developments. It is in no one's interests to compromise that protection with variances, for any reason.

The DEA inappropriately takes the position that these currently undeveloped resort parcels referenced above will be built simply because they were granted permits. But this is not a given, and the expiration dates of these County SMA Use Permits need to be included in the DEA. Furthermore, Coconut Beach Development cannot build within the 100-foot Open District and therefore a shoreline setback without a variance is available for siting the Path.

The Path should not be located within the shoreline setback through these two parcels, it must be aligned landward of the setback, based on current Certified Shorelines, otherwise negative impacts will occur. It will:

1) impede recreational use of the public beach which is based on the high water mark where evidence of the high wash of the waves is known to exceed the pre-existing foot paths through the Ironwoods;
2) eliminate a mature stand of Ironwood trees that provide shade and beauty, and whose roots secure the coastal berm protecting the land/beach seam, and the back-beach dunes;
3) thwart the haul-out activities of the endangered Hawaiian monk seal and threatened green sea turtles and other flora/fauna active here, and hinder birdwatchers and those who enjoy observing wildlife;
4) constrict yet another traditional and well-used fishing and diving beach down to a mere ribbon of land between resort traffic, a "bicycle freeway" and the sea; and
5) infringe on cultural and social traditions within the coastal environment.

Hawaii's long-established, environmentally proven, and legally sound shoreline protections should not be side-stepped with variance permits, setting the bar for future development variance requests at a new low.

Coastal lands on Kaua`i are perhaps our most mutable and therefore precious asset. We request that the County not seek a SSV for the above referenced TMKs. Thank you for your serious consideration of this matter.

Sid Jackson, Secretary
On behalf of the W-KNA Board of Directors

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Sid Jackson
Secretary, W-KNA Board of Directors
340 Aina Uka Street
Kapaa, Hawaii 96746

Dear Mr. Jackson:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your letter dated February 22, 2014 regarding this project. We would like to clarify that the County would request a Shoreline Setback Variance only if sufficient land is unavailable along the coast. You are correct in that the undeveloped resort properties will not require a shoreline setback variance because of the required 100-foot shoreline setback conditioned on their SMA permit. For the other, already developed parcels, the next phase of the project will give us detailed topographic surveys with metes and bounds for properties, a certified shoreline survey and shoreline setback determination from which we can more precisely locate the path. As stated in our public meeting, our intent is to locate the path as far mauka from the shoreline as possible.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

SIERRA CLUB OF HAWAI'I
KAUA'I GROUP

MALAMA I KA HONUA
Cherish the Earth

February 24, 2014

VIA EMAIL: dhaigh@kauai.gov &
lkurisaki@kimurainternational.com

County of Kaua'i
Department of Public Works
4444 Rice Street, Suite 175
Līhu'e, HI 96766
Attn. Mr. Douglas Haigh, Chief, Building Division

RE: Lydgate Park-Kapa'a Bike/Pedestrian Path, Phases C&D (Waipouli Connection) Draft Environmental Assessment Comments

The Kaua'i Group of the Sierra Club Hawai'i Chapter would like to provide comments about the above referenced Draft Environmental Assessment (DEA) for the proposed multi-use path (Path) along the Waipouli coast of East Kaua'i and have our questions and concerns addressed.

Foremost, we request that Sierra Club be consulted during the design phase, and particularly for the coastal portions adjacent to two large undeveloped resorts parcels: TMK 4-3-002:015 and 016 (Coconut Beach Development) and TMK 4-3-007:027 (Coconut Plantation). Since the DEA states that the actual siting of the path will occur during the design phase, will you include Sierra Club representatives in the design phase review process?

When deciding the Path's alignment, it is important that the coastal environment be left unchanged to the greatest degree possible to preserve the shoreline and natural beach processes, the mauka and makai views, the mature trees along the coastline, and to ensure there is no infringement on traditional and cultural subsistence and recreational activities.

According to the DEA, "because of FHWA project funding policies, detailed project design is not allowed prior to completion of the EA." Due to the DEA presenting a generalized alignment, it is possible that potential adverse environmental, cultural and historic impacts have not been accurately ascertained. Therefore, we would appreciate the opportunity to remain involved through the design phase which will address the critical issue of locating the Path's alignment.

Omissions and Corrections

Although Sierra Club's April 5, 2012 letter to DOT Director Glenn Okimoto RE: National Historic Preservation Act, Section 106 Consultation - Lydgate Park to Kapa'a Bike/Pedestrian Path Phases C&D - Federal Aid Project CMAQ-0700(49) is reprinted in the DEA, two recommendations in that letter were addressed marginally in the DEA:

- Identification on the maps of the existing footpaths; and
- Identification on the maps of the locations of the current certified shoreline and all previous certified shorelines.

On page 3-39, Figure 12, **Historical and Cultural Mitigations,** the notation for the Coconut Plantation parcel says**:** "Locate path along existing footpath (subject to shoreline setback)". However, the photos on Page 2-11, Photos 9 & 10 show how close that existing footpath is to the ocean. Therefore, we strongly object to the DEA conclusion "to the extent feasible, the bike/pedestrian path will seek to incorporate the existing footpath." The footpath should remain intact and the Path needs to be sited landward of it.

Related to Significance Criteria: On Page 5-3 Item 4 - 4. **Substantially affects the economic welfare or social welfare of the community or state.** The term "cultural practices" has been omitted. Hawaii Administrative Rules Statute §11-200-12 Significance Criteria Item 4 reads: "Substantially affects the economic welfare, social welfare, and cultural practices of the community or State." [However, we do know that Appendix D is Cultural Surveys Hawai`i's "Cultural Impact Assessment".]

Page 8-11 Chart – Pre-Assessment Comments Received.
In the "Response" column it states: "Future disposition of the ironwood trees is at the discretion of the landowner". This statement is not entirely accurate -- the public beach extends to where the high wash of the waves reaches and goes beyond these trees, as evidenced since 2005.

Significance Criteria §11-200-12 B. 11 - Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters. However, the response to this criterion on page 5-5 states: "This project is located in the tsunami inundation zone; however, no occupied structures are proposed." Question: Why wouldn't the Path be considered a structure that can be significantly damaged due to high water events if positioned too close to the ocean?

Shoreline Setback Variance (SSV)

The DEA does not identify the locations for which the County intends to seek a Shoreline Setback Variance. QUESTION: Will the variance be for Phase C&D in its entirety, or for particular areas such as the reconstruction of existing paved sidewalk along the makai frontage of some properties? Please cite those locations with insufficient setbacks from the shoreline, with TMK numbers prior to the Final EA.

A Shoreline Setback Variance can undermine Coastal Zone Management protections. QUESTION: Without knowing the Path's specific alignment, how can the DEA justify that the Path is in compliance with the following beach protections?

Page 4-3 regarding Coastal Land Policies:
2. When developing public facilities or granting zoning, land use permits, or subdivision for development along the coast, the first priority shall be to preserve and protect sandy beaches.

(a) Strips of land along the shoreline... in the County Open zoning district are intended to serve as a buffer from coastal erosion. Structures should be sited inland of these coastal buffers on lands that are appropriately zoned.
(b) When development is proposed along a sandy beach, hazards of long-term coastal erosion should be assessed and used to determine appropriate setbacks.

Page 4-4. E. Open Lands Policies - Item 3. Lands designated Open shall remain predominantly free of development involving buildings, paving and other construction.

Coastal Erosion

QUESTION: What are the shoreline **erosion rates** along the coastal corridor of Phase C&D? What are the erosion rates in the areas with concentrated cultural deposits? Please provide pertinent coastal erosion maps that were to be developed and used as a basis for the new shoreline setback requirements of Ordinance 863. Coastal erosion data is intended to be incorporated during the earliest stages of development and therefore should be included in the DEA.

According to page 3-3 in the DEA, the path is proposed for construction on berms to avoid excavation in areas with **concentrated cultural deposits**. These areas measure approximately 270 feet in length (across TMK: 4-3-002: 016) and 190 feet (across TMK: 4-3-007: 027). At a height of 1.5 feet, the berms would require an estimated 700 cubic yards of fill material. Certainly these cultural deposits must be avoided, however, placing fill in close proximity to active beach processes can have negative impacts as well. Please address this dilemma.

On page 3-5 in the last paragraph it states: "The lawn areas located landward of the beach crest are typically at an elevation of about 9 feet MSL and the bike route is about 110 feet from the water line." QUESTION: is the water line the certified shoreline? Is it the high water mark at high tide? Please clarify. Although it's stated on page 3-7 that: "In the coastal section, the preliminary path alignment is landward of the tree line and damage to the path due to beach erosion is not expected," isn't it possible that a SSV could result in precisely this unintended consequence?

Some facilities which are publically owned (such as the Multi-use Path), and result in no interference with the natural beach may be a permitted structure **within** the Shoreline Setback Area. QUESTION: If the Path is intended to be constructed within the setback, rather than landward of the setback, how will you demonstrate it won't interfere with coastal processes?

On page 4-8, Figure 18 shows a **Conceptual Layout of a Portion of Project Area Relative to 40-Foot Shoreline Setback**. Although "this drawing is indicative only and subject to change, it shows how the various features are likely to relate to each other" we find Figure 18 very helpful. QUESTION: Can additional illustrations like this be prepared for all portions of the Path corridor, prior to the FEA?

According to the SMA Permit for Coconut Beach Development resort, "The coast line fronting the property is also designated as an Open District with a depth of 100 feet inland from the certified shoreline" and that "No buildings are proposed within the Open District along the shoreline". QUESTION: Does this enable the County to adhere to the shoreline setback distance, aligning the Path 40-feet landward of the certified shoreline plus 70-feet multiplied by the annual coastal erosion rate?

Biological Environment. Section 3.2.2 addressing Fauna notes: "Several avian and mammalian surveys were conducted in the Wailua-Waipouli-Kapa'a coastal corridor in the 2000s. Intensive counts for the original project corridor were taken in March 2004 (David 2004).

QUESTION: Will you please identify the species counts for the Waipouli corridor, separate from Wailua and Kapa`a in order to more accurately assess possible impacts for Phase C&D. We've frequently observed the indigenous Frigatebird or 'iwa, for example, flying close-in and low along the coastal area populated with ironwood trees, and wonder whether this is more common in Waipouli.

As noted on page 3-15, the National Marine Fisheries Service (NMFS) proposes revising the current critical habitat for the Hawaiian monk seal by extending the current terrestrial habitat 5 meters (approximately 16.4 feet) from the shoreline. From this fact, we conclude the importance of siting the Path no less than the 40-foot shoreline setback requirement to keep as large a buffer as possible between Path activities and seal and threatened green sea turtle habitat. The goal is to not discourage these haul-outs, and so the best mitigation is avoidance.

Page 3-16 states that "users who stay on the path itself are highly unlikely to encounter a hauled out seal since the path is on the elevated flat land above the beach." We'd like to point out this is not consistently true because the beach elevation changes so dramatically and can align with inland elevations, allowing the seals a direct line of sight to human activities.

QUESTION: Is the grove of existing mature coconut palms on TMK 4-3-007:027 (Coconut Plantation) recognized and protected by the Kauai County Exceptional Tree Ordinance and if so, please describe how the Path will impact these trees and what mitigation efforts will be proposed.

In the Flora section on Page 3-13, it references the "thin line of ironwood trees (Casuarina equisetifolia) ... found along the seaward side of the undeveloped parcels." These trees are located on the back beach area where, from time to time, the high tide reaches. Therefore, these trees are part of the public beach. Their root system holds the berm and mitigates beach erosion, they minimize adverse impacts on public views from and along the shoreline, and they can serve as a buffer between the Path activities and beach activities.

Foot path through the Ironwood Trees

Referring to the photographs of the undeveloped resort parcels (Page 2-9 Photos 5 & 6, and Page 2-11 Photos 9 & 10) and based on periodic evidence of the high wash of the waves in this location, the mature

ironwood trees along the shore are within the active beach corridor. This means that the tree's future disposition is not solely in the hands of the landowner.

The existing foot path through the Ironwood trees on TKM 4-3-002:015 and 016 are a distinct feature enjoyed by those who walk along this coastline and their preservation are important to many Sierra Club members. Two photographs of the footpath through the trees are inserted on the last page of this letter for the record.

Appendix B - Effect Determination - Section 106, National Historic Preservation Act Letter from Federal Highway Administration to State Historic Preservation Officer - November 26, 2013.

As you are aware, I attended the December 12, 2013 final Section 106 meeting where this letter was presented. I clearly pointed out the misrepresentation on page 3 of Sierra Club's Section 106 comments taken from our April 2012 letter to Mr. Okimoto, State DOT Director. Having noted these errors at the meeting, but seeing that they were negligibly addressed in the DEA, please find attached Sierra Club's February 21, 2014 letter to Meesa T. Otani, U. S. Dept. of Transportation, Federal Highways Administration.

Closing Statement.

We agree that the path does promote a healthy lifestyle, but where it is located along the coastline, must not diminish the public benefits derived from preserving the natural environment, protecting cultural assets and endangered/threatened species, and recreational and subsistence activities of seashore users. We look forward to having our questions and concerns addressed.

Sincerely,

Rayne Regush

Rayne Regush
on behalf of the Kaua`i Group Executive Committee
Sierra Club of Hawai`i

Encl. Letter to Meesa T. Otani, FHWA, Feb. 21, 2014

Footpath through Ironwood trees in TMK 4-3-002:015, looking south; ocean on left side.

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

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TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Rayne Regush
on behalf of the Kauai Group Executive Committee
Sierra Club of Hawaii
P.O. Box 3412
Lihue, Hawaii 96766

Dear Ms. Regush:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your letter dated February 24, 2014 regarding this project. The following are responses to the questions in your letter. Your other comments are acknowledged.

1. Will you include the Sierra Club representatives in the design phase review process?
Response: There will be public meetings during the design phase of the project and the Sierra Club representatives are invited to attend.

2. Page 3-39, Fig. 12. Strongly object to the DEA conclusion "to the extent feasible, the bike/pedestrian path will seek to incorporate the existing footpath".
Response: The map label will be corrected to say "locate path as far mauka as feasible".

3. Page 5-3, item 4-4, related to significance criteria.
Response: Omission regarding cultural practices noted and will be corrected.

4. Significance Criteria §11-200-12 B.11. Why wouldn't the Path be considered a structure that can be significantly damaged due to high water events if positioned too close to the ocean?
Response: a path is neither an "occupied" structure nor a structure as defined by the Kauai County Flood Plain Management Ordinance.

5. Shoreline Setback Variance (SSV). Will the variance be for Phase C & D in its entirety, or for particular areas such as the reconstruction of existing paved sidewalk along the makai frontage of some properties?

Response: Until we enter the next phase which will require a topographic survey map with property lines plotted, certified shoreline and shoreline setback determination, the precise locations cannot be determined.

6. Shoreline Setback Variance (SSV) can undermine Coastal Zone Management protections. Without knowing the Path's specific alignment, how can the DEA justify that the Path is in compliance with beach protection policies?
   Response: Compliance with beach protections will be finalized during the SMA compliance process.

7. Page 4-4. E. Open Land Policies – Item 3. Lands designated Open shall remain predominantly free of development involving buildings, paving and other construction.
   Response: A public facility such as a multi-use path is expressly permitted in the open zone.

8. Coastal Erosion: What are the shoreline erosion rates along the coastal corridor of Phase C & D? What are the erosion rates in the areas with concentrated cultural deposits?
   Response: Coastal erosion rates will be addressed during the SMA compliance process.

9. Page 3-3, the path is proposed for construction on berms to avoid excavation in areas with concentrated cultural deposits.
   Response: Any fill will be with appropriate material and will be addressed during the SMA compliance process.

10. Page 3-5, Is the water line the certified shoreline? Is it the high water mark at high tide? Is it possible that a SSV could result in precisely this unintended consequence?
    Response: The water line in the diagram is not the certified shoreline. The high water mark is at high tide. The SSV issue will be addressed during the SMA compliance process.

11. If the path is intended to be constructed within the setback, rather than landward of the setback, how will you demonstrate it won't interfere with coastal processes?
    Response: Impacts to the coastal processes will be addressed during the SMA compliance process.

12. Page 4-8, Figure 18. Can additional illustrations like this be prepared for all portions of the Path corridor, prior to the FEA?
    Response: Similar maps will be provided during the SMA compliance process.

13. Regarding the SMA Permit for the Coconut Beach Development resort, does this enable the County to adhere to the shoreline setback distance, aligning the Path 40- feet landward of the shoreline setback distance, aligning the Path 40-feet landward of the certified shoreline plus 70-feet multiplied by the annual coastal erosion rate?
    Response: This issue will be addressed during the SMA compliance process.

14. Biological environment, Section 3.2.2, will you please identify the species counts for the Waipouli corridor, separate from Wailua and Kapaa in order to more accurately assess possible impacts for Phase C & D?
Response: The avian makeup of the Waipouli, Wailua and Kapaa is the same. Any species recorded within any of these three areas can be expected to be found at least occasionally in the other two sites. Birds are mobile creatures and use resources as they occur on a seasonal and opportunistic fashion. There is no significant difference in the avifauna within the three areas.

    Great Frigatebirds can be expected to be seen on an occasional basis anywhere along the coastline of Kauai and there is nothing special or significantly different from a frigate birds point of view about any of the sections within Phases C & D. Frigatebirds do not nest and rarely if ever roost within the greater Kapaa area. The proposed bike/pedestrian path will not result in deleterious impacts to this or other seabird species.

15. Is the grove of existing mature coconut palms on TMK 4-3-007:027 (Coconut Plantation) recognized and protected by the Kauai County Exceptional Tree Ordinance and if so, please describe how the Path will impact these trees and what mitigation efforts will be proposed.
Response: The grove of mature coconut trees are identified by Exceptional Tree No. K-12-Coconut Grove (otherwise known as *Niu*, Coconut-palm or *Cocos nucifera*) and whose location is described as "The grove extends both makai and mauka of Highway 56 (Kuhio Highway) at Waipouli; TMK 4-4-6-2, 4-3-7-27, 28 and 29). The coconut trees on parcel 27 are on the exceptional tree list and appear to be concentrated as a grove of a former coconut plantation. The grove does not extend to the shoreline and there does not appear to be any coconut trees where the path will be aligned. However, if a coconut tree is found within the proposed alignment, the Count Arborist Committee will be consulted as to measures to replace or avoid any such tree.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Doug Haigh
Sent: Friday, January 24, 2014 9:50 AM
To: Glenn T. Kimura (glennk@kimurainternational.com); Leslie Kurisaki (lkurisaki@kimurainternational.com)
Subject: FW: Bike Path Direction Kapaa Kauai

FYI

From: Mary [mailto:mary.ransbury@gmail.com]
Sent: Thursday, January 23, 2014 6:49 PM
To: Larry Dill; Doug Haigh
Cc: boards.and.commissions@hawaii.gov
Subject: Bike Path Direction Kapaa Kauai

Aloha Larry and Doug

I am taking this opportunity to reach out to you to voice my concern of the current direction of the bike path? I am asking that you all please reconsider the direction of the path to run between the coconut market place and islander vs directly in front of the islander. The reason is it would be the natural course that you currently have. I am unclear to the reasoning of why but all I can advise you on is that you have only heard from two individuals at islander 1. Scott Valor who has his unit up for sale and does not represent the islander owners who would be impacted by the path and 2. Bruce who is absolutely not the owners voice.

I own at Kailani and I own at Kapaa Sands and neither of these properties have the bike path in front? So why would you direct the path to run in front of the islander except you have been misinformed as we owners would like for you to reconsider the current direction and flow.

The coconut market place needs patrons and visibility? This would be a great opportunity to help all those shops who have struggled.

Regards
Mary Ransbury
Islander on the beach owner

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

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March 14, 2014

Mary Ransbury
email: mary.ransbury@gmail.com

Dear Ms. Ransbury:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated January 24, 2014 regarding this project. We note that your preference is to have the path run between the Coconut Marketplace and Islander on the Beach instead of directly in front (assume you mean makai or shoreside?) of the Islander. We considered an alternative that ran along Aleka Loop, but this alternative was dismissed because Aleka Loop is a privately owned roadway. The County owns a beach reserve makai of Islander on the Beach and a beach access that runs between Islander on the Beach and Kauai Sands from the shoreline to Papaloa Road.

Because the path runs along the parking lot of the Coconut Marketplace, users of the path will have opportunities to patronize shops there when these phases are completed.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Doug Haigh
Sent: Friday, January 24, 2014 10:06 AM
To: KrellersGetaway; Larry Dill
Cc: Glenn T. Kimura (glennk@kimurainternational.com); Leslie Kurisaki (lkurisaki@kimurainternational.com); Dawn Olsen <dolsen1071@aol.com> (dolsen1071@aol.com)
Subject: RE: Bike path at the Islander on the Beach

You are welcome to attend the next public meeting on February 19th at Kapa'a Middle School cafeteria from 6:00-8:00 PM to learn more about the project and express your concerns.

You can find a copy of the draft EA at Kapa'a Library or download it from the web site of the State Office of Environmental Quality Control -http://oeqc.doh.hawaii.gov/Shared%20Documents/Environmental_Notice/current_issue.pdf.

From: KrellersGetaway [mailto:krellersgetaway@gmail.com]
Sent: Thursday, January 23, 2014 11:28 AM
To: Larry Dill; Doug Haigh
Subject: Bike path at the Islander on the Beach

Aloha Larry and Doug,

We own three units at the Islander on the Beach project, only one is direct ocean front. We are think of selling one, if interested. Ha!

However, we strongly urge you to consider the route out by the road in front of the Coconut Market Place (vs in front of the Islander complex) for the following reasons:

1) There could be some serious drainage issues which could cause major damage to the ground floor units that sit direct ocean front at the Islander, as we already have drainage issues there anyhow, but to put a big path in there, the water has no place else to go!

2) Hazard to both bikers and resort guests; we have a lot of folks that go from their rooms and/or from the pool area to the beach, but having bikers zoom past could create major liability issues/injuries to both the guest and rider.

Thank you for considering an alternate route.

Blessings,

Brad and Wendy Kreller

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

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March 14, 2014

Brad and Wendy Kreller
krellersgetaway@gmail.com

Dear Mr. and Mrs. Kreller:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated January 23, 2014 regarding this project. We note that you own three units at the Islander on the Beach and urge us to consider the route out by the road in front of the Coconut Market Place instead of in front of the Islander complex. We offer the following responses to your comments:

1. There are existing drainage issues for ground floor units and the path would not allow the water to go anywhere.
   Response: Surface water runoff and drainage issues will be addressed in the next engineering design phase of the project.

2. Hazard to both bikers and resort guests.
   Response: The multi-use path will be designed according to the American Association of State Highway and Transportation Officials (AASHTO) guidelines which address safety concerns. Signage and markers will be installed to warn users of safety concerns, as needed. The multi-use path is not only designed for bicycles, but also for pedestrians and joggers of all ages that use the path for exercise and fitness.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Doug Haigh
Sent: Monday, January 27, 2014 7:53 AM
To: Gregg and Debbie Gray
Cc: Larry Dill; Glenn T. Kimura (glennk@kimurainternational.com); Leslie Kurisaki (lkurisaki@kimurainternational.com); Dawn Olsen <dolsen1071@aol.com> (dolsen1071@aol.com)
Subject: RE: bike path spur d

You are welcome to attend the next public meeting on February 19th at Kapa'a Middle School cafeteria from 6:00-8:00 PM to learn more about the project and express your concerns.

You can find a copy of the draft EA at Kapa'a Library or download it from the web site of the State Office of Environmental Quality Control -http://oeqc.doh.hawaii.gov/Shared%20Documents/Environmental_Notice/current_issue.pdf.

From: Gregg and Debbie Gray [mailto:tothegrayz7@aol.com]
Sent: Sunday, January 26, 2014 7:52 AM
To: Doug Haigh
Cc: Larry Dill
Subject: bike path spur d

Greetings Doug and Larry,
We are owners at Islander on the Beach and have direct ocean front units that will be greatly affected by Spur D section of bike path.

Unlike other areas that have been installed, **the grass area fronting these buildings is far too narrow to allow a busy bike lane, without endangering our constant crossing** to and from the beach in front. It feels like the bikes would be whizzing by 10 feet from where we sit on our lanai! We use this area for chaise lounges.

- **Many residents are elderly and we cross back and forth over this path all day. It is an accident waiting to happen!**
- **The huge liability to both County of Kauai and owners of Islander is avoidable by rerouting section of path to a safer area more appropriate for bikes**
- **There are existing severe drainage issues that will cost much more than anticipated to address properly**
- **I know from pedestrian accidents involving elderly in Hawaii, they do not look before stepping out! Fast moving bicycles will collide sooner or later, possibly with fatalities. Please do not install it in a much-used pathway, where the area is narrow.**

We sincerely hope you will reconsider this leg of path being rerouted behind Islander instead of across our unit's small grass area.
Thank you!

Aloha and mahalo for all you do,
Debbie Gray (Gregg and Debbie Gray, owners #351)

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
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March 14, 2014

Greg and Debbie Gray
tothegrayz7@aol.com

Dear Mr. Greg and Ms. Debbie Gray:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated January 26, 2014 regarding this project. We note that you are owners at Islander on the Beach and have direct ocean front units that will be affected by Phase D of the multi-use path and are concerned that the grass area fronting the Islander on the Beach is far too narrow to allow a busy bike lane, without endangering constant crossing to the beach. The concerns you note in your email are addressed below:

1. Many residents are elderly and cross back and forth over the existing path and is an accident waiting to happen.
   Response: The multi-use path will be designed according to the American Association of State Highway and Transportation Officials (AASHTO) guidelines which address safety concerns. Signage and markers will be installed to warn users of safety concerns, as needed. Surface water runoff and drainage issues will be addressed in the next engineering design phase of the project.

2. Liability to the County of Kauai and owners of Islander:
   Response: Liability concerns are managed by proper design of the facilities.

3. Existing severe drainage issues.
   Response: Surface water runoff and drainage issues will be addressed in the next engineering design phase of the project.

4. Pedestrian accidents involving elderly in Hawaii.
   Response: The multi-use path is designed not only for bicyclists but also for pedestrians. It will be at least 10 feet wide to allow traffic to move in both directions. Our experience on the completed phases of the path has been that bicyclists are aware of pedestrians, elderly and children and proceed cautiously.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

2/12/14
CHARLES N. BAKER
BOX 286
LAWAI, HAWAII 96765
808-639-9622

COUNTY OF KAUAI
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4444 RICE STREET, SUITE 175
LIHUE, HI. 96766

ATTN: MR. DOUGLAS HAIGH, CHIEF, BUILDING DIVISION

ALOHA MR. HAIGH,

I AM WRITING YOU IN REFERENCE TO THE BIKE PATH ROUTE PHASE C.

I AM IN POSSESSION OF THE PROJECT LOCATION MAP. MY PARTNER AND I OWN THE COMMERICAL BUILDING AT 4-734 KUHIO HIGHWAY TMK: 4-4-3-007-019. IF THE ROUTE DESIGNATED IN RED ON THE PROJECT MAP IS USED IT WOULD DESTROY OUR COMMERICAL USE BECAUSE WE JUST BARELY WERE ABLE TO PROVIDE THE REQUIRED PARKING STALLS FOR THIS LOCATION. MR. VERNON JORDON AND I ARE OWNERS OF THIS PROPERTY AND HE IS 78 AND I AM 73 AND THIS WOULD CREATE A ENORMOUS HARDSHIP ON OUR RETIREMENT. PUTTING THE ROUTE ALONG THE HIGHWAY WOULD NOT ONLY DESTROY OUR COMMERICAL ACTIVITY BUT IT WOULD PUT MY PRESENT TENANT, SNORKEL BOB'S, OUT OF BUSINESS AT THIS LOCATION. THEY HAVE BEEN MY TENANT FOR MORE THAN 10 YEARS AND HAVE ESTABLISHED THEMSELVES AT THIS LOCATION FOR RETURNING CUSTOMERS.

IN ADDITION TO THE ABOVE THE ENORMOUS DANGER OF HAVING BICYCLE RIDERS ALONG THIS SECTION OF KUHIO HIGHWAY WOULD BE INVITING AN ACCIDENT, POTENTIAL DEATHS AND LAW SUITS.

OBVIOUSLY I SUPPORT THE DOTTED GREEN LINE ROUTE AS THE BEST POSSIBLE SOLUTION TO THE ABOVE PROBLEMS.

I ATTENDED THE PREVIOUS PUBLIC MEETINGS CONCERNING THIS ROUTE CONSIDERATIONS AND MAYOR BAPTISTE PROMISED US THE ROUTE WOULD NOT GO IN FRONT OF OUR BUSINESS LOCATION.

IN ADDITION TO ALL THIS IS THE CONSIDERATION OF THE ENORMOUS ADDITIONAL EXPENSE TO THE COUNTY FOR PAYING BUSINESS PROPERTY OWNERS AFFECTED BY THE RED LINE PATH. AS A TAXPAYER I DO NOT WANT TO BE SHARING IN THIS EXPENSE EITHER.

MAHALO,

Charlie Baker

CHARLIE BAKER

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Charles N. Baker
P.O. Box 286
Lawai, Hawaii 96765

Dear Mr. Baker:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your letter dated February 12, 2014 regarding this project. We note your objection to having the multi-use path along Kuhio Highway in front of your commercial property for the many reasons you cite. We agree that this route is less than optimal given the safety issues, disruption to commercial activity, and cost to tax payers. We also note that you support the alignment that runs between the Village Manor apartments and along Uhelekawawa Canal. We will take your input into consideration and will evaluate the merits and demerits for both alternatives in the next engineering design phase.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Doug Haigh
Sent: Tuesday, February 18, 2014 9:05 AM
To: srdaunt@comcast.net; Larry Dill
Cc: Glenn T. Kimura (glennk@kimurainternational.com); Leslie Kurisaki (lkurisaki@kimurainternational.com); Larry Dill; Lenny Rapozo; Dawn Olsen
Subject: RE: Concerns with bike path route-Sean Daunt

You are welcome to attend the next public meeting on February 19th at Kapa'a Middle School cafeteria from 6:00-8:00 PM to learn more about the project and express your concerns.

You can find a copy of the draft EA at Kapa'a Library or download it from the web site of the State Office of Environmental Quality Control -http://oeqc.doh.hawaii.gov/Shared%20Documents/Environmental_Notice/current_issue.pdf.

From: srdaunt@comcast.net [mailto:srdaunt@comcast.net]
Sent: Thursday, February 13, 2014 4:59 PM
To: Larry Dill; Doug Haigh
Subject: Concerns with bike path route

Larry and Doug,

I'm an owner at Islander on the Beach and have concerns of the bike path and the proposed route. I'm an avid user of the path to Kealia Beach and truly appreciate your efforts. I believe the pathway plan is one of the best projects that the County has designed.

The problem with going in front of the Islander is the lack of space between the units, path and beach. It's just too tight an area to cross in front of the units of the Islander. I'm hoping that you can look into alternate routes.

Good luck with this project and I hope that you'll be able to move into the next phase swiftly.

Sean Daunt

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

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TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Sean Daunt
srdaunt@comcast.net

Dear Mr. Daunt:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated February 13, 2014 regarding this project. We note that you are an owner at Islander on the Beach and have concerns regarding the lack of space between the units, path and beach in front of the Islander on the Beach.

The next engineering design phase of the project will address the lack of space issue when we complete a topographic survey with property lines, certified shoreline survey and shoreline setback determination. Additional public meetings will be held after the findings of these surveys and a more precise location is determined for the multi-use path.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Doug Haigh
Sent: Tuesday, February 18, 2014 8:21 AM
To: Gary Lamouria
Cc: Glenn T. Kimura (glennk@kimurainternational.com); Leslie Kurisaki (lkurisaki@kimurainternational.com); Larry Dill; Lenny Rapozo
Subject: RE: Bike path at Islander on the Beach

You are welcome to attend the next public meeting on February 19th at Kapa'a Middle School cafeteria from 6:00-8:00 PM to learn more about the project and express your concerns.

You can find a copy of the draft EA at Kapa'a Library or download it from the web site of the State Office of Environmental Quality Control -http://oeqc.doh.hawaii.gov/Shared%20Documents/Environmental_Notice/current_issue.pdf.

From: Gary Lamouria [mailto:garylamouria@yahoo.com]
Sent: Sunday, February 16, 2014 1:51 PM
To: Doug Haigh
Subject: Bike path at Islander on the Beach

Aloha Mr. Haigh and first let me say how I appreciate being able to voice my opinion regarding the bike path construction at Islander on the Beach. I am not against bike paths, as I have enjoyed the use of bike paths in different times and different cities in my life, but I have never been on a bike path with such close proximity to private buildings and lanais. Everyone loves bike paths and properties "adjacent" to bike paths generally will increase property values, but even bike lovers will agree they don't want them steps from their doors. We may be able to phone in our security issues to the county, but what will the solution be--that we hire more security guards? That we police our own properties? Once done, I am afraid, cannot be undone.
There is so little land between our oceanfront properties now and even less where the path would curve around the Niihau and Molikai buildings, that safety issues between bikes, walkers, children, strollers, dogs (and I've seen plenty of unleased dogs), is a real concern.

I am also extremely concerned with our drainage issue and will not go into the details as Bob MacCallum has already submitted an extensive review of the drainage issue here. Also, Kevin Ornallas, has broached the county on this issue. There are other routes this bike path can take. It seems to me that the county finds drainage to be a big issue in some of them, but dismissive of the problem at the Islander. We property owners at the IOTB are already facing a hugh assessment due to problems that were mismanaged in the past and I would want to see how this issue could be fixed correctly before construction.

These are my concerns and reasons that I object to the bike path going through our properties. Mahalo for taking the time to address these issues, as it will not be possible to attend the 2/19/14 meeting--Gary Lamouria, IOTB owner

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

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County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Gary Lamouria
Islander on the Beach landowner
garylamouria@yahoo.com

Dear Mr. Lamouria:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated February 16, 2014 regarding this project. We note your appreciation for bike paths both on Kauai and different cities. Regarding your concerns as follows:

1. Regarding the proximity of the path relative to the Niihau and Molikai buildings at the Island on the Beach Resort and safety issues regarding bikers, pedestrians and dogs.
   Response: The precise location of the multi-use path will be determined in the next engineering design phase. During this phase, a topographic survey map which will indicate property boundaries, a certified shoreline survey and a shoreline setback determination will be prepared to determine the alignment for the path. The multi-use path will be designed according to the American Association of State Highway and Transportation Officials (AASHTO) guidelines which address safety concerns. Signage and markers will be installed to warn users of safety concerns, as needed.
2. There are existing drainage issues that the county dismisses.
   Response: Surface water runoff and drainage issues will be addressed in the next engineering design phase of the project.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

COMMENT SHEET

Lydgate Park-Kapa'a Bike/Pedestrian Path, Phases C & D (Waipouli Connection)
Draft Environmental Assessment (Chapter 343 HRS)

The County of Kaua'i, Department of Public Works (DPW) has completed a Draft Environmental Assessment (DEA) for a proposed bike and pedestrian path through Waipouli connecting Lydgate Park to the existing Kapa'a bike and pedestrian path. The DEA is currently undergoing a 30-day public comment period which ends on February 24, 2014. The County invites you to submit written comments on this form, or by mail/email to:

County of Kaua'i
Department of Public Works
4444 Rice Street, Suite 175
Līhu'e, HI 96766
Attn. Mr. Douglas Haigh
Chief, Building Division
dhaigh@kauai.gov

with a copy to:

Kimura International, Inc.
1600 Kapi'olani Blvd., Suite 1610
Honolulu, HI 96814
Attn. Ms. Leslie Kurisaki
lkurisaki@kimurainternational.com

Comments:

The Kapaa Business Association supports all coastal routes when feasably possible. We prefer the "green" route as shown in the presentation.

Neil Sams
Kapaa Business Association - Vice President

Name: Neil Sams
Address: 4388 Kanaele Road
Kapaa, HI 96746
Email: htdda@aloha.net **Date:** 2/17/14

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

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March 14, 2014

Neill Sams, Vice President
Kapaa Business Association
4388 Kanaele Road
Kapaa, Hi 96746

Dear Mr. Sams:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your comments dated February 17, 2014 supporting all coastal routes for the multi-use path when feasible.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

COMMENT SHEET

Lydgate Park-Kapa'a Bike/Pedestrian Path, Phases C & D (Waipouli Connection)
Draft Environmental Assessment (Chapter 343 HRS)

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Department of Public Works
4444 Rice Street, Suite 175
Līhu'e, HI 96766
Attn. Mr. Douglas Haigh
Chief, Building Division
dhaigh@kauai.gov

with a copy to:

Kimura International, Inc.
1600 Kapi'olani Blvd., Suite 1610
Honolulu, HI 96814
Attn. Ms. Leslie Kurisaki
lkurisaki@kimurainternational.com

Comments:

Re parts C+D ; meeting Kapaa Middle School 2/19/14

I am totally in favor of the proposed coastal path as designated in the Map displayed~~ed~~. Let's have as much as is possible of the path on the coast/beach Route.

I love the path! Keep up the good work planning + orchestrating this project. This is the best thing that has happened to the East Side. THANKS!!

Name: Gabriela Taylor

Address: 5620 Keapana Rd
Kapaa, Hi 96746

Email: gabriela@keapana.net **Date:** 2/19/'14

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

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March 14, 2014

Gabriela Taylor
5620 Keapana Road
Kapaa, Hi 96746

Dear Ms. Taylor:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your comments dated February 19, 2014 supporting all coastal routes for the multi-use path as possible.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

COMMENT SHEET

Lydgate Park-Kapa'a Bike/Pedestrian Path, Phases C & D (Waipouli Connection)
Draft Environmental Assessment (Chapter 343 HRS)

The County of Kaua'i, Department of Public Works (DPW) has completed a Draft Environmental Assessment (DEA) for a proposed bike and pedestrian path through Waipouli connecting Lydgate Park to the existing Kapa'a bike and pedestrian path. The DEA is currently undergoing a 30-day public comment period which ends on February 24, 2014. The County invites you to submit written comments on this form, or by mail/email to:

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Department of Public Works
4444 Rice Street, Suite 175
Līhu'e, HI 96766
Attn. Mr. Douglas Haigh
Chief, Building Division
dhaigh@kauai.gov

with a copy to:

Kimura International, Inc.
1600 Kapi'olani Blvd., Suite 1610
Honolulu, HI 96814
Attn. Ms. Leslie Kurisaki
lkurisaki@kimurainternational.com

Comments: Regarding the 2 options at Makaluana Hotel area.

As a pedestrian Advocate, supporting walking on Kauai for the wealth of Kauai's people, I support the ~~section~~ option along the canal (vs. in front of Kapaa Missionary Church along the Hwy.) has disadvantages: Walking along the highway ~~is not prefered because~~
- not safe for Pedestrian
- poor air quality (breathing car fumes)
- noisy (car noise)

~~The~~ A path along the canal doesn't have any of ~~these~~ above disadvatages.

Name: Esti Grimpas
Address: 6186 Helena Lane, Kapaa

Email: esti@bobstropicals.com **Date:** 2/19/14

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

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TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Esti Grinpas
6186 Helena Lane
Kapaa, Hi 96746

Dear Ms. Grinpas:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your comments dated February 19, 2014 regarding this project. We note that you are a pedestrian advocate and support the route that runs along Uhelekawawa Canal instead of along Kuhio Highway.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: ML Knold Richardson
Sent: Wednesday, February 19, 2014 7:15 AM
To: dhaigh@kauai.gov; Leslie Kurisaki
Cc: judydalton123@gmail.com
Subject: Pedestrian/Bike Path Proposal

To whom it may concern:

Having watched the evolution of the path from the beginning, I can state unequivocally that it is a wonderful addition to the island and is in constant use by all manner of walkers, runners, skaters, bikers, and people with impaired mobility. Using the railroad right-of-way where possible is, and will in the future, be the logical way to extend the path to Anahola, but connecting the two existing sections under consideration is a challenge. Your proposal is well thought out and presents the most practical and feasible solution. While I wish it could stay near the water all the way, there are existing structures that make this virtually impossible, so you have done the next best thing. The public presently has access to the proposed route, and I have walked it many times. Being that motorized vehicles will not use it, very little will change from the perspective of the public staying in the hotels along the coast, and if anything it will be an improvement. Far from impacting the coast negatively, I think users will do as they have along the existing parts, where they monitor and collect the minimal amount of refuse. If there is any potential abuse of monk seals or turtles I'm sure it will be reported or immediately addressed by users.

As a kid I loved spending time on the beach at Wailua and sadly watched the increasing traffic on the highway destroy its appeal to beach goers. I can't get over how much the new path with its barrier wall has changed the feeling for the better. The beach is getting more use and it feels separated from the traffic. The naupaka and other plants are growing with the additional water and change almost daily. You did the right thing and the path and the beach will get more and more use. Please do everything possible to place the path along the water where proposed, and if it is as well placed and built as what has been done already, my children, grandchildren and all future generations will thank you for the foresight and thought that went into making the path a reality.

Hope I live to see the path completed from Nawiliwili to Anahola.

Bruce Richardson

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
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TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Bruce Richardson
ravenrich1@gmail.com

Dear Mr. Richardson:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your comments dated February 19, 2014 supporting this project. We note your support for the coastal route, the positive benefits for walkers, runners, skaters, bikers and people with impaired mobility and appreciation for the culture of path users that includes caring for the path.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Doug Haigh
Sent: Wednesday, February 19, 2014 12:54 PM
To: Glenn T. Kimura (glennk@kimurainternational.com); Leslie Kurisaki (lkurisaki@kimurainternational.com)
Cc: Lenny Rapozo
Subject: FW: Bike Path Meeting 2/19/14 @ Middle School

FYI

From: Mari Chan
Sent: Wednesday, February 19, 2014 9:55 AM
To: Doug Haigh
Cc: Larry Dill; Lyle Tabata
Subject: FW: Bike Path Meeting 2/19/14 @ Middle School

Hi Doug,
Glenn Mickens called here for Larry as he wanted to provide testimony for tonight's meeting. Informed him that I would do that as well as provide to you, the PM for the project.
Glenn said that he couldn't make the meeting.
Thanks,
Mari

Larry,
Providing you a hard copy to your tray as well as this email as Glenn was insistent that you was his testimony.
Tks.

From: Glenn Mickens [mailto:glennruth2030@gmail.com]
Sent: Wednesday, February 19, 2014 9:42 AM
To: Mari Chan
Subject: Bike Path Meeting 2/19/14 @ Middle School

There have been a multitude of questions asked about this Path since its inception 12 years ago with no answers forthcoming. Let's review a few.

1) How does the total length of this path keep changing from the original 23 plus miles proposed to the reported 16 miles by the Garden Island in Monday's paper?

2) When the paving of our county road 20 feet wide by 1 mile long will cost about $147,000 then by using the same formula a ten foot wide path should cost about $73,000.
But this path is costing an unbelievable $5 million dollars a mile! And for the 1/8 of a mile in the Wailua Corridor the cost was $2 million or over $10 million per mile!! How can that cost per use ever be justified?

3) The State Highway project (2 miles) by KCC cost under a million dollars a mile when considering the total material and labor used for the project---off ramps, curbs, sidewalks, center divider and a path.
And the traffic mitigation this project has accomplished compared to the the cost per use benefit we are getting from this path is staggering---absolutely no comparison.

4) How was the usage of this path changed from a "transportation" path (to satisfy the Transportation Enhancement qualifications that say any bike path shall be used for transportation and not for recreation) to a dog, walking path as being used today?

5) A Council member who has pushed this path from the beginning once said it would take vehicles off the road and lessen the carbon monoxide going into the air. This has never happened and never will happen as people will continue to use their vehicles for their transportation needs. Our time, resources and money should be used to build alternate roads, not a recreational path that is costing a fortune to build.

6) Where is the local, State and Federal oversight to find out where this obscene amount of money is going to build this path? Why no accountability?

7) It has taken over 10 years to build about 7 miles of this path so if ever completed--a big if since Fed funds are drying up--it would take 30 years or more to complete. Even the Dept of Highways who have done a master plan of the segment of the path from Nawiliwili to Lydgate have cut the major part of this project from their plan.

8) I am not opposed to bike paths per se. But this path was planned wrong from the beginning and is trying to be retrofitted into an area already built which is causing outrageous money and delays. Again, insane planning.

9) The rules of this path say no motor vehicles shall be permitted on it and yet vehicles drive and park on it by the Kapaa Neighborhood center creating hazards for the users.

Let me end by quoting from an editorial that our learned retired lawyer Walter Lewis wrote on 4/13/13. "We must recognize that no definitive accounting has ever been given for the costs of the completed portion of the path, a shameful disregard of the rights of our citizens to know how our government expends taxpayers funds, and the future costs for a completion of the path remain obscure."

Glenn Mickens

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
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TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Glenn Mickens
glennruth2030@gmail.com

Dear Mr. Mickens:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated February 19, 2014 regarding this project. The following are responses to your questions:

1. How does the total length of this path keep changing from the original 23 plus miles proposed to the reported 16 miles in the Garden Island in Monday's paper?
   Response: The estimated final length of the path will not be determined until all the environmental clearances are completed.
2. Comparing cost of paving county roads versus the ten foot wide path, how can the cost per use ever be justified?
   Response: Repaving county roads generally cost less because the basic road foundation, right-of-way and bridge crossings are already in place. Building new multi-use paths often occur in areas where none of these exist.
3. How was the usage of this path changed from a "transportation" path which Transportation Enhancement qualifications disallow use for recreation?
   Response: According to the U.S. Department of Transportation, Federal Highway Administration (FHWA) website, "Bicycle and Pedestrians", Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guides, *"A shared-use path serves as part of a transportation circulation system and supports multiple recreation opportunities, such as walking, bicycling, and inline skating...Shared use paths provide a transportation function."*
4. Where is the local, State and Federal oversight and accountability regarding the cost to construct the path?
   Response: The County of Kauai administration, County Council, the State Department of Transportation Highways and the Federal Highway Administration are all involved in the planning, environmental documentation, engineering design and construction of the multi-use path. The FHWA provides oversight and requires compliance with all applicable federal regulations.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Doug Haigh
Sent: Thursday, February 20, 2014 3:58 PM
To: Leslie Kurisaki (lkurisaki@kimurainternational.com); Glenn T. Kimura (glennk@kimurainternational.com)
Subject: FW: Support for the Multi-Use Path

From: Glenn Head [mailto:Glenn@glennhead.com]
Sent: Thursday, February 20, 2014 3:53 PM
To: Doug Haigh
Cc: Bobbie Schlobohm; Cindy Plemer (cindy.plemer@hawaiiantel.net); Pauline Kirchner (pmrak@aol.com); Larry and Pat corona; Lisen Berquist; Barbara Hill
Subject: Support for the Multi-Use Path

Hi Doug,

I'm writing to express our support for the multi-use path as presented last night at the public meeting. I spoke with you briefly before the meeting began.

Our 17 owners look forward to enjoying the ocean side path including the short variation near the Bull Shed on the north end – the green line.
Going out along the highway is simply too dangerous.

Naturally we would like to see the path completed as quickly as possible. The contractor that completed the Baby Beach section seemed to be very efficient.

If there is anything we can offer you that would be supportive going forward, please don't hesitate to ask.

Thanks for all that you do.

Glenn Head
President
Lanikai AOAO
390 Papaloa Rd
720-353-2345 (cell)

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Glenn Head
glenn@glennhead.com

Dear Mr. Head:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated February 20, 2014 supporting this project. We also note that 17 owners of the Lanikai AOAO look forward to the coastal path and the alignment along Uhelekawawa Canal.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Surfrider Foundation Kauai Chapter
Sent: Thursday, February 20, 2014 2:43 PM
To: dhaigh@kauai.gov; lkurisaki@kimurainternational.com
Subject: Kauai Bike Path Environmental Assessment

Thanks you for last night's presentation on your work on the draft Environmental Assessment (EA) of the Kapa'a Area proposed "bike path."

The Surfrider Foundation is always concerned whenever anything is built too close to the beach. Coastal erosion and sea level rise, long term, will mean that these structures are in danger of washing away, or worse, might beget a coastal armoring project such as a seawall. For this reason, we urge the EA to proceed without any assumption of, as one of your slides said, "obtaining coastal setback variances." The Environmental Assessment should assume that the County will obey its own coastal setback law without seeking a variance.

Thank you for your hard work on this challenging project.

--
www.kauai.surfrider.org
Facebook: Surfrider Kauai

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Surfrider Foundation Kauai Foundation
surfriderkauai@gmail.com

Dear Sir:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated February 20, 2014 regarding this project. We note your concern regarding aligning the path too close to the beach, coastal erosion, sea level rise, and potential shoreline armoring as well as assuming that shoreline setback variances will be sought.

In the next engineering design phase of the project, a topographic survey, certified shoreline survey and shoreline setback determination will be completed. With that information, we can determine the alignment for the multi-use path and will seek a shoreline setback variance only if needed. The county's intent is to locate the path as far mauka from the shoreline as feasible.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Doug Haigh
Sent: Monday, February 24, 2014 7:52 AM
To: Leslie Kurisaki (lkurisaki@kimurainternational.com); Lenny Rapozo
Subject: FW: Lydgate Park - Kapa'a Bike Path - Phases C&D

From: tjkrem41@comcast.net [mailto:tjkrem41@comcast.net]
Sent: Saturday, February 22, 2014 8:30 AM
To: Doug Haigh
Subject: Lydgate Park - Kapa'a Bike Path - Phases C&D

Dear Mr. Haigh:
Sorry about the earlier email. Hit the wrong button...

We attended the informational meeting this past Wednesday at Kapa'a Middle School and submit the following:

(1) We support the continuing planning & funding of the entire bike path.
(2) We do NOT support any plan that crosses either Kuhio Highway or the by-pass road due to safety concerns.
(3) We generally support how the county is approaching the planning and engineering/construction of the path - safety first and foremost, but also considering cost, aesthetics, a healthy and fun (as well as practical) means of transportation along the east coast of Kauai.

Thank you,
Tom

Tom Kremer
tjkrem41@comcast.net
Phone: 651-325-8763
66 9th Street East Unit 1704
Saint Paul, MN 55101

Pat White
3175 Alohi St
Lihue, HI 96766

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
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TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Tom Kremer
tjkrem41@comcast.net
66 9th Street East Unit 1704
Saint Paul, MN 55101

Pat White
3175 Alohi St.
Lihue, HI 96766

Dear Mr. Kremer and Ms. White:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated February 22, 2014 supporting this project. We note your concern regarding crossing Kuhio Highway and the by-pass road and your overall support for the planning and construction of the entire path system.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Andy Bushnell
Sent: Sunday, February 23, 2014 11:12 AM
To: dhaigh@kauai.gov; lkurisaki@kimurainternational.com
Subject: Testimony: Lydgate Park -Kapaa Bike/Pedestrian Path Phases C & D

6510 Olohena Road
Kapaa, HI, 96746
808 822-1651

February 23, 2014

Dear Sirs,

I just wanted to reiterate my concern for the location of the bike path along the shore makai of the present and proposed hotels in the area under study. The path should be sited as far mauka, away from the beach, as possible. No variances to the shoreline setback should be sought! This should be a benefit to residents and tourists alike, as no beach-goers want a path immediately next to them for esthetic, noise and safety reasons.

I also think that it is important for the project to preserve as many of the ironwood trees as possible. First the trees will provide a screen between beach goers and the path--useful for all of the reasons listed above. Second, the high wash of the waves, in significant areas goes as far as these trees, so their root systems play an important role in holding the sand. This is especially significant at a time when sea level rise will pose an ever greater threat to our beaches all around the island. Third, I have no evidence for this, but I would not be surprised if the roots are helping to hold in place sand burials, and removal of the trees only makes it more likely that *iwi* will be exposed. (I know that the trees were planted long after any burials would have been made, but that doesn't reduce the trees role in holding the sand and soil against the actions of both wind and sea.)

Finally, please have several people knowledgeable in the history and archaeology of the area look over the interpretive signage before it is put up. That way, perhaps, silly mistakes such as the faulty signage at Kapa`a Park can be avoided. (You might look at the comments on the Japanese Lantern on the Bike Path sign and compare them with the plaque at the base of the lantern itself to see what I mean. The plaque has got it right; the Bike Path sign, probably not.)

Mahalo for accepting my testimony,

Andy Bushnell

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

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County of Kaua'i, State of Hawai'i
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TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Andy Bushnell
6510 Olohena Road
Kapaa, HI 96746

Dear Mr. Bushnell:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated February 23, 2014 regarding this project. We note your concern regarding the coastal path, shoreline setback variances and the ironwood trees. Our next phase of the project will include a topographic survey with property metes and bounds, a certified shoreline survey and shoreline setback determination. This information will be used to determine the best alignment for the path and a shoreline setback variance will be sought only if sufficient space is unavailable. The county's intent is to locate the path as far mauka as feasible.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Wendy
Sent: Sunday, February 23, 2014 6:33 PM
To: dhaigh@kauai.gov; lkurisaki@kimurainternational.com
Subject: commentary / Waipouli phase of the multi-use path

County of Kaua`i

Dept. of Public Works

4444 Rice St.

Lihu`e, HI 96766

To Douglas Haigh:

Regarding the proposed Waipouli bike path segment, the existing pavement of Aleko Loop, that includes a rarely-used road and almost-never-used sidewalk RIGHT THERE, is where the path should be constructed. Aside from being the perfect alternative to a destructive coastal path, Aleko Loop feeds directly into the Coconut Marketplace where pedestrians and cyclists could get food and refreshment, use restrooms, and spend money. The Coconut Marketplace also links up directly to Papaloa Rd. where the path route continues. To by-pass a perfect rest stop that would favorably serve tourists and residents, in favor of invading local fishing grounds, disturbing the ecosystem, jeaopardizing the fragile coastline, and paving directly over ancient Hawaiian artifacts and even graves is anything but pono. To cheat the struggling Coconut Marketplace of major revenue is inconsiderate.

There should be no variance permitted for the construction of the bike path in the Waipouli Beach area. All coastline must be rigorously protected, and that is why these important laws have been implemented. *This multi-use path is exactly what the law was enacted to prevent.*

As well as the shore and beach, the mature Ironwood trees in Waipouli also need complete protection as this phase unfolds.

I implore Public Works to respect the locals, respect Hawaiians, respect the ecosystem, and stop favoring tourists. Every tourist I've ever spoken with about construction of the path along the shore at the expense of native habitat including native people, is appalled that Kaua`i would offer up its natural beauty and peace for more concrete and humans. "I thought this was The Garden Island," is what they always say . . .

Sincerely,

Wendy Raebeck

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Wendy Raebeck
wendywailua@gmail.com

Dear Ms. Raebeck:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated February 23, 2014 regarding this project. We note your recommendation that the multi-use path be aligned along Aleka Loop instead of the coastline. This alternative alignment was studied earlier and dismissed because Aleka Loop is privately owned. The county owns a beach access that runs from Papaloa Road to the coastline between the Kapaa Sands Hotel and Islander on the Beach and a beach reserve between the shoreline and the property owned by Islander on the Beach and the adjacent vacant parcel to the north. Future development projects on these vacant parcels are required to grant a lateral easement for the multi-use path as a condition of their Special Management Area permit.

Our next phase of the project will include a topographic survey with property metes and bounds, a certified shoreline survey and shoreline setback determination. This information will be used to determine the best alignment for the path and a shoreline setback variance will be sought only if sufficient space is unavailable. The county's intent is to locate the path as far mauka as feasible.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Doug Haigh
Sent: Monday, February 24, 2014 7:50 AM
To: Leslie Kurisaki (lkurisaki@kimurainternational.com); Glenn T. Kimura (glennk@kimurainternational.com)
Cc: Lenny Rapozo
Subject: FW: Bike path

From: Margery Freeman [mailto:freemanmargery@gmail.com]
Sent: Sunday, February 23, 2014 10:09 AM
To: Doug Haigh
Subject: Bike path

Dear Doug,

After the meeting on the bike path phase C, I want to remind you of the tree I mentioned that I hope will be saved even if it means making a small detour.
At the north end of the Marriot, after going through the trees, the path turns inland toward the highway. Just about at the point where it may either go strait to the highway or turn right into the parking lot there is a very large tree. Don't know the type but it is a beautiful tree and should be saved. Please try to be sure this is done.

Thanks,
Marge

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Marge Freeman
freemanmargery@gmail.com

Dear Ms. Freeman:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated February 23, 2014 regarding this project. We will evaluate your recommendation to save the large tree that stands at the point where the path either goes straight to the highway or turns right into the parking lot.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Leslie Kurisaki

From: Leslie Kurisaki
Sent: Monday, February 24, 2014 10:00 AM
To: 'troy@zenux.net'
Subject: RE: Kauai Path Waipouli connection - makai!

We received a copy of your email from Doug Haigh. Thank you for your comments.

-----Original Message-----
From: Doug Haigh [mailto:dhaigh@kauai.gov]
Sent: Monday, February 24, 2014 9:59 AM
To: Leslie Kurisaki (lkurisaki@kimurainternational.com); Lenny Rapozo
Subject: FW: Kauai Path Waipouli connection - makai!

-----Original Message-----
From: Troy Arnold [mailto:troy@zenux.net]
Sent: Monday, February 24, 2014 9:54 AM
To: Doug Haigh
Subject: Kauai Path Waipouli connection - makai!

Hi Doug-

I was at the Feb 19th meeting at Kapaa Middle School. Slacker that I am, I forgot to mail in my written comments.

I would like to say that I *strongly* support the makai route for this section of the path. I've walked most of that already and the location is great. I have no doubts that the county will be able to make this route as beautiful and functional for everyone as with the rest of the path.

Having to cross Kuhio Highway, particularly at those locations is an absolutely awful alternative; one that is barely an improvement over no path at all.

Would you please forward this to Kimura International ? The comment sheet said I was supposed to write them as well but I don't have that address handy.

thanks for all that you do!

-troy

Bernard P. Carvalho, Jr.
Mayor

Nadine K. Nakamura
Managing Director

Larry Dill, P.E.
County Engineer

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite 275, Līhu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

March 14, 2014

Troy Arnold
troy@zenux.net

Dear Mr. Arnold:

Subject: Draft Environmental Assessment
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D
Kawaihau District, Island of Kauai, TMK: 4-3-001, 002, and 007, various parcels

Thank you for your email dated February 24, 2014 supporting this project. We note that you strongly support the makai route and object to crossing Kuhio Highway.

If you have further comments or questions, please feel free to call Douglas Haigh at (808) 241-4849.

Yours truly,

Larry Dill, P.E.
County Engineer

cc: Leslie Kurisaki, Kimura International

Appendix A

Public Information Meeting

Kapa‘a Middle School

February 21, 2012

Notes of Public Information Meeting
Lydgate Park-Kapaa Bike/Pedestrian Path, Phases C&D, Waipouli Connection
Chapter 343, HRS and NEPA

Tuesday, February 21, 2012, 6:00 PM
Kapaa Middle School

Attendance: See attached sign-up sheets

Purpose of the meeting: to provide background information about the project and need for a supplemental environmental assessment; and to update the community about other phases of the Lydgate Park to Kapaa project and additional sections of the overall Ke Ala Hele Makalae pathway.

Doug Haigh (Kauai Dept of Public Works) and Glenn Kimura (consultant) gave the presentation with the support of a Powerpoint slideshow. Members of the audience were welcome to ask questions or offer comments during the presentation.

Comment: A section of the bike/pedestrian path in Kealia is not ADA accessible. There is a steep slope between the parking area and restroom.

Response: The ADA Accessibility Guidelines (ADAAG) for recreational paths and trails is not as stringent as walkways in other contexts. The County seeks to comply with ADAAG wherever possible; however, in some cases, full compliance is not technically feasible because of environmental conditions. In those instances, a sign is posted indicating an alternate access route.

Question: Is the crossing over the Wailua River under the Dept of Parks and Recreation?

Response: Where the path is attached to the bridge, maintenance is being done by the State Dept of Transportation. The County is working on an agreement with Aloha Beach Resort for the resort to maintain the adjacent rest area.

Question: Doesn't the Dept of Hawaiian Home Lands own the land under the resort and the path?

Response: In the Wailua crossing area, the land under the path is owned by the State Dept of Transportation.

Comment: Bike path at Aloha Beach Resort affects historic properties. The king's path is blocked by a wall which obstructs access for cultural practitioners.

Question: Is the walkway at Marriott Courtyard their private walkway or is it a public walkway?

Response: There is an existing public easement. The County's path project would widen the easement to create a wider shared use path (i.e., allow use by pedestrians and bicyclists). The SMA permit for the property between Marriott and Mokihana requires an easement that is 10-12 feet wide.

Question: Why do a canal path where 22 coconut trees will be jeopardy?

Response: The alternate route calls for a 10-12 foot wide path along the highway which is possible, but very difficult. Some buildings that are located close to the highway may need to be condemned and demolished. The County sees this course of action as a last resort.

Comment: In order to get to the canal, you need to cut through properties and the owners have plans for development.

Response: The County has had preliminary contact with the owners and they are open to further discussion.

Comment: If the path is built along the canal, who would clean up the area? Right now Mokihana personnel are maintaining the area. In certain parts of the path, rubbish cans are not emptied in a timely way.

Response: The County would provide maintenance. Completed sections of the path run adjacent to properties such as Kaha Lani (Lydgate Park), Pono Kai, and Coral Reef—and they have not reported an increase in littering.

Comment: I would like the path to be located within the established easement for beach access.

Response: The difficulty is with sections along highway.

Comment: I'm concerned about stormwater runoff at Wailua Beach. The drainage outlet is blocked. There are leaks from the gas station.

Response: Extensive drainage improvements are not within the scope of this project. Gas station leaks would need to be treated as a spill.

Comment: I'm concerned about accessibility on Papaloa Road. Is the road going to be converted into a one-way road?

Response: The restriction on left turns from Papaloa Road onto Kuhio Highway has been implemented already. Papaloa Road will remain a two-way street. However, the roadway will be narrowed with construction of the bike/pedestrian path. Street parking will not be allowed on the makai side of the road, although parking on the mauka side will remain unchanged. A stop sign will be installed at Lanikai Street and a table-top cross walk installed to slow down traffic.

Question: Will there be parking for cultural practitioners who want to go to Kukui Heiau; specifically handicap parking?

Response: Kauai Sands will provide public parking as part of their SMA permit conditions. The Kintaro Restaurant lot has a certain number of stalls designated for the public.

Question: How will the path cross the canal?

Response: A cantilevered bridge will be constructed to cross Uhelekawawa Canal. Phase B includes a connection to the Foodland Bridge. This bridge was constructed by the shopping center developer and, once dedicated to the County, will allow the County to obtain federal matching dollars for the bike/pedestrian path.

Comment: (Relative to the Kawaihau spur), there is a Hawaiian Village in the area of Kawaihau Road and Kuhio Highway.

Response: No information has been received regarding such a village either from previous archaeological studies or SHPD. An archaeologist will monitor on-site excavation work.

Comment: I'm concerned about proximity of the path to buildings.

Response: On all phases of the path, the County has worked with adjacent neighbors to mitigate negative impacts. For the Kawaihau spur, neighbors said they preferred a wall with a lattice top to allow breezes to flow through (rather than a higher wall), so the design was modified to accommodate that preference.

Comment: The path should be integrated with bus routes.

Response: In Kealia, a bus stop was added as part of the path project. The County is looking into spurs that will connect the path to bus stops. The first priority has been connecting to schools; providing safe routes to schools. The County Council has adopted a "complete streets" policy. The Dept of Public Works is also pursuing complete streets design and the Planning Dept is incorporating a complete streets approach in updating the Comprehensive Zoning Ordinance.

Comment: The path project appears to favor service to resorts.

Response: The original intent of the path project includes connections to coastal parks.

Comment: Despite the switchbacks, the Kawaihau spur doesn't appear to be ADA compliant.

Response: The ADA design guidelines for trails is a little more lenient than accessibility within something like a school campus. However, the Kawaihau spur is being designed so that somebody in a wheelchair can go from top to bottom. The grades are appropriate for this type of facility.

Comment: What will you do if there's a negative response to the project?

Response: We would seek to mitigate negative impacts. For the Wailua Beach section, there was major mitigation, including moving the path virtually 100% off the beach.

Comment: Will there be public amenities? There's a need for restrooms, since there are no public facilities right now between Lihi Park and Lydgate Park.

Response: There are two places where a comfort station could be provided. One is the County-owned parking lot behind Ambrose and the other is the Seashell Restaurant

location. In the past, the County has considered portable toilets at Wailua Beach Park, which is in the flood zone, so the facilities would need to be removed if conditions warrant. Acquisition of Seashell would require a larger project, on the scale of the Kapaa Relief Route.

Comment: The concrete walkways don't seem to benefit fishermen—for example at Donkey Beach. Certain types of fishing need more equipment and, if vehicles are prohibited on the path, fishing access becomes more difficult.

Response: Fishing access is considered in project planning. At Lydgate Park, a section of the beach has been kept open for vehicular access by fishermen.

Additional phases of Ke Ala Makalae. The Ahukuni to Lydgate Park and Nawiliwili to Ahukini phases will be opening the 106 process review in a few weeks.

Attendance Sheet

Meeting: Lydgate-Kapaa Bike/Pedestrian Path, Phases C & D Public Information Meeting, HRS 343/NEPA
Date/Time: Tuesday, February 21, 2012, 6:00 PM

Name	Contact Information—CONFIDENTIAL, Not for Public Release	
	Mailing Address	E-mail Address
Doug Haigh		
Liberte Albao		
NELANI JOSSELIN		
Dave Likely		
Marge Freeman		
Babak Azar		
Denni's MacCoumber		
JOAN & LYLE NAKAMOTO		
Helaine Perrel (case)		
* Rayne Regush		
Carl Todd		
ALICIA E. KA'AUA		
AVERY YOUNG.		
Laurel Brier		

* pls email powerpoint,

Appendix B

Effect Determination
Section 106, National Historic Preservation Act

Letter from Federal Highway Administration to

State Historic Preservation Officer

November 26, 2013

U.S. Department of Transportation
Federal Highway Administration

Hawaii Federal-Aid Division

300 Ala Moana Blvd, Rm 3-306
Box 50206
Honolulu, Hawaii 96850
Phone: (808) 541-2700
Fax: (808) 541-2704

November 26, 2013

In Reply Refer To:
HDA-HI

Mr. William J. Aila, Jr.
Chairperson and State Historic Preservation Officer
Hawai'i Department of Land and Natural Resources
601 Kamokila Boulevard, Suite 555
Kapolei, HI 96707

Subject: National Historic Preservation Act Section 106 Effect Determination
Lydgate Park-Kapa'a Bike/Pedestrian Path, Phases C & D
Kawaihau District, Kaua'i, Ahupuaa of South Olohena, North Olohena, and Waipouli
Federal-aid Project No. CMAQ-0700(49)
Tax Map Keys: [4] 4-3-001, 002, and 007: Various

Dear Mr. Aila:

In accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (2006), the Federal Highway Administration (FHWA) requests the State Historic Preservation Officer's concurrence on the effect determination for the proposed improvements. The FHWA is rendering a no adverse effect determination for the subject project.

This determination is based on realignment of the path to avoid a burial found during the archaeological inventory survey and other mitigation commitments. Documentation of the Section 106 process indicates preliminary assessments of adverse effect for some historic properties. However, additional project planning and discussions with consulted parties resulted in a modified undertaking that avoids direct harm to historic properties.

The FHWA intends to provide funds for the proposed improvements. Therefore, the FHWA has required the State of Hawai'i Department of Transportation (HDOT) and the County of Kaua'i to comply with the National Environmental Policy Act (NEPA), NHPA, and other federal requirements. The FHWA has authorized the HDOT, County of Kaua'i, and Kimura International, Inc. to act on behalf of the FHWA regarding the NHPA Section 106 notification and consultation.

Overview of the Undertaking

Project Background and Purpose

In 2007, the Kaua'i Department of Public Works (DPW) completed an environmental assessment (EA) for a bike/pedestrian path from Lydgate Park to Kapa'a (Lihi Park). This EA was prepared pursuant to Hawai'i Revised Statutes (HRS) 343 and the NEPA and made a finding of no significant impact. The preferred alignment included a section located mauka of Kūhiō

Highway and along the Waipouli drainage canal (shown in Figure 1 as Phase E). After the EA was completed, more detailed design studies determined that crossing Kūhiō Highway and the temporary bypass road would not be optimal for path users. Instead, because the bike/pedestrian path would extend as far north as Coconut Marketplace (via the Papaloa Road spur) and as far south as Uhelekawawa Canal, the county began reexamining options to connect these two points. The most feasible option is a makai route that had been proposed and studied in the draft EA for the original path project—to locate the path within portions of the county's existing beach reserve.

A new EA is being conducted pursuant to HRS 343 to reevaluate the "makai alternative," referred to as phases C and D or the "Waipouli connection." This section of the bike/pedestrian path will measure approximately 6,100 to 6,500 feet, depending on the final alignment.

The purpose of the project is to provide a safe and inviting facility that will expand opportunities for non-motorized travel and outdoor recreation; establish a clear travel way for lateral coastal access; and provide connectivity to shopping, dining, and resort areas.

Project Corridor

The undertaking is located in the Kawaihau District on the island of Kaua'i. The south end of the project corridor is located on Papaloa Road between the Kaua'i Sands Hotel and the Coconut Marketplace. The north end is located at a Kūhiō Highway bridge crossing Uhelekawawa Canal (see Figure 2). Existing shared use paths terminate at these two locations.

Project Location

Figure 2 shows the project location. The EA will evaluate a project alignment that extends makai from Papaloa Road between Kaua'i Sands Hotel and Islander on the Beach, then north through the County's beach reserve and along the coastal bench fronting three undeveloped parcels and Courtyard Kaua'i at Coconut Beach. The path would turn mauka just south of Mokihana of Kaua'i, following an existing county beach access.

The preferred alternative jogs between Mokihana of Kaua'i and the Village Manor condominiums, then continues along the southern bank of Uhelekawawa Canal (currently a landscaped strip) to Kūhiō Highway.

An alternative alignment is to use the existing beach access south of Mokihana of Kaua'i, then construct a bike/pedestrian corridor along the makai side of Kūhiō Highway north to Uhelekawawa Canal (approximately 580 feet). (See Figure 2, the alternative alignment is shown as a green dashed line.)

A stream crossing will be needed at Uhelekawawa Canal, but the crossing will not require work in the water. The bicycle and pedestrian bridge is expected to be a cantilevered attachment to the existing highway bridge or an independent, single-span bridge that will connect to the existing bike path at Waipouli Beach Resort.

Improvements are also proposed for the county parking lot located behind Kapa'a Missionary Church. This site is proposed as a trailhead with a comfort station, drinking fountain, and parking.

Area of Potential Effects

The area of potential effects (APE) is shown in the enclosed Figure 3. The initial APE was drawn as an approximate 50-foot corridor encompassing the preliminary alignment. Because the final path alignment will not be determined until the design phase of the project, a preliminary alignment is shown in the accompanying figures for planning purpose. This alignment is based on county easements (for the mauka-makai sections), the boundary of the county beach reserve adjoining the Islander on the Beach and Kaua'i Coast Resort properties, drawings provided by the developer of the future Coconut Beach Resort, drawings attached to the Special Management Area (SMA) application by the developer of the future Coconut Plantation Resort, and drawings provided by Mokihana of Kaua'i.

The APE and preliminary alignment were used to determine subsurface testing locations for the archaeological inventory survey. The APE's coverage reflects a balance between identifying historic properties over a sufficiently broad area, and the desire of many consulted parties to limit excavations to areas of direct potential impact, rather than "look for the needle in the haystack."

Project Description

Consistent with the overall design of Ke Ala Hele Makalae, the bike/pedestrian path will be 10 to 12 feet wide and allow movement in both directions. It is intended to accommodate a wide variety of users; however, motorized vehicles will not be allowed with the exception of motorized wheelchairs, emergency vehicles, and maintenance vehicles. The path will be constructed from concrete with graded shoulders. Under some environmental conditions, the path's design and construction materials may vary in response to context sensitivity. For example, in areas known to have concentrations of subsurface cultural deposits, the path will be constructed on a slight berm to minimize excavation.

The project includes rehabilitation, and possible expansion, of the existing county parking area behind Kapa'a Missionary Church. A small comfort station is planned within the parking lot, which can be tied in to a sewer line nearby.

Because the path will traverse developed areas, it may be necessary to relocate and/or replace existing facilities or vegetation—notably coconut trees on the south bank of Uhelekawawa Canal. Other construction and design elements include grading, walls, railings, fencing, landscaping, signage, and amenities, such as trash receptacles, benches, and water fountains. In general, the path facility will not have exterior lights. If lights are needed at the comfort station for safety or security, shielded fixtures will be used. Decisions about specific features will be made during the project's design phase.

Consultation Overview

The HDOT sent a memorandum to your office on February 9, 2012, to initiate the Section 106 process. A response was requested to acknowledge your interest in participating in the undertaking as a consulted party. No response was received. However, notification letters were sent to your office prior to each of the five public meetings.

Section 106 consultation letters, dated February 24, 2012, were sent to the organizations and individuals shown in the mailing list (in Volume 1 of the enclosures).

Mailing List

The initial Section 106 outreach letter was sent by the HDOT on February 24, 2012, to Native Hawaiian organizations (NHOs) and other potentially interested parties who were included on a mailing list developed for short-term transportation improvements in the Wailua area. A Preparation and Protocol Committee meeting was held in July 2012, during which committee members recommended the addition of all Kaua'i kumu hula to the mailing list. Names and contact information for the kumu hula were provided by the Office of Hawaiian Affairs. The mailing list grew to include participants who attended the public Section 106 meetings. In a few cases, names were deleted from the mailing list in response to specific requests for removal. The mailing list is used to provide notice of upcoming meeting dates and distribute meeting minutes.

Section 106 Process Time Line

The following table shows the actions taken in the Section 106 consultation process.

Supporting documentation, including full minutes of the Section 106 meetings, may be found in the appendices (see notes column). Comments from the Section 106 consulting parties are summarized in the Meeting Summaries (see enclosed document).

Action	Date	Notes
36 CFR §800.3 Initiation of the Section 106 Process		
Letter from John D. Nickelson, FHWA to William J. Aila, Jr., SHPO	October 28, 2011	See Appendix A
Memorandum from Glenn M. Okimoto, HDOT to Pua Alaokalani Aiu, SHPD	February 9, 2012	See Appendix A
Preparation and Protocol Committee meeting	May 30, 2012	
Native Hawaiian caucus	July 5, 2012	See Appendix B
Public meeting 1 Walking tour	August 9, 2012	Legal notice published in *The Garden Island* on July 26, 2012 Consulted party attendance: 30 See Appendix C
36 CFR §800.4 Identification of Historic Properties		
Public meeting 2	August 23, 2012	Legal notice published in *The Garden Island* on July 26, 2012 Consulted party attendance: 19 See Appendix D
Kaua'i Historic Preservation Review Commission presentation	October 4, 2012	
Public meeting 3	November 27, 2012	Legal notice published in *The Garden Island* on July 26, 2012 Consulted party attendance: 10

Action	Date	Notes
		See Appendix E
36 CFR §800.5 Assessment of Adverse Effects		
Public meeting 4	February 20, 2013	Legal notice published in *The Garden Island* on February 7, 2013 Consulted party attendance: 10 See Appendix F
36 CFR §800.6 Resolution of Adverse Effects		
Public meeting 4	February 20, 2013	Legal notice published in *The Garden Island* on February 7, 2013 Consulted party attendance: 10 See Appendix F
Public meeting 5	May 20, 2013	Legal notice published in *The Garden Island* on May 13, 2013 Consulted party attendance: 7 See Appendix G
36 CFR §800.7 Coordination with the National Environmental Policy Act (NEPA)		
Documented Categorical Exclusion (NEPA) and Draft Environmental Assessment (Chapter 343, HRS) being prepared	Pending	
Public information meeting to be held during the DEA public review period	Not yet scheduled	

Ho'oponopono Process

The Native Hawaiian Preparation and Protocol Committee adopted the ho'oponopono process as a way to make Section 106 consultations more accessible to the Native Hawaiian community. The ho'oponopono process is structured around a kulukulu kumuhana (statement of problem to be solved), which, in this case, is to conduct consultations for the purpose of informing the FHWA decisions on historic properties potentially affected by the undertaking.

Historical, Cultural, and Archaeological Background

Archaeological Assessment

A report titled *Archaeological Assessment of Alternative Routes Proposed for the Lydgate to Kapa'a Bike and Pedestrian Pathway Project within the Ahupua'a of Wailua, South Olohena, North Olohena, Waipouli, and Kapa'a, Island of Kaua'i,* April 2004, was prepared by Hallett H. Hammatt and David Shideler of Cultural Surveys Hawai'i for the original project (see Appendix I).

Cultural Impact Assessment

The cultural impact assessment is not required under the NEPA, but is prescribed under Chapter 343, HRS. A cultural impact assessment was conducted by Cultural Surveys Hawai'i. Findings are presented in a report titled *Cultural Impact Assessment for Lydgate Park-Kapa'a Bike & Pedestrian Path, Phases C&D, CMAQ-0700(49), South Olohena, North Olohena and Waipouli*

Ahupua'a, Kawaihau District, Kaua'i Island, TMK: [4] 4-3-001, 002, and 007: Various, prepared by Kūhiō Vogeler, Margaret Magat, and Hallett H. Hammatt, January 2012 (see Appendix J). The report was made available to Section 106 consulted parties through a web link.

Archaeological Inventory Survey

After the Section 106 process was initiated, an archaeological inventory survey (AIS) was conducted to provide consulted parties with additional information about historic properties within the APE. The findings were presented in a report titled *Draft Archaeological Inventory Survey Report for the Lydgate-Kapa'a Bike and Pedestrian Path Project, Phases C and D, CMAQ-0700(49), South Olohena, North Olohena, and Waipouli Ahupua'a, Kawaihau District, Island of Kaua'i, TMK: [4] 4-3-001, 002, and 007: Various prepared by Kelly L. Burke and Hallett H. Hammatt, October 2012* (see Appendix K). The report was made available to consulted parties through a web link. Printed copies were made available at the Kapa'a Library, Lihu'ē Library, and the Office of Hawaiian Affair's Kaua'i office. The report was submitted to the SHPD for review on October 30, 2012.

The subsurface testing program included the excavation of 58 test units (48 small shovel tests and 10 larger test trenches).

The project area's subsurface deposits were found to be fairly undisturbed. In most cases, only landscaping and grading fill had disturbed, partially removed, or been placed on top of the natural sandy loam or sand sediments, much of which has been related to resort development along the coast. Buried, pre-Contact A horizons were evident in many of the test units. In general, the observed and documented stratigraphy consisted of the following sequence (starting with the topmost layer): (1) grass, organic matter, or asphalt, (2) various fill layers, such as landscaping and grading fill, (3) a sandy, buried A horizon, and (4) natural Jaucus sand. In some instances, layers of wind-deposited or high surf-deposited natural sand were observed.

The majority of documented, buried A horizons encountered within the project area contained cultural material. This included charcoal, shell midden, fire-cracked rock, basalt flakes, coral, and one human burial. This cultural layer was designated into three separate SIHP numbers based on pre-existing historic properties and locations: SIHP No. 50-30-08-791, 50-30-08-1800, and 50-30-08-1801. Due to the lack of discrete features, appropriate samples for carbon dating were not recovered.

Two new historic properties were documented within the project area during the AIS investigations, both believed to be traditional Hawaiian burials.

The AIS findings were consistent with findings reported in previous archaeological investigations, which observed cultural layers suggestive of long occupation spanning several centuries and a range of activities along the coastline in this area.

Summary of Archaeological Sites within the APE

The following table summarizes key elements of eleven historic properties were identified within the APE (see Figure 7).

Site Name and/or SIHP Number	Brief Description	Integrity/Condition	Location/Distance from Project Area	Eligible or Potentially Eligible for Listing in National Register (NR) or Hawaii Register (HR) and Valuation of Significance
SIHP 50-30-08-108 Kukui Heiau	Navigational heiau with at least two stone lamps that guided canoes on the ocean	Good condition, well maintained	South Olohena Ahupua'a, Alakukui Point, located about 300 feet southwest of the project area South Olohena Ahupua'a, Alakukui Point, located about 300 feet southwest of the project area	Placed on Hawaii Register in 1986 and the National Register in 1987 Placed on Hawaii Register in 1986 and the National Register in 1987
SIHP 50-30-08-791 Cultural layer and burials	Cultural layer with relatively high concentration of marine midden suggestive of substantial fishing activity; radiocarbon dating to A.D. 1275 to 1645; two burials	The cultural layer is mainly extant in makai or eastern portion of property	South Olohena Ahupua'a, northeast coast; cultural layer extends into the project area	Yes D (information) for NR D (information) and E (cultural traditional significance) for HR
SIHP 50-30-08-886 Cultural layer and burials	Cultural layer with hearth remnant, 'auwai, and two sets of previously disturbed disarticulated human remains (SIHP 50-30-08-886A)	Cultural layer intact, continuous. Burial condition unknown	Waipouli Ahupua'a, along Kūhiō Highway near Coconut Market Place; cultural layer is located within the project area	Yes D (information) for NR D (information) and E (cultural traditional significance) for HR
SIHP 50-30-08-891 WWII pillbox	Concrete WWII-era military structure, likely a military pillbox or machine gun emplacement	Unknown	North Olohena Ahupua'a, southeast corner of Lot 16 on the coast, located within the project area	Yes D (information) for NR D (information) for HR
SIHP 50-30-08-1800 Cultural layer and burials	Two cultural layers in the shoreline sand berm; an upper deposit extends 25-80 feet inland from the shore; a lower deposit extends 40-100 feet inland from the shore; three burials uncovered and left in place; probably occupied about A.D. 1500; the extensive nature of deposits and	Cultural layer continuous and intact	North Olohena Ahupua'a, northeast coast, Coconut Plantation; cultural layer extends into the project area	Yes D (information) for NR D (information) and E (cultural traditional significance) for HR

Site Name and/or SIHP Number	Brief Description	Integrity/Condition	Location/Distance from Project Area	Eligible or Potentially Eligible for Listing in National Register (NR) or Hawaii Register (HR) and Valuation of Significance
	relative lack of artifacts suggests that the area was used for recreation or social gatherings			
SIHP 50-30-08-1801 Cultural layers and burials	Two cultural layers and five burials are located in the shoreline sand berm; radiocarbon dated to approx. A.D. 1500; numerous indigenous artifacts suggest a development sequence from a limited workshop area to a site of permanent occupation	Cultural layer continuous and intact. Condition of burials is unknown	Waipouli Ahupua'a, Coconut Plantation, 200 meters makai of Kūhiō Highway; cultural layer extends into the project area	Yes D (information) for NR D (information) and E (cultural traditional significance) for HR
SIHP 50-30-08-1836 Cultural layer and burials	Cultural layer with numerous features. Data suggest this site was a moderate permanent settlement that may have been a staging area for fishing events and associated feasting and religious activities, a location for canoe construction, repair, and storage, a location for manufacture of shell tools and slingstone, and special place for tattooing	Cultural layer continuous and intact. Condition of burials is unknown	Waipouli Ahupua'a, from coast to Kūhiōō Highway, located north of Uhelekawawa Canal (Waipouli Beach Resort)	Yes D (information) for NR D (information) and E (cultural traditional significance) for HR
SIHP # 50-30-08-3938, cultural layer	A pit feature with charcoal and fire-cracked rocks was recorded. The radiocarbon dating result for this feature, dated to AD 1690-1775, was first reported in a subsequent monitoring report for the property	Unknown	Beach portion in Waipouli and North Olohena Ahupua'a	Yes D (information) for NR D (information) and E (cultural traditional significance) for HR
SIHP # 50-30-08-3939, two Hawaiian burials	Two pre-Contact/early historic Hawaiian burials	Unknown	Beach portion in Waipouli and North Olohena Ahupua'a	Yes D (information) for NR D (information) and E (cultural traditional significance) for HR

Site Name and/or SIHP Number	Brief Description	Integrity/Condition	Location/Distance from Project Area	Eligible or Potentially Eligible for Listing in National Register (NR) or Hawaii Register (HR) and Valuation of Significance
Burial 1, SIHP To be determined	Likely pre-Contact to early post-Contact in age	Well-maintained, intact	Within County beach access, near Mokihana of Kaua'i tennis court	Yes D (information) for NR D (information) and E (cultural traditional significance) for HR
Burial 2, SIHP to be determined	A previously disturbed human burial located adjacent to an old utility line. A partial, disturbed burial pit was also observed. This burial is likely pre-Contact to early post-Contact	Partially disturbed	Within landscaped area off Papaloa Road and south of Coconut Market Place	Yes D (information) for NR D (information) and E (cultural traditional significance) for HR

Summary of Effects

SIHP No.	TMK	Type of Historic Property	Adverse Effect	No Adverse Effect with Mitigation Commitments	No Effect
50-30-08-108	4-3-002:010	Heiau			x
50-30-08-791	4-3-002:014	Cultural layer		x	
50-30-08-886	Kūhiō Hwy	Cultural layer, burials		x	
50-30-08-891	4-3-007:016	WWII pillbox			x
50-30-08-1800	4-3-007:016	Cultural layer, burials		x	
50-30-08-1801	4-3-007:027	Cultural layer, burials		x	
50-30-08-1836	4-3-008:018	Cultural layer, burials			x
50-30-08-3938	4-3-007:008 and 007	Cultural layer		x	
50-30-08-3939	4-3-007:008	Burials			x
50-30-08-	4-3-007:026	Burial		x	
50-30-08-	4-3-002:012	Burial			x

Other Properties Mentioned by Section 106 Consulted Parties

Footpath through Ironwoods (TMK: 4-3-007:027)
The Kaua'i Group of the Hawai'i Chapter of the Sierra Club (letter dated April 4, 2012, and comments by Rayne Regush, Public Meetings 4 and 5) stated that the mature ironwood trees along the coast and the footpath through them are important to the historic characteristic of the area and need to be retained to preserve the historic, scenic, and cultural qualities of the area.

In response, Hal Hammatt, Cultural Surveys Hawai'i, commented that the trail has no visible structural elements except as a worn path through the ironwoods. As a "route," the footpath is more than 50 years old, as is nearly any path parallel to the shoreline. The ironwoods are modern introductions. In his opinion, these elements would not qualify as a historic property under the present criteria. The footpath may be an element of the cultural landscape, although the property is slated for resort development, which is expected to change the contextual environmental. To the extent feasible, the bike/pedestrian will seek to incorporate the existing footpath.

Entire Project Area (Waipouli Coast) as a Whole
Several consulted parties commented that the area as a whole is historically and culturally significant, and that a shared use path would be inconsistent with the sacredness of the area. Other consulted parties commented that while the area's historical significance remains important, the physical environment is dominated by modern resort development that has already diminished the historical context. They also noted that future resort development on the infill properties would intensify the urban character and further inhibit public access to coastal locations; referencing, for example, the boulders marking the Courtyard Kaua'i property (see Photo7).

Effect Determination

Based on our analysis, site observations, and consultation with NHOs and other interested parties, the FHWA has determined the project will have no adverse effect on historic properties.

Phases C & D of the Lydgate Park to Kapa'a bike/pedestrian path traverses the coastal portion of the ahupua'a of South Olohena, North Olohena, and Waipouli. Archaeological resources found in the project corridor indicate an area of long occupation and the occurrence of a wide range of coastal activities.

Project construction is expected to have a limited potential for adverse effect on subsurface resources. With the exception of the comfort station, excavation requirements will be relatively shallow—the path itself typically involves excavation to a maximum depth of one foot. To further reduce the potential for construction impacts, project designers will examine options to construct the path on a berm or fill in areas where concentrations of subsurface deposits have been found. To mitigate any potential damage to known (documented) or yet unidentified historic properties, project construction will proceed under an archaeological monitoring program. The monitoring program will facilitate the identification and proper treatment of any additional burials that might be discovered during project construction, and will gather additional information regarding the project's non-burial archaeological deposits, should any be discovered.

Burials have been found within seven properties located within the APE. Of these, the path alignment avoids all known burials sites. Burials identified during the AIS will be treated in accordance with a burial treatment plan to be prepared in compliance with Hawai'i Administrative Rules §13-300-33. To avoid an adverse effect on Burial 1, discovered between an existing concrete sidewalk and the tennis court at Mokihana of Kaua'i, the County is working to realign the path around the burial site.

Mitigation Policies

Mitigation measures during the construction of the proposed improvements have been and will continue to be implemented to avoid and minimize potential impacts to archaeological, cultural, and historic resources. The following mitigation measures have been or will be implemented, at a minimum:

- If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.
- If human remains are discovered, Hawai'i Administrative Rules Title 13. Subtitle 13, Chapter 300 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and SHPD and Police Department will be contacted. The appropriate process would then proceed in conformance with Hawai'i Administrative Rules §13-300 Subchapter 4 "Procedures for Property Treatment of Burial Sites and Human Skeletal Remains."

The County of Kaua'i will prevent the disturbance or taking of any historic property or resource to the extent possible by instituting these mitigation measures and enforcing their implementation by contractors.

Summary of Site Specific Mitigation Measures

SIHP No.	TMK	Type of Historic Property	Mitigation Commitments
50-30-08-108	4-3-002:010	Heiau	Directional sign to keep flow of pedestrians and bicycles away from the heiau
50-30-08-791	4-3-002:014	Cultural layer	Archaeological and cultural monitoring plan Interpretive sign
50-30-08-886	Kūhiō Hwy	Cultural layer, burials	Archaeological and cultural monitoring plan
50-30-08-891	4-3-007:016	WWII pillbox	Interpretive sign
50-30-08-1800	4-3-007:016	Cultural layer, burials	Archaeological and cultural monitoring plan Path construction on a berm (fill) over area(s) of concentrated cultural deposits to minimize the need for subsurface excavation
50-30-08-1801	4-3-007:027	Cultural layer, burials	Archaeological and cultural monitoring plan Path construction on a berm (fill) over area(s) of concentrated cultural deposits to

SIHP No.	TMK	Type of Historic Property	Mitigation Commitments
			minimize the need for subsurface excavation Interpretive sign Path to follow the existing footpath where feasible
50-30-08-1836	4-3-008:018	Cultural layer, burials (Waipouli Beach Resort)	None
50-30-08-3938	4-3-007:008 and 007	Cultural layer	Archaeological and cultural monitoring plan
50-30-08-3939	4-3-007:008	Burials	None
50-30-08-	4-3-007:026	Burial 1 (north)	Burial treatment plan Realign path to avoid burial
50-30-08-	4-3-002:012	Burial 2 (south)	Burial treatment plan

Additional Proposed Mitigations that are Not Specific to Historic Properties

- Ethnographic study of the Waipouli coast
- Fencing, landscaping, and/or other barrier between path and adjacent residences
- Improvements to public parking for coastal access

If the SHPD objects to the adverse effect determination for the subject project, please inform us within 30 days of receipt of this letter. In the absence of a response by this date, the FHWA will assume SHPD concurrence with this determination and will proceed with the undertaking.

Please contact me at (808) 541-2316 or by email at meesa.otani@dot.gov if you have any questions. Thank you for your assistance.

Sincerely yours,

Meesa Otani

Meesa T. Otani
Environmental Engineer

Enclosures

cc: Douglas Haigh, Kaua'i Department of Public Works
Holly Yamauchi, HDOT
Todd Nishioka, HDOT
Glenn Kimura, Kimura International, Inc.
Section 106 consulted parties (see enclosed mailing list)

Lydgate Park - Kapa'a Bike/Pedestrian Path

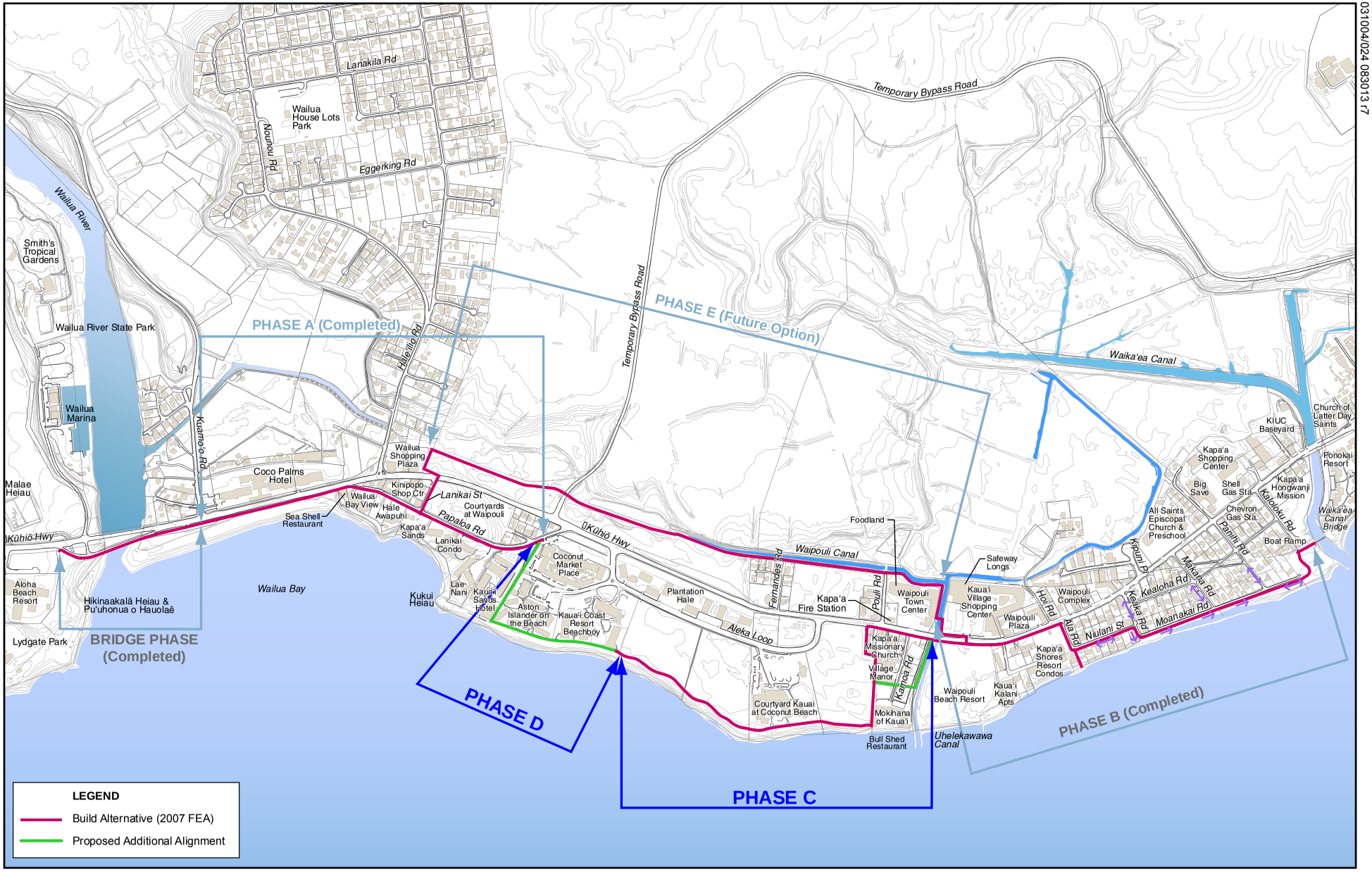
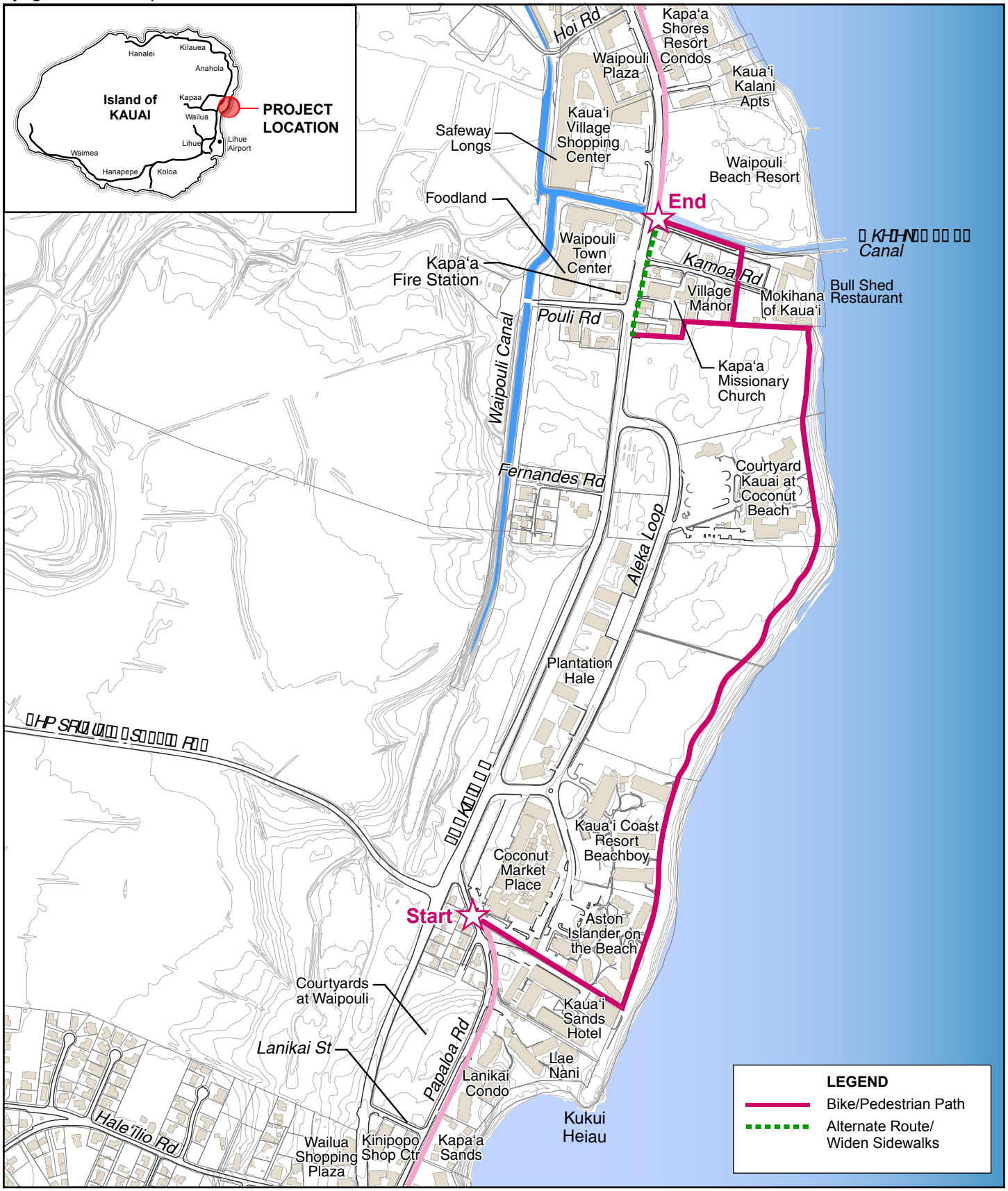


Figure 1

OVERALL BIKE/PEDESTRIAN PATH ALIGNMENT IN PHASES

Lydgate Park – Kapaa Bike/Pedestrian Path
Phases C & D



0 200 400 800 Feet

Figure 2

PROJECT LOCATION

Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

0 200 400 800 Feet

N

Figure 3

AREA OF POTENTIAL EFFECT (APE)

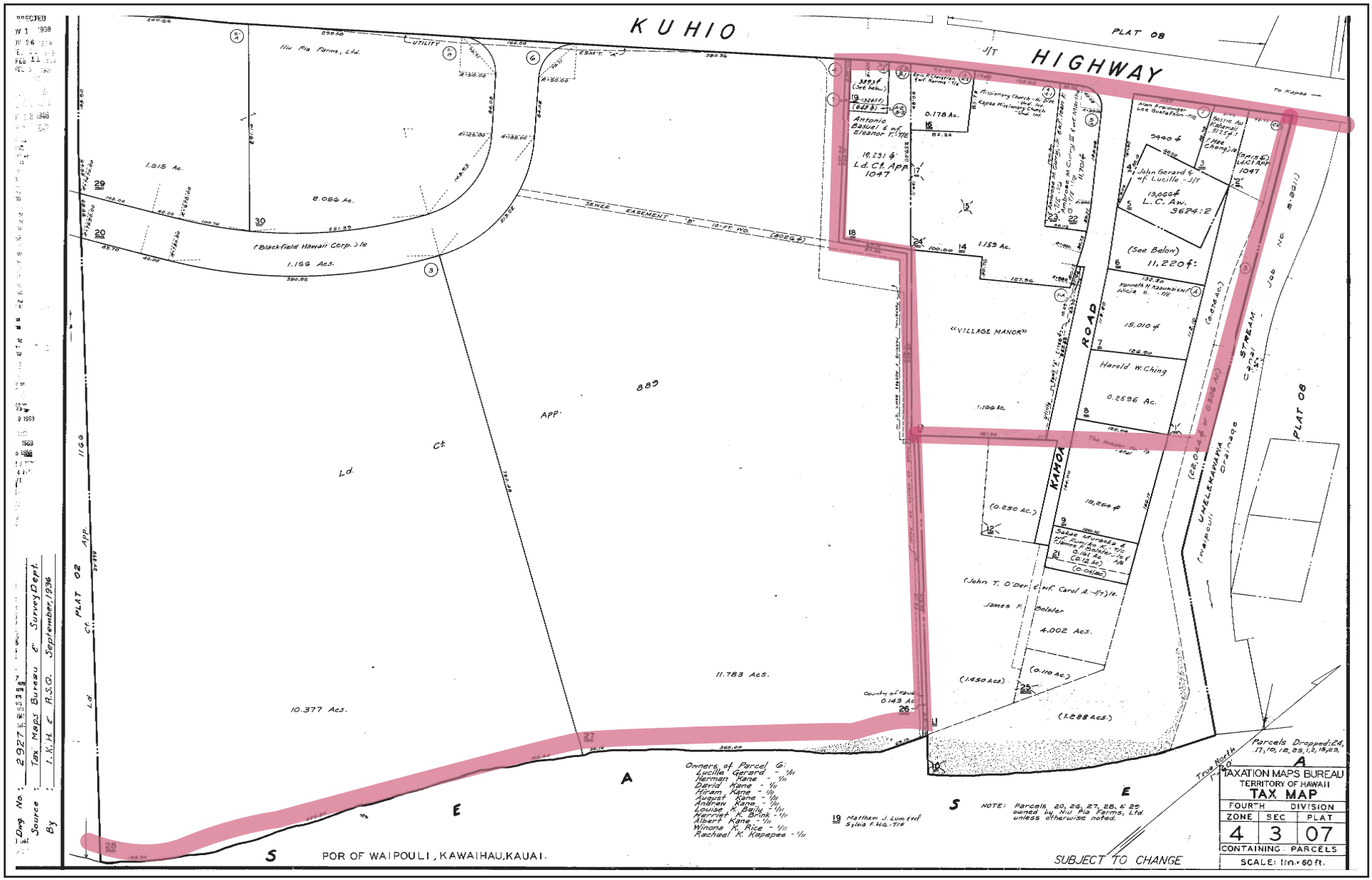
Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

Figure 4a

TAX MAP 4-3-002

Lydgate Park – Kapaa Bike/Pedestrian Path
Phases C & D

NOT TO SCALE



031004/016 050313 r7

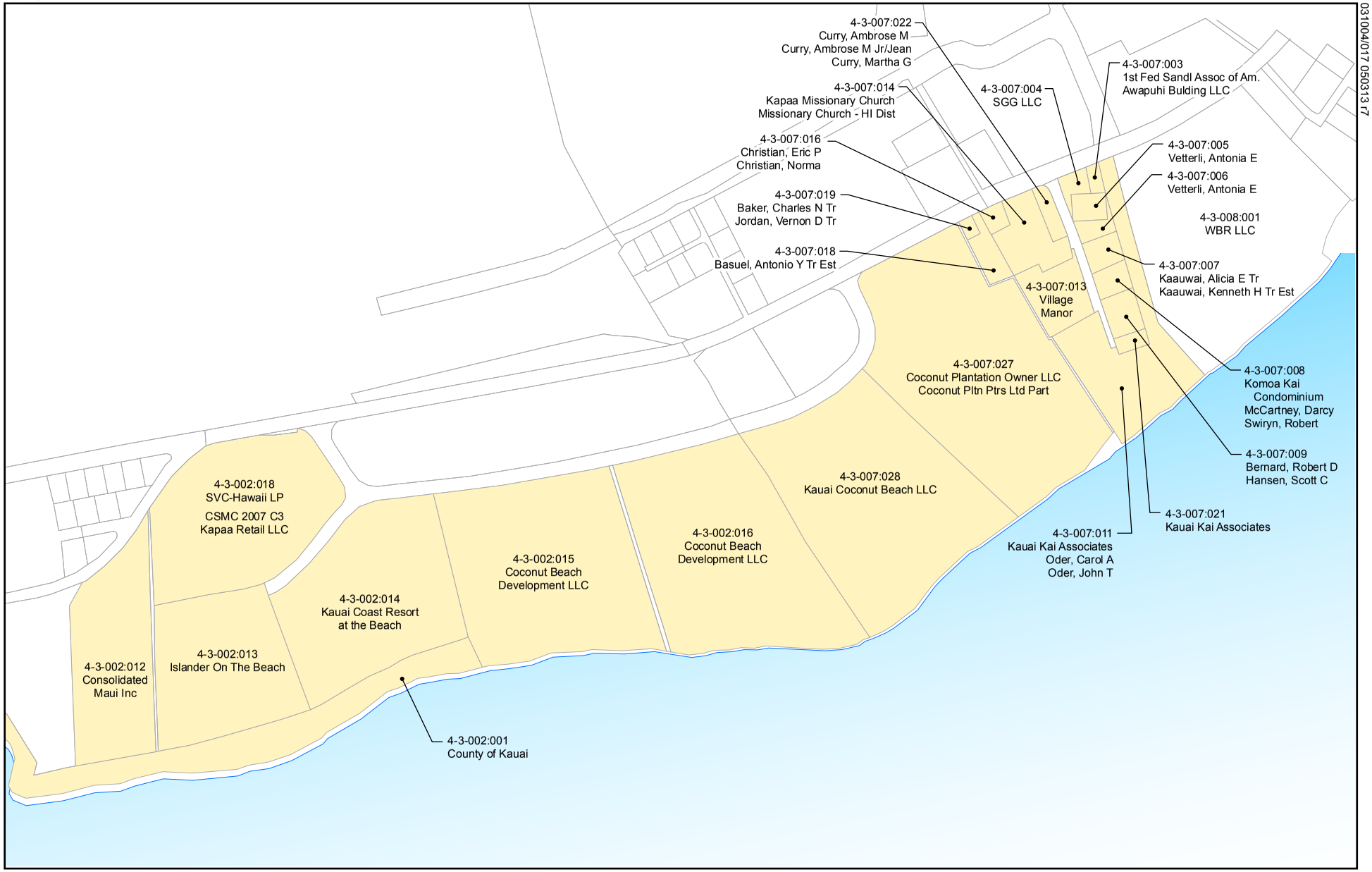
NOT TO SCALE

Figure 4b

TAX MAP 4-3-007

Lydgate Park – Kapaa Bike/Pedestrian Path
Phases C & D

Lydgate Park - Kapa'a Bike/Pedestrian Path



Source: Kauai County Tax Assessor Data 2012, Hawaii State GIS

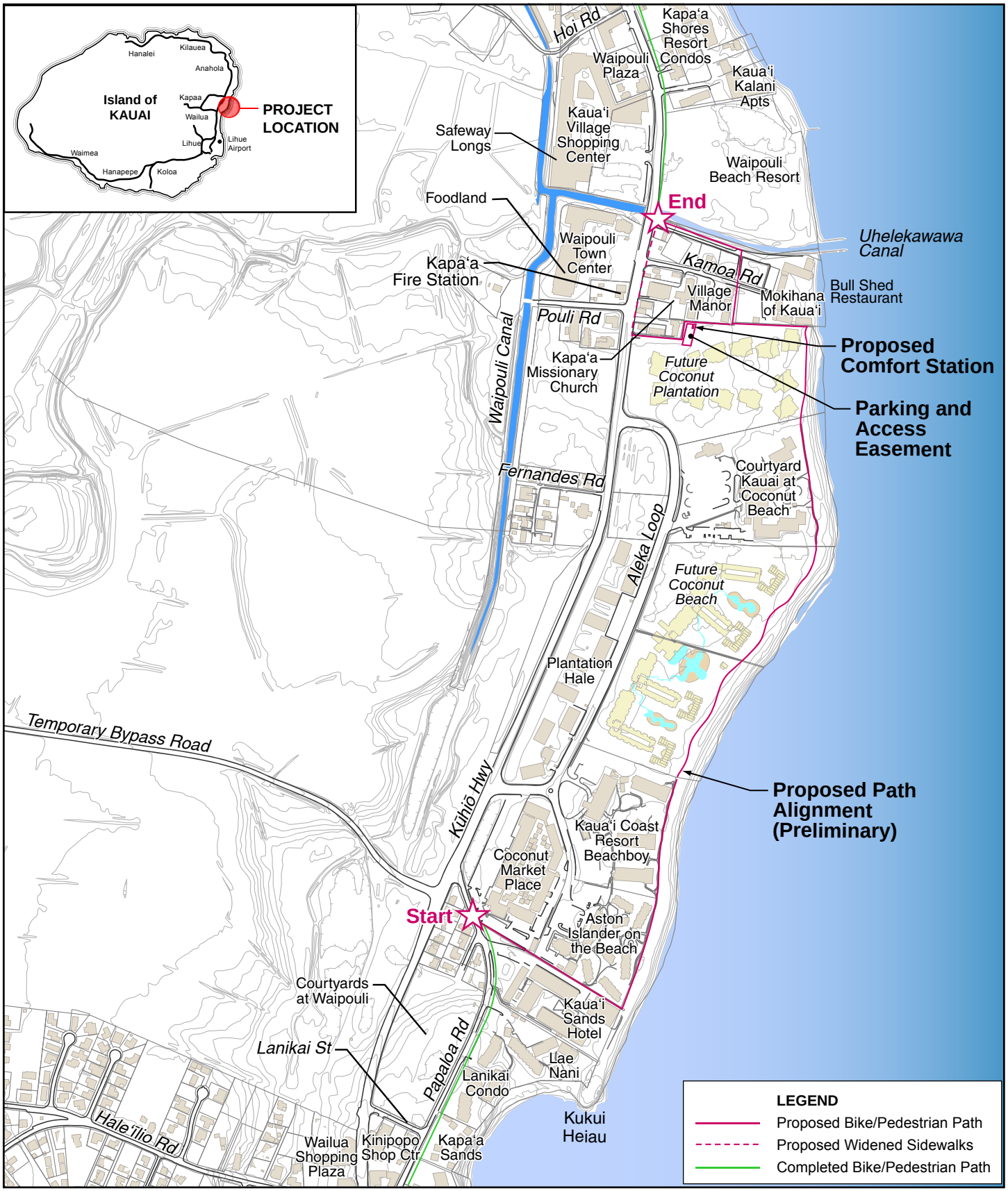
0 100 300 500 Feet

N

Figure 5

LAND OWNERSHIP WITH TMKs

Lydgate Park – Kapaa Bike/Pedestrian Path
Phases C & D



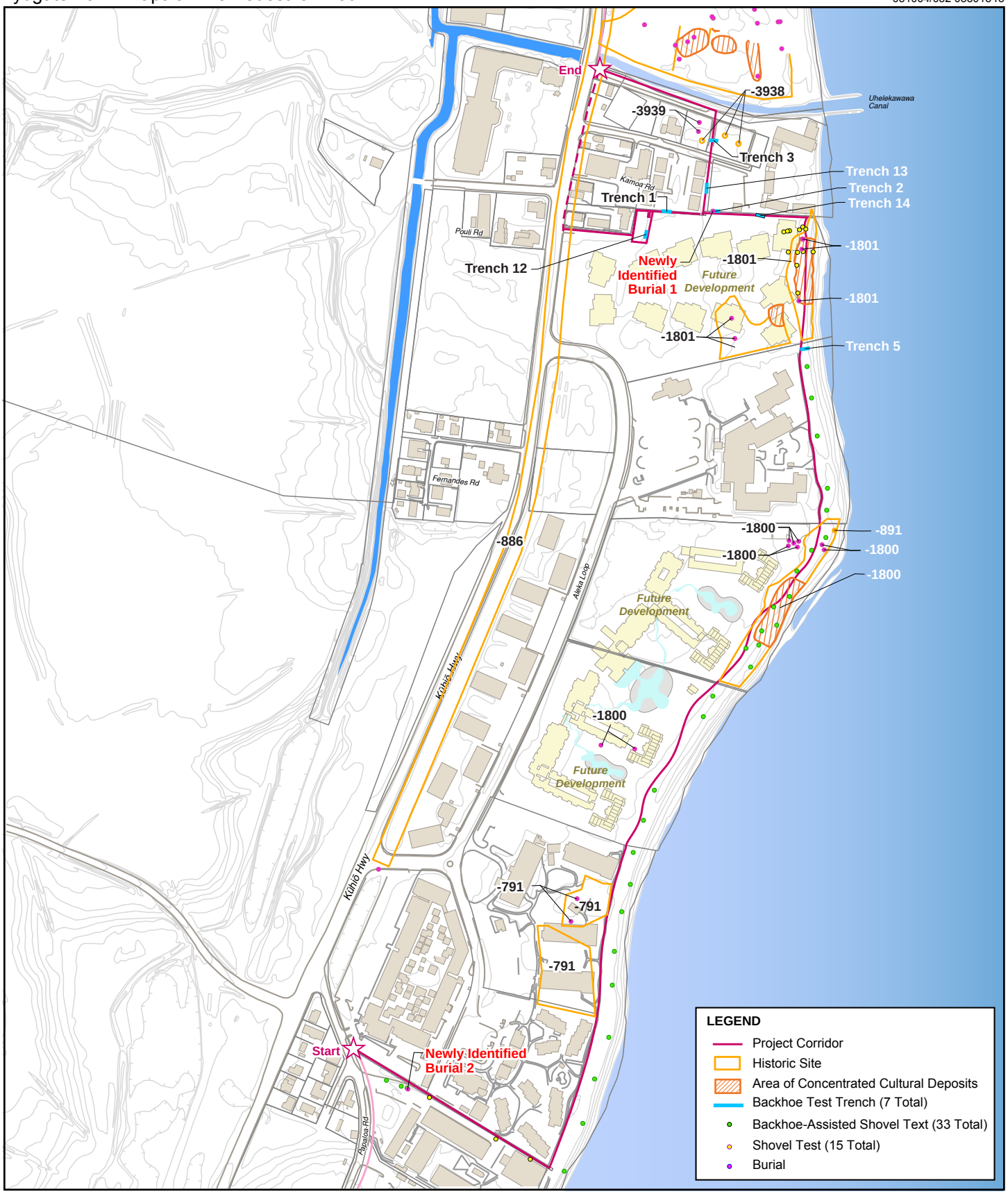
Future resort development based on preliminary plans, subject to change.

0 200 400 800 Feet

Figure 6

FUTURE DEVELOPMENT

Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D



Future resort development based on preliminary plans, subject to change.

0 200 500 Feet

Figure 7

HISTORIC PROPERTIES

Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

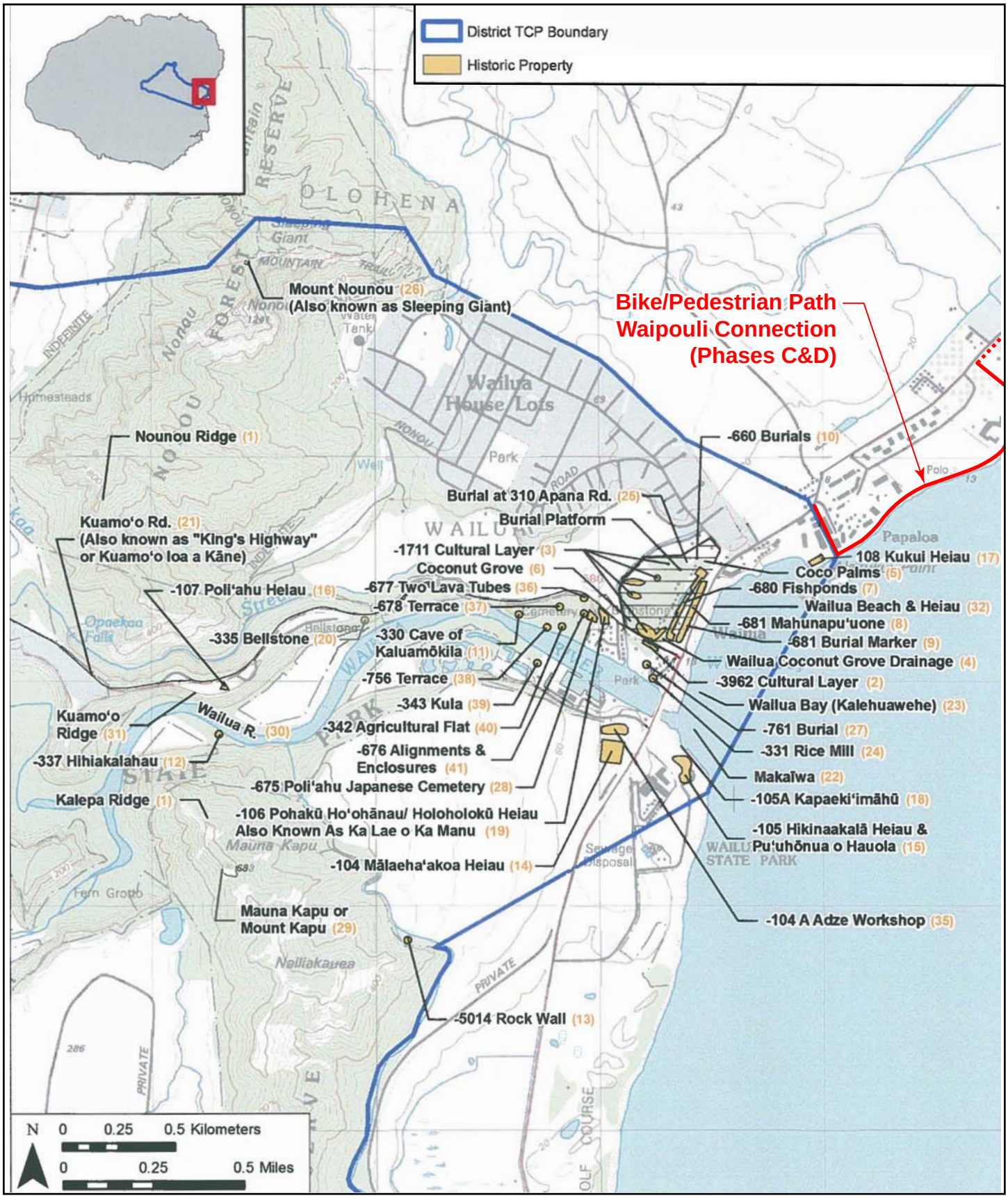
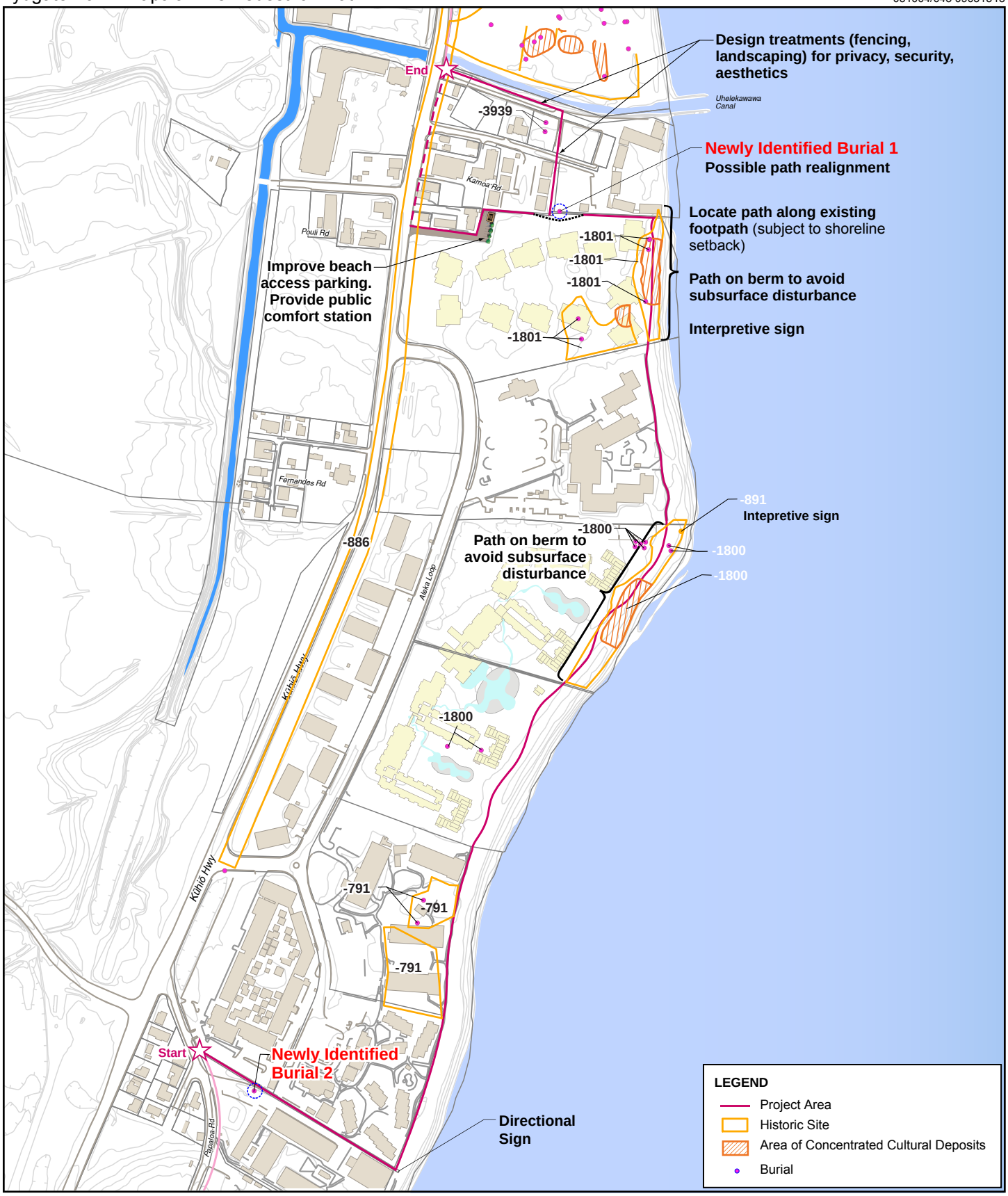


Figure 8

WAILUA TRADITIONAL CULTURAL PROPERTY (TCP)

Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D



Future resort development based on preliminary plans, subject to change.

0 200 500 Feet

Figure 9

PROPOSED MITIGATIONS

Lydgate Park − Kapaa Bike/Pedestrian Path
Phases C & D

0 200 400 800 Feet

N

Figure 10
PHOTO LOCATIONS
Lydgate Park − Kapaa Bike/Pedestrian Path
Waipouli Connection

Photo 1. Papaloa Road near Kauai Sands Hotel

Photo 2. Easement between Kauai Sands Hotel and Islander on the Beach

Photo 3. Beach reserve, makai of Islander on the Beach

Photo 4. Beach reserve, makai of Kauai Coast Resort

Photo 5. From Kauai Coast Resort, looking north

Photo 6. Vacant parcels (TMK: 4-3-2: 15 and 16)

Photo 7. Marriott Courtyard Kauai

Photo 8. From Marriott Courtyard Kauai looking north

Photo 9. Vacant parcel TMK: 4-3-7: 27, looking north

Photo 10. Vacant parcel TMK: 4-3-7: 27, looking south

Photo 11. Vacant parcel TMK: 4-3-7: 27, south of Mokihana of Kauai

Photo 12. Preferred alignment makai of Village Manor

Photo 13. South side of Uhelekawawa Canal

Photo 14. Kuhio Highway at bridge over Uhelekawawa Canal

Attendance Sheet

Meeting: Lydgate-Kapaa Bike/Pedestrian Path, Phases C & D Public Information Meeting, HRS 343/NEPA
Date/Time: Tuesday, February 21, 2012, 6:00 PM

Name	Contact Information—CONFIDENTIAL, Not for Public Release	
	Mailing Address	E-mail Address
Ellender Miller		
Tommy Noyes		
Julie Wirtz		
Sandi Kata-Kurtz		
Esti Griupas		
STEPHANIE AND		
HELAINE PEREZ		
Stacy Ricciardi		
Dana Bekkart		
Bob Middleton		

Appendix C

Draft Archaeological Inventory Survey Report for the Lydgate-Kapa‘a Bike and Pedestrian Path Project, Phases C and D, CMAQ-0700(49), South Olohena, North Olohena, and Waipouli Ahupua‘a, Kawaihau District, Island of Kaua‘i, TMK: [4] 4-3-001, 002, 007: Various

Prepared by Kelly L. Burke and Hallett H. Hammatt

[Cultural Surveys Hawaii, Inc.], October 2012

Draft
Archaeological Inventory Survey Report For the Lydgate–Kapa‘a Bike and Pedestrian Path Project, Phases C and D, CMAQ-0700(49), South Olohena, North Olohena, and Waipouli Ahupua‘a, Kawaihau District, Island of Kaua‘i, TMK: [4] 4-3-001, 002, and 007:various

Prepared for

Kimura International, Inc.

Prepared by

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and

Hallett H. Hammatt, Ph.D.

Cultural Surveys Hawai‘i, Inc.

Kailua, Hawai‘i

(Job Code: WAIPOULI 3)

October 2012

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Management Summary

Reference	Archaeological Inventory Survey Report for the Lydgate Park–Kapa‘a Bike and Pedestrian Path, Phases C and D, CMAQ-0700(49), South Olohena, North Olohena, and Waipouli Ahupua‘a, Kawaihau District, Island of Kaua‘i, TMK: [4] 4-3-001, 002, and 007:various (Burke and Hammatt 2012)
Date	October 2012
Project Number(s)	Cultural Surveys Hawai‘i (CSH) Job Code: WAIPOULI 3
Investigation Permit Number	CSH completed the fieldwork component of the archaeological inventory survey (AIS) under Hawai‘i State Historic Preservation Division/Department of Land and Natural Resources (SHPD/DLNR) permit no. 12-04, issued per Hawai‘i Administrative Rules (HAR) Chapter 13-13-282.
Project Location	The current project is located on the *makai* (ocean) side of Kūhiō Highway, extending from Papaloa Road to Waipouli Beach Resort.
Land Jurisdiction	State of Hawai‘i, County of Kaua‘i
Agencies	SHPD/DLNR; State Office of Environmental Quality Control (OEQC); U.S. Department of Transportation, Federal Highway Administration
Project Description	The project area is comprised of a 50-foot wide corridor that is proposed for development of a 10 to 12-foot wide bike and pedestrian path. There is no specific alignment for the path within this corridor yet, in order to avoid any findings from this AIS. The path will be constructed of concrete and have graded shoulders. In certain instances, it may be necessary to vary the type of construction material used. Ground disturbance associated with the installment of the path will include excavations typically less than 1 foot deep. In addition to the path itself, several other features will be constructed and/or renovated. A 16-x-24 foot comfort station is proposed at the north end of the project area and will be excavated down to the coral shelf. An associated sewer line will also be excavated that will tie into a nearby existing sewer line. (Note that the entire 16-x-24 foot comfort station footprint was excavated down to the coral shelf during this AIS.) A section of the path that crosses a stream will involve the construction of a bridge. The bridge is proposed to be either a cantilevered attachment to the existing highway bridge or an independent, single-span bridge. An existing County parking area located behind Kapa‘a Missionary Church may need to be rehabilitated. It may also be necessary to relocate and/or replace existing facilities and/or plant life from developed areas along the path. Additional features of the construction of the path include grading, walls, railings, fencing, landscaping, signage, and amenities, such as

	trash receptacles, benches, water fountains, and shielded security lighting. The County of Kaua‘i will construct, own, and maintain the multi-use path, and the project will be funded in part by the U.S. Department of Transportation (DOT) Federal Highway Administration (FHWA).
Project Acreage	Approximately 8.6 acres
Area of Potential Effect (APE)	The APE for the current AIS investigation is defined as the entire approximately 8.6-acre project area.
Historic Preservation Regulatory Context	This document was prepared to support the proposed project's historic preservation review under Hawai‘i Revised Statutes (HRS) Chapter 6E-42 and HAR Chapters 13-13-284. In consultation with the SHPD/DLNR, the AIS investigation was designed to fulfill the state requirements for an AIS, pursuant to HAR Chapter 13-13-276. This study follows a cultural impact assessment (Vogeler, Magat, and Hammatt 2012) and a Section 106 Consultation Plan (Vogeler, Magat, Genz, and Hammatt 2012), both of which are currently being reviewed by the SHPD.
Fieldwork Effort	Fieldwork was conducted between July 25 and August 6, 2012 and on September 11, 2012 by CSH archaeologists Missy Kamai, B.A., Gerald Ida, B.A., Johnny Dudoit, B.A., Trevor Yucha, B.A., Tyler Turran, B.A., Frederick LaChance, B.A., Pulama Lima, B.A., and Kelly Burke, M.Sc. and required approximately 38 person-days to complete. All fieldwork was performed under the general supervision of Hallett H. Hammatt, Ph.D. (principal investigator).
Number of Historic Properties Identified	Two new historic properties were identified within the project area: CSH Burial 1, SIHP # TBD, and CSH Burial 2, SIHP # TBD. Cultural layers observed in several trenches throughout the project area were combined into pre-existing historic properties based on location (*ahupua‘a*): cultural layer within South Olohena Ahupua‘a, SIHP # 50-30-08-791; cultural layers within North Olohena Ahupua‘a, SIHP # 50-30-08-1800; and cultural layers within Waipouli Ahupua‘a, SIHP # 50-30-08-1801.
Historic Properties Recommended Eligible to the Hawai‘i Register of Historic Places (Hawai‘i Register)	SIHP # TBD, CSH Burial 1 SIHP # TBD, CSH Burial 2 SIHP # 50-30-08-791, cultural layer and burials SIHP # 50-30-08-1800, cultural layers and burials SIHP # 50-30-08-1801, cultural layer and burials
Historic Properties Recommended Ineligible to the Hawai‘i Register	None

Effect Recommendation	CSH's project-specific effect recommendation is "effect, with agreed upon mitigation commitments" (in accordance with HAR 13-284-7). The recommended mitigation measures will reduce the project's effect on significant historic properties that were identified within the project area and be pro-active in addressing possible community concerns.
Mitigation Recommendation	CSH recommends that project construction proceed under an archaeological monitoring program. CSH recommends that the two burials identified during this AIS (SIHP #s TBD), will be treated according to the provisions of burial treatment plan(s) to be prepared in accordance with HAR 13-300 -33. The multi-use path should also be situated to avoid, as much as possible, SIHP #s -791, -1800, and -1801.

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Section 1 Introduction

1.1 Project Background

At the request of Kimura International, Inc., Cultural Surveys Hawai‘i, Inc. (CSH) conducted an archaeological inventory survey (AIS) for Phases C and D of the Lydgate Park–Kapa‘a Bike and Pedestrian Path Project, South Olohena, North Olohena, and Waipouli Ahupua‘a, Kawaihau District, Kaua‘i Island (TMKs [4] 4-3-001, 002, and 007:various). The project area is located on the *makai* (ocean) side of Kūhiō Highway, extending from Papaloa Road to Waipouli Beach Resort. The location of the project area is depicted on the 1996 U.S. Geological Survey (U.S.G.S.) 7.5-minute topographic map, Kapa‘a quadrangle (Figure 1), a 2012 aerial photograph (Figure 2), and Tax Map Key [4] 4-3 (Figure 3). The locations of all phases of the multi-use path are depicted on Figure 4.

The project area is comprised of a 50-foot (ft)-wide corridor that is proposed for development of a 10 to 12-ft-wide bike and pedestrian path. There is no specific alignment for the path within this corridor yet, in order to avoid any findings from this AIS. The path will be constructed of concrete and have graded shoulders. In certain instances, it may be necessary to vary the type of construction material used. Ground disturbance associated with the installment of the path will include excavations typically less than 1 ft deep.

In addition to the path itself, several other features will be constructed and/or renovated. A 16-x-24 ft comfort station is proposed at the north end of the project area and will be excavated down to the coral shelf. An associated sewer line will also be excavated that will tie into a nearby existing sewer line. (Note that the entire 16-x-24 ft comfort station footprint was excavated down to the coral shelf during this AIS). A section of the path that crosses a stream will involve the construction of a bridge. The bridge is proposed to be either a cantilevered attachment to the existing highway bridge or an independent, single-span bridge. An existing County parking area located behind Kapa‘a Missionary Church may need to be rehabilitated. It may also be necessary to relocate and/or replace existing facilities and/or plant life from developed areas along the path. Additional features of the construction of the path include grading, walls, railings, fencing, landscaping, signage, and amenities, such as trash receptacles, benches, water fountains, and shielded security lighting.

The County of Kaua‘i will construct, own, and maintain the multi-use path, and the project will be funded in part by the U.S. Department of Transportation (DOT) Federal Highway Administration (FHWA).

This AIS report was preceded by a cultural impact assessment (Vogeler, Magat, and Hammatt 2012) and a Section 106 Consultation Plan (Vogeler, Magat, Genz, and Hammatt 2012), both of which are currently being reviewed by the SHPD.

Figure 1. 1996 U.S. Geological Survey 7.5-minute topographic map, Kapa‘a quadrangle, depicting location of project area

Figure 2. Aerial photograph depicting location of project area (GoogleEarth 2010)

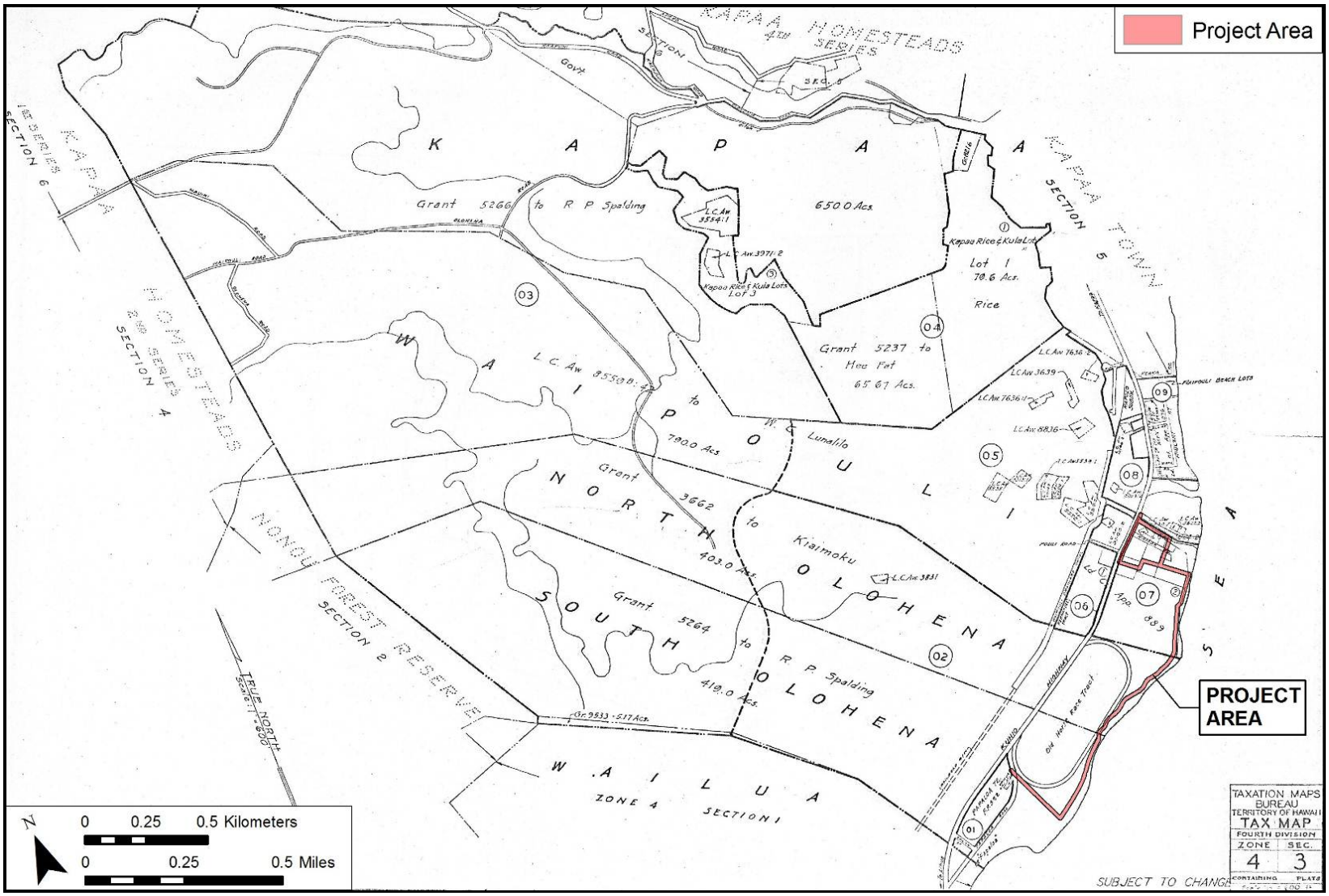

Figure 3. TMK: [4] 4-3 depicting location of project area (Hawai‘i TMK Service 2012)

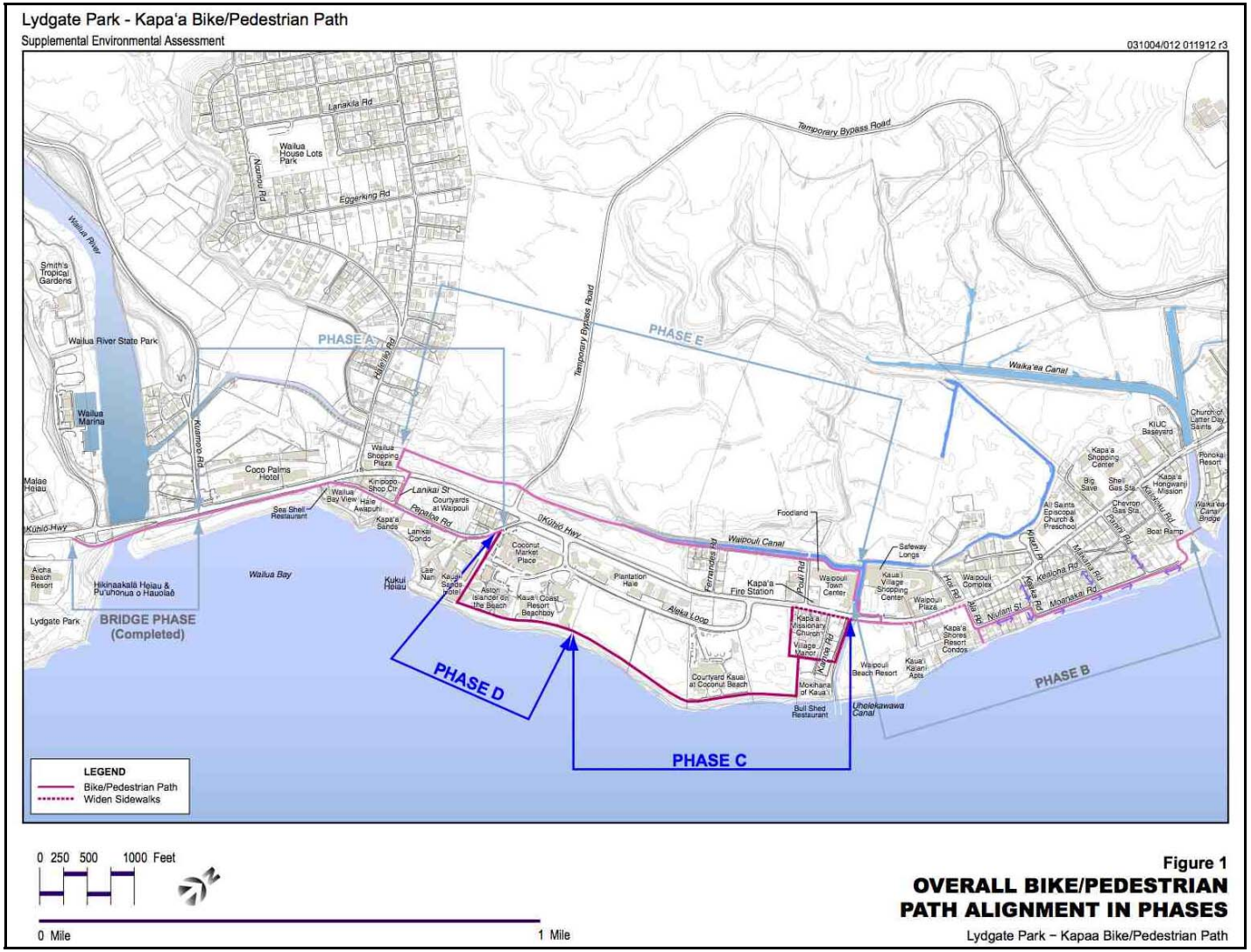

Figure 4. Locations of all phases of the Lydgate Park–Kapa‘a multi-use path project (note that the route has been updated since this figure was produced; Kimura International, Inc. 2007)

1.2 Scope of Work

The following AIS scope of work was designed to satisfy the Hawai‘i state requirements for AIS (Hawai‘i Administrative Rules [HAR] Chapter 13-13-276 and 13-13-284):

1. Historic and archaeological background research, including a search of historic maps, written records, Land Commission Award (LCA) documents, and reports from prior archaeological investigations. This research will focus on the specific project area's past land use, with general background on the pre-Contact and historic settlement patterns of the *ahupua‘a* and district. This background information will be used to compile a predictive model for the types and locations of historic properties that could be expected within the project area;
2. A field inspection of the project area to identify any potential surface historic properties. Surface historic properties will be recorded with an evaluation of age, function, interrelationships, and significance. Documentation will include photographs, scale drawings, and, when warranted, limited, controlled excavation of select sites and/or features;
3. Based on the project area's environment and the results of the background research, subsurface testing with a combination of hand and backhoe excavation to identify and document subsurface historic properties that would not be located by surface pedestrian inspection, as deemed appropriate. Appropriate samples from these excavations will be analyzed for cultural and chronological information. All subsurface historic properties identified will be documented to the extent possible, including geographic extent, content, function/derivation, age, interrelationships, and significance;
4. As appropriate, consultation with knowledgeable individuals regarding the project area's history, past land use, and the function and age of the historic properties documented within the project area; and
5. As appropriate, laboratory work to process and gather relevant environmental and/or archaeological information from collected samples.
6. Preparation of an inventory survey report, which includes the following:
    a) A project description;
    b) A section of a US Geological Survey topographic map showing the project area boundary and the location of all recorded historic properties;
    c) Historical and archaeological background sections summarizing prehistoric and historic land use of the project area and its vicinity;
    d) Descriptions of all historic properties, including select photographs and scale drawings and discussions of age, function, laboratory results, and significance. Each historic property will be assigned a Hawai‘i State Inventory of Historic Properties (SIHP) number;
    e) If appropriate, a section concerning cultural consultations;

f) A summary of historic property categories, integrity, and significance based upon the Hawai‘i Register of Historic Places (Hawai‘i Register) criteria;

g) A project effect recommendation; and

h) Treatment recommendations to mitigate the project’s adverse effect on any historic properties identified in the project area that are recommended eligible to the Hawai‘i Register.

This scope of work includes full coordination with the SHPD/DLNR and the City relating to archaeological matters. This coordination takes place after consent of the owner or representatives.

1.3 Environmental Setting

The project area lies on the east side of Kaua‘i and traverses three *ahupua‘a* (land divisions): Waipouli at the northern end of the project area, North Olohena in the middle, and South Olohena at the southern end. These three *ahupua‘a* are located within the central area of the Līhu‘e Plain. During higher sea levels, terrigenous sediment accumulated further inland as streams released their sediment loads where the shoreline had encroached. Also, reefs grew with the rising sea level, and, as the sea receded once again, marine sediment was created and deposited on shore by the erosion of these reefs. Both of these processes were part of the formation of the Līhu‘e Plain (Armstrong 1973:30).

This area is exposed to prevailing northeast trade winds and receives 40 to 50 inches (in) of rainfall annually at the seashore and 60 to 90 in in the upland mountainous area (Giambelluca et al. 2011). Elevation within the project area ranges from 13 to 20 ft above annual mean sea level. Natural vegetation within the project area consists of *kiawe*, *klu*, *koa haole*, bermudagrass, napier grass, *guava,* and *joee* (Foote et al. 1972:95). Rows of ironwood trees interspersed with coconut trees were located along the coast.

Sediments within the project area consist of Mokuleia fine sandy loam (Mr) and Beaches (BS) (Figure 5). The Mokuleia series soils are described as “well-drained soils along the coastal plains on the islands of O‘ahu and Kaua‘i. These soils formed in recent alluvium deposited over coral sand. They are shallow and nearly level” (Foote et al. 1972:95). Beaches are described as “sandy, gravelly, or cobbly areas… [and] consist mainly of light-colored sands derived from coral and seashells” (Foote et al. 1972:28).

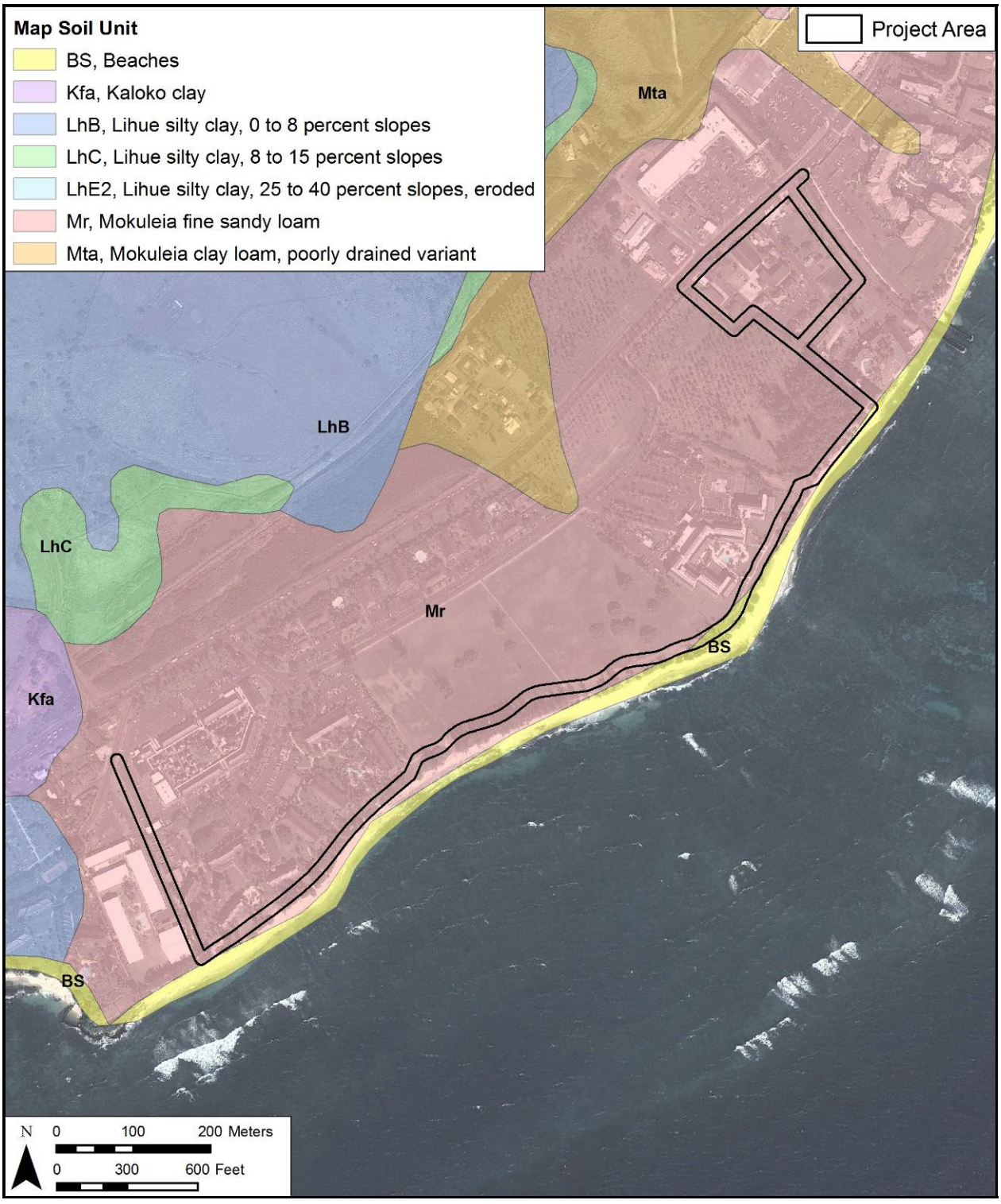

Figure 5. Overlay of Soil Survey of the State of Hawai‘i (Foote et al. 1972) depicting sediment types within and surrounding the project area (base map: 1996 Kapa‘a U.S. Geological Survey 7.5-minute topographical quadrangle map)

Section 2 Methods

2.1 Field Methods

CSH completed the fieldwork component of the AIS under SHPD/DLNR permit No. 12-04, issued pursuant to HAR Chapter 13-13-282. Fieldwork was conducted between July 25 and August 6, 2012 and on September 11, 2012 by CSH archaeologists Missy Kamai, B.A., Gerald Ida, B.A., Johnny Dudoit, B.A., Trevor Yucha, B.A., Tyler Turran, B.A., Frederick LaChance, B.A., Pulama Lima, B.A., and Kelly Burke, M.Sc. This effort required approximately 38 person-days to complete. All fieldwork was performed under the general supervision of Hallett H. Hammatt, Ph.D. (principal investigator).

2.1.1 Pedestrian Inspection

A 100 percent pedestrian inspection of the project area was undertaken for the purpose of historic property identification and documentation. The pedestrian survey was accomplished by walking along the extent of the proposed narrow multi-use path.

2.1.2 Ground Penetrating Radar (GPR) Survey

GPR data is acquired by transmitting pulses of electromagnetic energy, in the radar frequency range, into the ground via a sending antenna. Each time a radar pulse encounters material with a different density, electrical conductivity, or chemical composition, a portion of the radar energy will reflect back to the surface and be recorded via a receiving antenna. The remaining radar energy will continue to pass into the ground to be further reflected, until it finally dissipates with depth. Reflection features may include discrete objects, stratigraphic layering, or other subsurface anomalies such as subsurface disturbances associated with utility installation or human interment.

The effectiveness of GPR is highly dependent on local soil conditions. The penetration depth of GPR is determined by antenna frequency and the electrical conductivity of the earthen materials being profiled (Daniels 2004). Soils having high electrical conductivity rapidly attenuate radar energy, restrict penetration depths, and severely limit the effectiveness of GPR (US Department of Agriculture (USDA) National Resource Conservation Service [NRCS] GPR Methodology n.d.). The electrical conductivity of soils increases with increasing water, clay, and soluble salt contents.

GPR suitability maps created by the NRCS were reviewed in an attempt to anticipate the predominant soil matrix within the project area and to assess the relative suitability of GPR application. The project area is shown to include lands in the moderate and very low GPR suitability categories. The NRCS provides the following discussion when defining their GPR suitability categories:

> Areas dominated by mineral soil materials with less than 10 percent clay or very deep organic soils with pH values < 4.5 in all layers have very high potential for GPR applications. Areas with very high potential afford the greatest possibility for deep, high resolution profiling with GPR. However, depending on the ionic

> concentration of the soil solution and the amounts and types of clay minerals in the soil matrix, signal attenuation and penetration depths will vary. With a 200 MHz antenna, in soils with very high potential for GPR, the effective penetration depth has averaged about 16.5 feet. However, because of variations in textural layering, mineralogy, soil water content, and the ionic concentration of the soil water, the depth of penetration can range from 3.3 to greater than 50 ft.
>
> Areas dominated by mineral soils with 18 to 35 percent clay or with 35 to 60 percent clay that are mostly low-activity clay minerals have moderate potential for GPR. Low activity clays are principally associated with older, more intensely weathered soils. In soils with moderate potential for GPR, the effective penetration depth with a 200 MHz antenna has averaged about 7 feet with a range of about 1.6 to 16 ft. Though penetration depths are restricted, soil polygons with moderate potential are suited to many GPR applications Mineral soils with 35 to 60 percent clay, or calcareous and/or gypsiferous soils with 18 to 35 percent clay have low potential for GPR. Areas with low potential are very depth restrictive to GPR. In soils with low potential for GPR, the depth of penetration with a 200 MHz antenna has averaged about 1.6 ft with a range of about 0.8 to 6.5 ft.
>
> Areas that are unsuited to GPR consist of saline and sodic soils. These soil map units are principally restricted to arid and semiarid regions and coastal areas of the United States [USDA NRCS GPR Methodology n.d.].

Note that the estimated depth penetration by the NRCS is based on the use of a 200 MHz antenna. The current survey will utilize a 400 MHz antenna, which balances radar penetration depth with image resolution, so all projected depth estimates by the NRCS must be cut in half. Thus, average depth penetration would be 3.5 ft (1 meter [m]) in moderate suitability areas and 0.8 ft (0.2 m) in low suitability areas.

2.1.2.1 Survey Methodology

The GPR survey was conducted using a Geophysical Survey Systems, Inc. SIR-3000 system equipped with a 400 MHz radar antenna proceeding along transects within a survey grid. Due to computer interpolation software (*Surfer 9*) it was only necessary to run data collection transects along one axis of each survey grid (X or Y). In order to standardize the data collection process, all transects were run in the Y direction, originating from an arbitrary southwest corner (Figure 6). Transect spacing was 50 centimeters (cm).

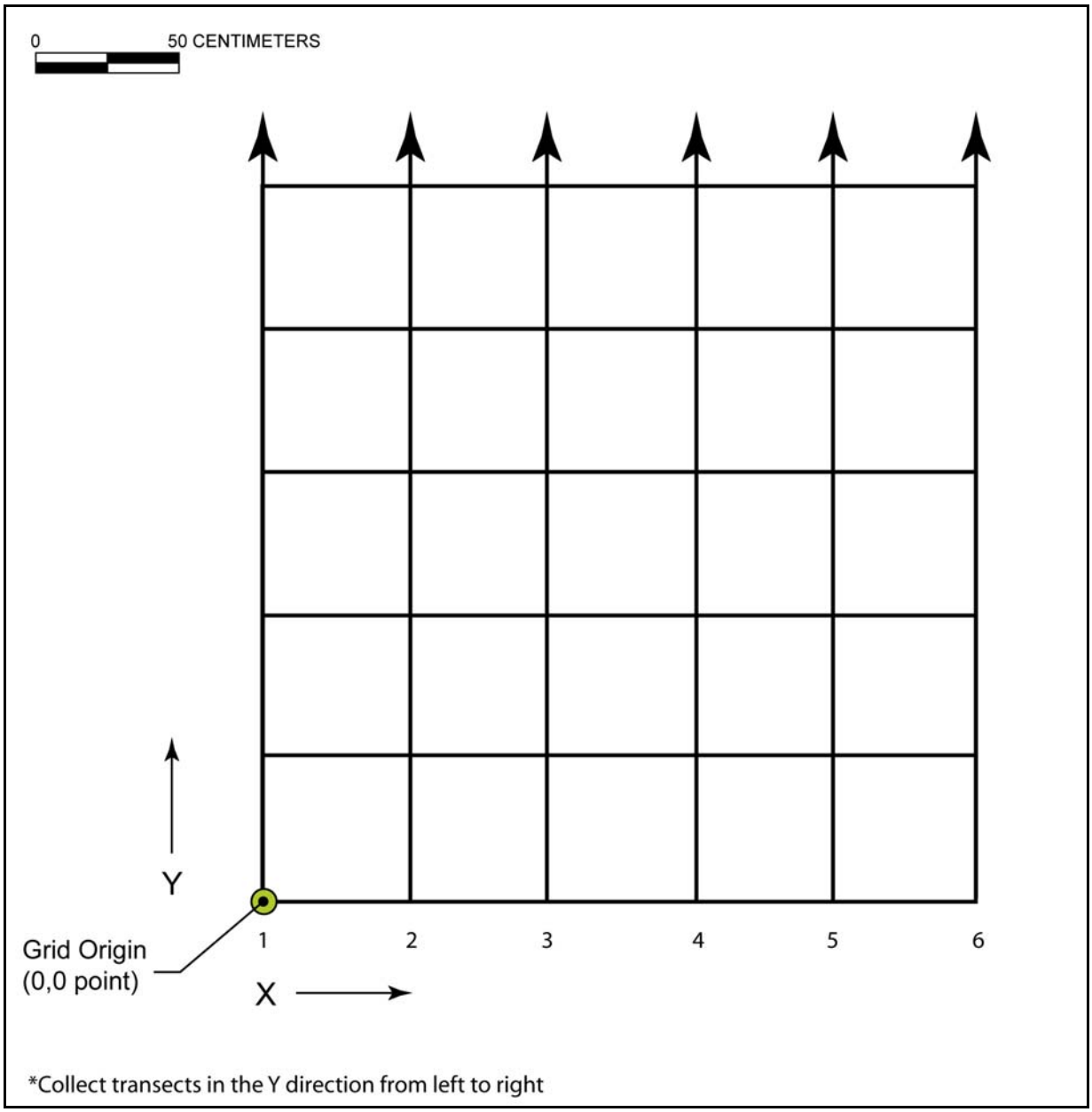

Figure 6. Illustration of GPR survey grid and method of data collection

2.1.2.2 Data Collection Parameters

GPR data collection parameters were held constant throughout the survey (Table 1).

Table 1. GPR Data Collection Parameters

Parameter	Settings
Antenna	400 MHz
Transmission rate	100KHz
Samples	512
Format	16-bit
Range	40 nanoseconds
Dielectric	14.00
Rate	100
Scans per unit	45 per meter
Low Pass Filter	750MHz
High Pass Filter	200MHz

2.1.2.3 Post-Processing

All collected GPR data were post-processed using the following software: *RADAN 6.6*, *GPR Process*, and *Surfer 9*.

RADAN 6.6 was utilized to generate two-dimensional depth profiles from the collected GPR data. These profiles illustrate the geometry of the reflections recorded during data collection. An analysis of these profiles can determine whether the radar energy is reflecting from a flat stratigraphic layer (seen as a distinct horizontal band on a profile), a discrete buried object (seen as a hyperbola in profile), or from stratigraphic irregularities such as subsurface disturbances associated with utility installation or human interment (also seen as hyperbolas, but usually are more ephemeral and consist of clustered reflections).

Position correction was utilized to remove unwanted surface “noise” from GPR profiles. High and low pass filters were applied to remove any excess background noise generated from nearby power lines, radio frequencies, etc. during data collection. Gain (signal amplification) was also applied to accent poorly defined or ephemeral reflections that are typically associated with subsurface cultural deposits.

A combination of *GPR Process* and *Surfer 9* was used to generate amplitude slice maps from the collected GPR data. Amplitude slice-maps are a three-dimensional tool for viewing differences in radar reflection amplitudes across a given surface at various depths. Amplitude slice-maps can be thought of as plan view maps or excavation level records that display GPR at user-defined depth intervals. Reflected radar amplitudes are of interest because they measure the degree of physical and chemical differences in buried materials, which in turn can indicate the presence of stratigraphic interfaces, discrete buried objects (i.e., basalt boulders, utility lines, burial caskets, etc.), or stratigraphic irregularities (i.e., subsurface anomalies associated with burial pits, fire pits, buried irrigation ditches, etc.). The amplitude slice maps are also important because they allow the visualization of radar reflections throughout the entire data set collected

at a survey area at a given depth. This gives size and shape to collected radar reflections, which can aid in the interpretation of identified subsurface anomalies.

Amplitude slice-maps are generated through the comparison of radar reflection amplitudes recorded in vertical depth profiles, which correspond to individual transects collected within a survey grid along the X-axis (note that while transects are collected in the Y-direction, they are actually located within the X-axis.). In this method, amplitude variations are analyzed at each location where a radar reflection was recorded. Reflection amplitude data from the X-axis is then used to interpolate reflection data on to the Y-axis.

2.1.3 Subsurface Testing

The subsurface testing program included the excavation of 10 backhoe test trenches, 33 backhoe-assisted shovel tests, and 15 manual shovel tests. The hand-excavated shovel tests ranged from 0.30 to 0.66 m in diameter and from 0.50 to 0.85 m in depth. The backhoe-assisted shovel tests ranged from 0.46 to 0.80 m in length and from 0.52 to 1.38 m in depth. The test trenches measured between 6.5 and 7.5 m long, 0.75 and 0.9 m wide, and ranged in depth from 0.75 to 1.95 m. Shovel testing was chosen as an appropriate method for the following reasons: 1) Shovel tests would cause less adverse impact to deposits in known site areas in comparison to standard sized backhoe trenches; 2) Shovel testing allows broader coverage and can more efficiently determine distribution of cultural layers than standard size backhoe trenches.

The stratigraphic profile of each test excavation was drawn and photographed. The observed sediments were described using standard USDA soil description observations/terminology. Sediment descriptions included: Munsell color; texture; consistency; structure; plasticity; cementation; origin of sediments; descriptions of any inclusions, such as cultural material and/or roots; lower boundary distinctiveness and topography; and other general observations. Where stratigraphic anomalies were exposed, these were carefully represented on the trench excavation profile.

2.2 Laboratory Methods

Materials collected during AIS fieldwork were identified and cataloged at CSH’s laboratory facility in Waimānalo, on the island of O‘ahu. Analysis of collected materials was undertaken using standard archaeological laboratory techniques. Artifacts were washed, sorted, described, photographed, and cataloged. In general, artifact analysis focused on establishing, to the greatest extent possible, material type, function, cultural affiliation, and/or age of manufacture. Diagnostic (identifiable or dateable) attributes of artifacts were researched. A catalog of all collected material was prepared and is presented in Section 5, below.

Upon completion of the project, all material collected during subsurface testing will remain at the CSH Waimānalo office until a permanent facility is determined based on consultation with the landowner and the SHPD/DLNR.

2.3 Document Review

Background research included: a review of previous archaeological studies on file at the SHPD/DLNR library; review of historical documents at Hamilton Library at the University of

Hawai‘i, the Hawai‘i State Archives, the Mission Houses Museum Library, the Hawai‘i Public Library, and the Archives of the Bernice Pauahi Bishop Museum (BPBM); study of historic photographs at the Hawai‘i State Archives and the Archives of the BPBM; study of historic maps at the Hawai‘i State Land Survey Division; and study of historic maps and photographs at the CSH library. Information on LCAs was accessed through Waihona ‘Aina Corporation’s Māhele Database (www.waihona.com), as well as a selection of CSH library references. This research provided the environmental, cultural, historic, and archaeological background for the project area.

2.4 Consultation

Consultation for the current project was undertaken as part of the project’s Section 106 consultation plan (see Vogeler, Magat, Genz, and Hammatt 2012), as well as the cultural impact assessment (see Vogeler, Magat, and Hammatt 2012).

Several Section 106 meetings were convened including a preliminary organizational meeting with discussion of Protocol for future meetings and three follow-up meetings. The preliminary results of the archaeological investigation were presented and discussed at the last two meetings.

Section 3 Background Research

3.1 Legendary and Traditional Accounts

This section discusses legendary and traditional accounts of Waipouli, North Olohena, and South Olohena Ahupua‘a. For a more extensive discussion of the traditional and legendary background of this area, see Vogeler, Magat, and Hammatt 2012 and Vogeler, Magat, Genz, and Hammatt 2012.

3.1.1 *Wahi Pana* (Celebrated Places)

“In Hawaiian culture, if a particular spot is given a name, it is because an event occurred there which has meaning for the people of that time” (McGuire 2000:17). *Wahi pana* were passed on through the oral tradition, preserving the unique significance of each place. Hawaiians named all sorts of objects, places, and points of interest. In the following paragraphs, the place names (*wahi pana*) are in bold.

3.1.1.1 Wahi Pana of Waipouli

The name **Waipouli** literally means the “dark water” (Pukui et al. 1974; Thrum 1923; Wichman 1998), although it is referred to as “black waters” in *Ruling Chiefs of Hawaii* (Kamakau 1961:159). According to one theory, people may have seen the water appear darker during a solar eclipse, hence the name (Wichman 1998:82). Waipouli refers to the *ahupua‘a*, the village, and the beach. **Waipouli Beach** hugs the shoreline in a narrow stretch from the Coconut Plantation in Waipouli to Waika‘ea Canal in Kapa‘a. The currents remain strong throughout the year with the near-shore shallows quickly dropping into deep waters (Clark 1990:9).

Although by the twentieth century, Waipouli was considered “a rather insignificant *ahupua‘a*” (Handy and Handy 1972), clues to the history of this particular *ahupua‘a* are in the records of the 1872-73 Commission of Boundaries (1873) proceedings concerning Waipouli. The guardians of William C. Lunalilo petitioned for the definition and settlement of the boundaries for Waipouli Ahupua‘a in the district of Puna on Kaua‘i Island. Four witnesses, all Hawaiians familiar with Waipouli, gave evidence from which Duncan McBryde, the Commissioner of Boundaries, made his decision on November 7, 1872. A subsequent survey by James Gay was undertaken in June 1873.

McBryde's decision and Gay's survey notes (both included in the Boundary Commission record) contain place names, most of which are missing on modern maps of Waipouli. The place names were culled from the *Native Testimony* (1847-53) and *Commission of Boundaries* (1864-1905) records and from some nineteenth-century maps. The place names provide some of the last non-tangible clues to the extensive native Hawaiian activities that occurred throughout the *ahupua‘a*. Some of these place names are especially worth noting, as they suggest the origin of names present in Waipouli today.

For example, **Uhalekawaa** was the name of an 1872 village in Waipouli close to what was known as **Kauwanawa‘a** (“canoe harbor”). Today, Uhalekawaa is the name of a canal in northern Waipouli by the border of Kapa‘a. The Uhalekawaa area around the canal has a thick

cultural layer that dates back to the sixteenth century, with traditional artifacts related to fishing, weaponry, and woodworking (Kimura International 2007:4–40).

Kauwanawa‘a was a canoe harbor on the shore at the southern boundary of Waipouli. Also in the southern boundary was an “old pig pen **Papuaa**.” The *mauka* half of the northern boundary was the “site of old houses **Panene/Panini**” and “old houses **Kapukaili**.” A nearby stream was called **Panene Stream**; alongside it were two gulches named **Wailapa** and **Waikaanumununumu**. The presence of the pig pen and two old house sites suggests these were the only three populated areas within *mauka* reach of Waipouli before the nineteenth century. Areas at similar elevations in neighboring *ahupua‘a* are known to have been used for intensive agriculture.

Other names in the Boundary Commission records include: **Kopaea**, a bank located by the border Waipouli shares with North Olohena; **Ulalena**, a big hole on the same side; and **Kapapa**, a stream and a spur, also on the boundary shared with North Olohena. On the western tip of Waipouli was **Laauwaha** (**Loauwahia**), a tree at the edge of the forest. On the boundary shared with Kapa‘a was **Kainamanu** (“open space in bush” or “place for catching fowl”) and **Kahilimalanai** (**Kahilimalawa**), a large *‘ōhi‘a* tree.

In addition to Boundary Commission names, there are many storied places in Waipouli. **Mākaha-o-Kūpānihi** means “Kūpānihi is fierce” or “star of Kūpānihi;” it was the name of a deep bathing pool set aside for *ali‘i* use (Wichman 1998:83). Kūpānihi was the god one prayed to when canoes had to be carved. Mākaha refers to a star near the Pleiades—one of two stars (the other was Mākohi-Lani) that were the patrons of fighters (Wichman 1998:83). Keawe, half-brother of Kaumuali‘i, perished in the sacred pool of Mākaha-o-Kūpānihi after having been shot by two rival Maui chiefs hoping to curry favor from Kamuali‘i. Instead of rewarding them, Kaumuali‘i had the two chiefs put to death (Wichman 1998:84).

Marking the boundary between Waipouli and Kapa‘a along the coast was **Ka-lua-pā-lepo**, “pit for dirty dishes;” the boundary with Olohena was at **Kaunana-wa‘a**, “mooring place for canoes” (Wichman 1998:82). The Māhele records reveal six clusters of houses with names that provide a glimpse into pre-Contact Hawaiian society: **Kāne-limua**, “man overgrown with moss;” **Maka-lokoloko**, “eyes swelling up in tears;” **Makamaka-‘ole**, “without intimate friend;” **Mokuna-hele**, “traveling district;” and **Nā-hale-ka-wawā**, “houses where there is lots of noise” (Wichman 1998:82).

There was at least one fishpond in Waipouli according to land commission testimony. **Hapakio** was a fishpond (LCA 9013) of the *konohiki* (chief of an *ahupua‘a*).

3.1.1.2 Wahi Pana of North Olohena and South Olohena

North Olohena and South Olohena are *ahupua‘a* with rich histories, but the meaning of the name Olohena itself is unclear. **Olohena** refers to the *ahupua‘a* as well as a ridge. Pukui et al. (1974) state that Olohena has no known meaning, but may be a cognate with Olosenga, an island in the Manu‘a Group of Samoa. Clark (2002) and Wichman (1998) also do not provide a meaning for Olohena, although Wichman states that “the use of its name has all but disappeared as it calls to mind two hills whose shape resembles a pair of buttocks” (Wichman 1998:81). It may well be that the name is “a traditional Polynesian place name; meaning unknown. Variant spelling of Olohana” (Soehren 2010).

On the border of Wailua and Olohena, **Kaihuololoia** is an exposed red ridge on the Ke‘ālia side of Nounou (Wichman n.d.:2). The stone called **Kīkēkē**, which means “to knock, rap, tap, or pound,” is a marker on the border between Wailua and Olohena. It is located “on the brow of a hill near the sea” (Wichman n.d.:2). **Kulahuhū**, literally “angry plain,” is a pile of stones situated on the plain between Wailua and Olohena; it is associated with the battle between Kawelo and ‘Aikanaka around AD 1700 (Wichman n.d.:2). **Kamo‘oho‘opulu,** meaning “wet ridge,” is an actual ridge that acts as a boundary marker between Wailua and Olohena. **Kikake** is a point on the sea coast that is a division boundary between Wailua and Olohena (Wichman n.d.:3,14).

Pukui et al. (1974:170) note that Olohena is associated with **Mahe-walu**, short for Māhele-walu meaning “eight divisions,” a *heiau* on the ridge where human sacrifices were conducted; some sources have stated that Mahe-walu Heiau was another name for Kukui Heiau. In South Olohena, the name of the **Ka-iki-hāuna-kā** Heiau translates to “little striking blow” (Wichman 1998:81). Ka-iki-hāuna-kā was built by Kawelo after he beat ‘Aikanaka. A short distance from Ka-iki-hāuna-kā Heiau was **Hale-pā-iwi**, a house built especially for riddling. The house was encircled by a fence that was made from the bones of hapless riddlers who had lost the game, which is why the house is called Hale-pā-iwi, “house enclosed with bones” (Wichman 1998:82).

Kukui Heiau is also in Olohena. Kukui translates to “enlightenment” or “candlenut tree” and is situated on a headland called **Lae-‘ala-kukui**, “point of the scent of kukui” (Wichman 1998:82). Unusually large stones, some as heavy as a few tons, were used to construct the *heiau.*

North along the coast from Kukui Heiau is **Papaloa**, a village and a beach (Soehren 2010). “Papa” means “reef” and “loa” means “long;” Papaloa evidently refers to the reef offshore (Pukui and Elbert 1986). A nineteenth century account may be referring to a reef off Papaloa Beach. The Order of the Lords Commission of the Admiralty (1885) reports: “In 1880, a small steamer was observed secured to a buoy off Wailua, apparently inside a reef, as breakers were observed all around to seaward.”

3.1.2 *Mo‘olelo* (Oral-Historical Accounts)

3.1.2.1 Mo‘olelo of Waipouli

Waipouli is mentioned in a version of the legend of Kaililauokekoa, a female chief of Kapa‘a, the daughter of La‘a and granddaughter of Mo‘ikeha. Thomas Thrum (1906) explains that:

> [Kaililauokekoa's] greatest desire was to play konane, a game somewhat resembling checkers, and to ride the curving surf of **Makaīwa** (ke‘eke‘e nalu o Makaīwa), a surf which breaks directly outside of Waipouli, Kapa‘a. She passed the larger part of her time in this manner every day, and because of the continual kissing of her cheeks by the fine spray of the sea of Makaīwa, the bloom of her youth became attractive ‘as a torch on high,’ so unsurpassed was her personal charm [Thrum 1906:83–84, bold in original].

Waipouli is also the place where Hi‘iaka and Lohi‘au were reunited. Initially, Hi‘iaka had returned Lohi‘au to Pele, only to discover that Pele had not protected Hi‘iaka’s grove of lehua trees *(‘ōhi‘a)* as she had promised. Hi‘iaka, heartbroken, having travelled to Kaua‘i to find Lohi‘au and return him to Pele, had fallen in love with Lohi‘au. She kissed Lohi‘au. Pele, realizing what had occurred between them, killed Lohi‘au. Wichman (1998:82–83) explains:

“Pele covered Lohi‘au with lava and Hi‘iaka returned to Kaua‘i, vowing never to see her sister again. Two of Pele’s brothers took pity on Lohi‘au and brought him back to life.” Eventually, Lohi‘au and Hi‘iaka met in Waipouli during a game of kilu (an ancient game). They married and lived “the rest of their lives together at Hā‘ena.”

A portion of the *mo‘olelo* of Kawelo relates to Waipouli as well as North and South Olohena. In Green and Pukui’s (1936) account, Kawelo’s brother, Kamalama, distributes the lands in the “plain between Waipouli and Wailua which Ka-ma-la-ma had selected as a suitable place” for settlement:

> There the men received each portion and settled down to cultivate the land, while Ka-ma-la-ma turned toward the hills. The men made lo‘i, or taro patches, and set out such food-plants as they thought would flourish in this new land. They planted twelve breadfruit trees, one for each taro-patch, and, in order to have a name signifying unity, they called the place “The twelve breadfruit,” because the trees all came from a single mother-plant...These trees were famous in ancient days and even now their report is in the mouths of men.
>
> A pau kana haawi ana, ua huli aku ia o Kamalama no ke Kuamoo. A noho ihola lakou i na loi’ kalo, na ano mea ai a pau a lakou i manao ai i pono no ka noho ana o ia aina malihini. A kanu ihola no hoi lakou he umikumamalua mau kumu ulu;--hookahi kumu ulu o ka loi’ ho‘okahi;-- pela a pau na loi’ kalo he umikumamalua;--i kumu hoalike me ko lakou mau inoa,--mai ka ulu kaukahi a ka ula umikumamalua, i mea hoomanao hoi na na mea a pau, i na ulu umikumamalua. Aole paha i nele ka hoomanao ana o ka poe a ka wa kahiko i keia mau ulu kaulana, a hiki wale no i keia manawa e—o mau nei ia mau ulu i ka waha o na kanaka [Green and Pukui 1936:86–88].

The traditional *mo‘olelo* above reinforces the idea that Waipouli was a somewhat important *ahupua‘a*. Further evidence this *ahupua‘a* was a more interesting place comes from narrative accounts about the presence of Kiaimakani, a chief of Waipouli, and his role in two significant events affecting Kaua‘i in the first quarter of the nineteenth century.

In the first account, the year was 1824 when the brig named “Pride of Hawaii,” owned by Liholiho (Kamehameha II), ran aground in Hanalei Bay. Hiram Bingham (1847) recorded the effort of a crowd of Hawaiians trying to pull the vessel ashore to salvage:

> Kiaimakani passed up and down through the different ranks, and from place to place, repeatedly sung out with prolonged notes, and trumpet tongue... ‘be quiet - shut up the voice.’ To which the people responded... ‘say nothing,’ as a continuance of the prohibition to which they were ready to assent when they should come to the tug. Between the trumpet notes, the old chieftain, with the natural tones and inflections, instructed them to grasp the ropes firmly, rise together at the signal, and leaning inland, to look and draw straight forward, without looking backwards toward the vessel. They being thus marshaled and instructed, remained quiet for some minutes, upon their hams [Bingham 1847:221–222].

The salvage efforts ultimately failed and the brig was lost. Bingham's account vividly suggests the force of the chief's personality and his authority and stature that may have been founded upon the traditional prestige of his domain, Waipouli.

Kiaimakani also appears in Samuel Kamakau's (1961) account of the 1824 rebellion of the chiefs of Kaua‘i upon the death of Kaumuali‘i. Kalanimoku, representative of Kamehameha II, called a council of the Kaua‘i chiefs at Waimea during which he announced,

> 'The lands shall continue as they now stand. Our son, Kahala-i‘a, shall be ruler over you.' A blind chief of Waipouli in Puna, named Ki‘ai-makani, said, 'That is not right; the land should be put together and re-divided because we have a new rule,' but Ka-lani-moku would not consent to this [Kamakau 1961:267].

Some Kaua‘i chiefs, including Kiaimakani, rebelled against the imposed decrees. His death is recorded thus:

> On August 8 [1824] the battles of Wahiawa were fought close to Hanapēpē. The Hawaii men were at Hanapēpē, the Kauai forces at Wahiawa, where a fort had been hastily erected and a single cannon (named Humehume) mounted as a feeble attempt to hold back the enemy... Large numbers of Kaua‘i soldiers had gathered on the battleground, but they were unarmed save with wooden spears, digging sticks, and javelins... No one was killed on the field, but as they took to flight they were pursued and slain. So Kia‘i-makani, Na-ke‘u, and their followers met death [Kamakau 1961:268].

Kamakau's singling out of Kiaimakani for special mention reinforces the impression that the chief Kiaimakani and his *ahupua‘a* had a prestigious reputation.

3.1.2.2 Mo‘olelo of South and North Olohena

Kaikihāunakā Heiau was said to be a place where human sacrifices were held. Kaikihāunakā Heiau is linked to the *mo‘olelo* of Kawelo and ‘Aikanaka:

> After Kawelo defeated ‘Aikanaka, he built a heiau in Olohena that he named Ka-iki-hāuna-kā, 'little striking blow.' It was built as a place to make an offering to his war god of the first enemy warrior to have been killed in battle. This would have been one of the warriors Kawelo killed as his canoe was carried onto shore" [Wichman 1998:81].

Kaikihāunakā Heiau is also the setting for an account related by Thrum, regarding a man name Kalelealuaka (Thrum 1906:77). The *mo‘olelo* of Kalelealuaka tells of a man from Kaua‘i who arrives in Waialua, O‘ahu to look for a human body to use as a sacrifice in "the temple of Kahikihaunaka at Wailua, on Kaua‘i" (Thrum 1906:77). Kalelealuaka fetches what he believes is a corpse (in reality the unconscious hero Ka‘ōpele) and places it beside the body of another dead man in the altar at Kaikihāunakā Heiau. However, some accounts note that Ka‘ōpele was offered as a sacrifice at Kukui Heiau (Dickey 1916:19). But no matter what *heiau* he was offered at as a sacrifice, tradition dictates that Ka‘ōpele soon recovered, and he married and had a son named Kalelealuaka. Kalelealuaka grows up and travels to Wailua where he watches the chiefs engage in their games, before boxing with the king and killing him (Thrum 1906:83). As for his father, Ka‘ōpele undergoes more exploits on the island of O‘ahu.

An account of Kukui Heiau tells that:

> The giant Nunui collected the stones and put them in position and gathered the *‘ohi‘a lehua* logs from the mountains to build all the structures within the walls. After it was built, he was tired and stretched out on the nearby hilltop, where he still sleeps [Wichman 1998:82].

3.2 Historic Background

3.2.1 Early Historic Period

Accounts of excursions by missionaries and naturalist-travelers along the east coast of Kaua‘i during the first half of the nineteenth century make no specific reference to Waipouli. These accounts may reflect a general destituteness within the area, the result of shifts in population that had taken place on Kaua‘i in response to the stresses—including disease and commerce—of post-Contact life. J. W. Coulter, in his study based on the missionary censuses, comments that by the mid-nineteenth century “on the east coast of Kauai nearly all the people lived in Ko‘olau Wailua [just south of the current project area] and in the vicinity of Nāwiliwili Bay” (Coulter 1931:15). A map of Kaua‘i in Coulter’s study, showing population distribution in 1853, indicates that no single area from Olohena to Kapa‘a contained a population much greater than fifty. This may reflect an ongoing migration of people from more remote, though formerly well-populated, areas to the population centers of the mid-nineteenth century.

Few Westerners visited the Waipouli and Olohena areas in the years just after Cook’s arrival; hence detailed descriptions of the area are scarce. Most of the voyagers during the late eighteenth and early nineteenth centuries landed at Waimea, on the southwestern side of the island, a location that would eventually overshadow Wailua (just south of Olohena and Waipouli) in its royal importance because of the opportunities there to associate and trade with foreigners (Lydgate 1920).

In 1793, Wailua was still the “capital” of Kaua‘i and Capt. George Vancouver, who had already visited the island several times under Capt. James Cook and later on his own, knew this fact well and tried to land there in March. Although conditions prevented him from anchoring, Vancouver observed the area from off shore and gave this description:

> This part seemed to be very well watered, as three other rapid small streams were observed to flow into the sea within the limits above mentioned. This portion of Attouai [Kaua‘i], the most fertile and pleasant district of the island, is the principal residence of the King, or, in his absence, of the superior chief, who generally takes up his abode in an extensive village, about a league to the southward of the north-east point of the island. Here Enemo the regent, with the young prince Tamooerrie, were now living… [Vancouver 1798:221–222].

The missionary Hiram Bingham passed through Wailua twice in 1824 and visited a place not far from the birthplace of King Kaumuali‘i (pōhaku ho‘ohānau), a *hōlua* slide (ancient sledding course) and the lower falls (Wai‘ehu) on the South Fork of the river, but left no clues as to the size or extent of the settlement there (Bingham 1847:220, 231).

3.2.2 Mid- to Late Nineteenth Century

3.2.2.1 Land Leases and Agriculture

During this time period, there were indications that the Kapa‘a/Waipouli area was being considered for new sugarcane experiments, similar to those occurring in Kōloa. In a historic move, Ladd & Company received a 50-year lease on land in Kōloa from Kamehameha III and Kaua‘i Governor, Kaikio‘ewa. The terms of the lease allowed the new sugar company "the right of someone other than a chief to control land" and had profound effects on "traditional notions of land tenure dominated by the chiefly hierarchy" (Donohugh 2001:88). In 1837, a very similar lease with equivalent terms was granted to Wilama Ferani, a merchant and U.S. citizen based in Honolulu (Hawaii State Archives 1837). The lease was granted by Kauikeaouli (Kamehameha III) for the lands of Keālia, Kapa‘a, and Waipouli for twenty years for the following purpose:

> For the cultivation of sugar cane and anything else that may grow on said land, with all of the right for some place to graze animals, and the forest land above to the top of the mountains and the people who are living on said lands, it is to them whether they stay or not, and if they stay, it shall be as follows: They may cultivate the land according to the instructions of Wilama Ferani and his heirs and those he may designate under him… [Hawaii State Archives 1837].

Unlike Ladd & Company, which eventually became the Kōloa Sugar Company, there is no further reference to Wilama Ferani and his lease for lands in Kapa‘a, Keālia, and Waipouli. In a brief search for information on the Honolulu merchant, Wilama Ferani, nothing was found. It is thought that perhaps Wilama Ferani may be another name for William French, a well-known Honolulu merchant who is documented as having experimented with grinding sugarcane in Waimea, Kaua‘i at about the same time the 1837 lease for lands in Kapa‘a, Keālia, and Waipouli was signed (Joesting 1987:152).

In 1876, Captain James McKee and his son-in-law, Colonel Z. S. Spaulding, bought the Ernest Krull Cattle Ranch for the sum of $30,000.00. The first large-scale agricultural enterprise in Kapa‘a began on this property in 1877 by the two men and by the society, the *Hui Kawaihau* (Dole 1916:8). The *Hui Kawaihau* was originally a choral society begun in Honolulu whose membership consisted of many prominent people, both Hawaiian and *haole*. It was Kalākaua's thought that the *Hui* members could join forces with Makee, who had previous sugar plantation experience on Maui, to establish a successful sugar corporation on the east side of Kaua‘i. Captain Makee built a mill in Kapa‘a and agreed to grind cane grown by *Hui* members. Kalākaua declared the land between Wailua and Moloa‘a, the Kawaihau District, a fifth district, and for four years, the *Hui* attempted to grow sugarcane at Kapahi, on the plateau lands above Kapa‘a. In the last quarter of the nineteenth century, the upper reaches of Waipouli were also planted in sugarcane by the Makee Sugar Company of Keālia. After a fire destroyed almost half of the *Hui*'s second crop of cane and the untimely death of one of their principal advocates, Captain James Makee, the *Hui* began to disperse; property and leasehold rights passed on to Makee's son-in-law and the new Makee Plantation owner, Colonel Z. S. Spalding (Dole 1916:14; Cook 1999:51).

Sometime after 1886, but before the turn of the century, the marshy, former taro lands in the *makai* portion of Waipouli were planted in rice; these rice fields extended into Kapa‘a where a rice mill was located.

Like most well-watered areas in Hawai‘i, rice crops began taking over former *lo‘i kalo* in the second half of the 1800s. This sharing of the land by the Chinese rice farmers and native *kalo* growers continued throughout the century. Knudsen (1991:152) visited Wailua in 1895 and wrote: “We rode through the Lihue Plantation cane fields, passed through Hanamaulu and came to the Wailua River. What a sight! The great river lay clear and placid—winding away up toward the mountains with rice fields and taro patches filling all the low lands.”

By 1935, Handy (1940:67) found no *kalo* being cultivated. The terraces had been taken up by rice, sugarcane, sweet potato, and pasture. Handy explains that, “Waipouli, Olohena (North and South), and Wailua are *ahupua‘a* with broad coastal plains bordering the sea, any part of which would be suitable for sweet potato plantings; presumably a great many used to be grown in this section. There are a few flourishing plantations in Wailua at the present time” (Handy 1940:153).

3.2.2.2 1840s Accounts of the Area

In October 1840, members of the U.S. Exploring Expedition came to Wailua and recorded the following:

> The country on this route was uninteresting, until they reached Wailua, the residence of Deborah, a chief woman of the islands, readily known as such from her enormous size, and the cast of her countenance. She has a person living with her called Olivia Chapin, who speaks English, and has learned how to extort money. Deborah has about forty men in her district; but they were absent, being employed in the mountains cutting timber to pay the tax to the king…. Wailua, (two waters) was formerly a place of some importance. It is situated on a small stream of the same name, in a barren, sandy spot [Wilkes 1845, IV:68–69].

Deborah Kapule, the former wife of Kaua‘i sovereign Kaumuali‘i, took up residence in Wailua shortly after the 1824 rebellion in which Kaumuali‘i’s son George led a revolt that was put down by forces loyal to Kamehameha II. Deborah, who remained loyal to Kamehameha, was granted lands at Wailua by Ka‘ahumanu, *kuhina nui* or regent, of the islands.

Of note in the above U.S. Expedition account is that only “about forty men” are said to live in the district. This is seemingly a major reduction in settlement from Vancouver's 1793 observation of an “extensive village.” The apparent decrease in population may be attributed to the decimation of native Hawaiians by Western-introduced diseases and possibly by a movement of people to the Waimea area, which by 1840 had become the center of trade and politics on Kaua‘i.

The U.S. Exploring Expedition then traversed the coastline on horseback heading north from Wailua:

> The country on the way is of the same character as that already seen. They passed the small villages of Kuapau [Kapa‘a], Keālia, Anehola, Mowaa, and Kauharaki, situated at the mouths of the mountain streams, which were closed with similar

> sand-bars to those already described. These bars afforded places to cross at, though requiring great precaution when on horseback. The streams above the bars were in most cases, deep, wide, and navigable a few miles for canoes. Besides the sugarcane, taro, etc., some good fields of rice were seen. The country may be called open; it is covered with grass forming excellent pasture-grounds, and abounds in plover and turnstones, scattered in small flocks [Wilkes 1845, IV:69].

In 1849, a son of a Wai‘oli missionary, William P. Alexander, recorded a trip he took around Kaua‘i. Although he focuses on the larger mission settlements like Kōloa and Hanalei, he does mention the area from Wailua to Kapa‘a. The following are excerpts from Alexander’s trip on May 4–5, 1849:

> May 4…. About eight o-clock [P.M.] we arrived on the banks of the Wailua river. After calling for some time, a canoe came from the other shore, and took us over. A native led our horses over the sand bar. We were then welcomed by Deborah, the chiefess of the place, to her hospitable mansion. When she was informed that I was Alakanakela’s son, what alohas, shaking of hands, & wailing! Before we retired to rest, I engaged a horse from Deborah to go the remainder of the journey to Waioli.
>
> May 5. This morning we rose early. While the natives were getting the horse, I walked along the banks of the Wailua river. This noble stream, deep enough within the bar to float a vessel of considerable size, and it was broader than any stream that I had seen on the other islands. We did not remain here long, but got under way as soon as possible. A few miles from Wailua, near Kapa‘a we passed the wreck of a schooner on the beach, which once belonged to Capt. Bernard. It was driven in a gale over the reef, and up on the beach, where it now lies. A few miles further we arrived at Keālia. We had some difficulty crossing the river at this place, owing to the restiveness of our horses. The country here near the shore was rather uninviting, except the valley which always contained streams of water [Alexander 1991:123].

In later years, the notorious Kapa‘a reef was to become the location of many shipwrecks, particularly once a landing was built there in the 1880s.

3.2.2.3 The Māhele

The Organic Acts of 1845 and 1846 initiated the process of the *Māhele*—the division of Hawaiian lands—which introduced private property into Hawaiian society. In 1848, the crown, the Hawaiian government, and the *ali‘i* received their land titles. The common people (*maka‘āinana*) began to receive their *kuleana* awards (individual land parcels) in 1850. It is through records for LCAs generated during the Māhele that the first specific documentation of life in the Līhu‘e Basin, as it had evolved up to the mid-nineteenth century, come to light. LCAs awarded near the project area are shown in Figure 7.

3.2.2.3.1 Waipouli

At the time of the Great Māhele, William C. Lunalilo (the future king) was awarded the entire *ahupua‘a* of Waipouli (Grant 8859B:42) along with Kāhili, Kalihiwai, Pīla‘a, Manuahi,

Kamalomalo‘o, and Kumukumu. LCA records (www.waihona.com) reveal an additional 11 individual *kuleana* awards (many of which are divided into two detached plots, or *lele*) within the *makai* portion of Waipouli (Table 2, see Figure 7). An 1872 map by James Gay delineating the boundaries of Kapa‘a and adjacent lands shows that much of this *makai* region of Waipouli was a “swamp” that extended into and across the southeast *makai* portion of Kapa‘a (Figure 8). A 1929 map by R. Lane (traced from an M. D. Monsarrat map based on an 1886 survey) charts the disposition of the 11 LCAs in Waipouli (Figure 9). Seven of the awards included separate *‘āpana* for taro *lo‘i* and *pāhale*. *Kula* and *lo‘i* associated with these awards were located within and adjacent to the extensive swamp in the *makai* region of Waipouli. This swamp, perhaps the site of a former fishpond, appears to be the most pervasive natural feature of the seaward end of Waipouli. Peter H. Buck (1964) describes how the marsh areas would have been utilized: “Wet taro planting took place along the banks of streams and in swamps where the mud was heaped up into mounds.”

Table 2. Land Commission Awards within Waipouli

LCA no.	Claimant	*‘Ili* of *Ahupua‘a*	Land Use	No. of *‘Āpana* (lots)
3560	Kauakahi	Pua/Puaa Puuiki (award in Wailua)	three *lo‘i*, *kula*, house lot	
3622	Kamaholelani Kukaeuli	Makamakaole Village	three *lo‘i* and *kula*; house lot	one (two acres, one rood, three rods); one (one rood, two rods)
3624	Kaumiumi	Pōhaku Makamakaole Village	three *lo‘i* and small *kula*; house lot	one (three roods, 38 rods); one (one rood, eight rods)
3639	Kapalahua and Nalopi	Kekee Kanalimua Village	three *lo‘i* and uncult. kula, house lot	one (three rods)
3971	Honolii	Kahana; lele in Kapa‘a Ahupua‘a	living at Waipouli	
7636	Kanaka	Mokuapi Makahokoloko Village	three (or five) *lo‘i*, house lot	two (three rods, 27 rods)
8559B	Kanaina, C. for Lunalilo	Waipouli Ahupua‘a	revenue	*‘Āpana* 42
8836	Kaalihikaua	Kaheloko	two *lo‘i*, *kula*, *wauke*, pigpen, house lot	one (one acre, eight rods)
8838	Kahukuma	Pini	two *lo‘i*, *kula*, and house lot	one (1.5 acres, 37 rods)
8839	Kuaiwa	Hape Mokanahala / Mokunahala Village	four *lo‘i* and small *kula*; house lot	one (three rods, 13 rods); one (one acre, one rood, one rod)
9013	Nawaimakanui Kawaimakanui	Naohe Uahalekakawawa	three *lo‘i*; house lot	one (one acre, 12 rods); one (one rood, 27 rods)
10146	Mahi	Pau Paikahawai	three *lo‘i* and small *kula*; house lot	one (one acre, 17 rods); one (one rood)

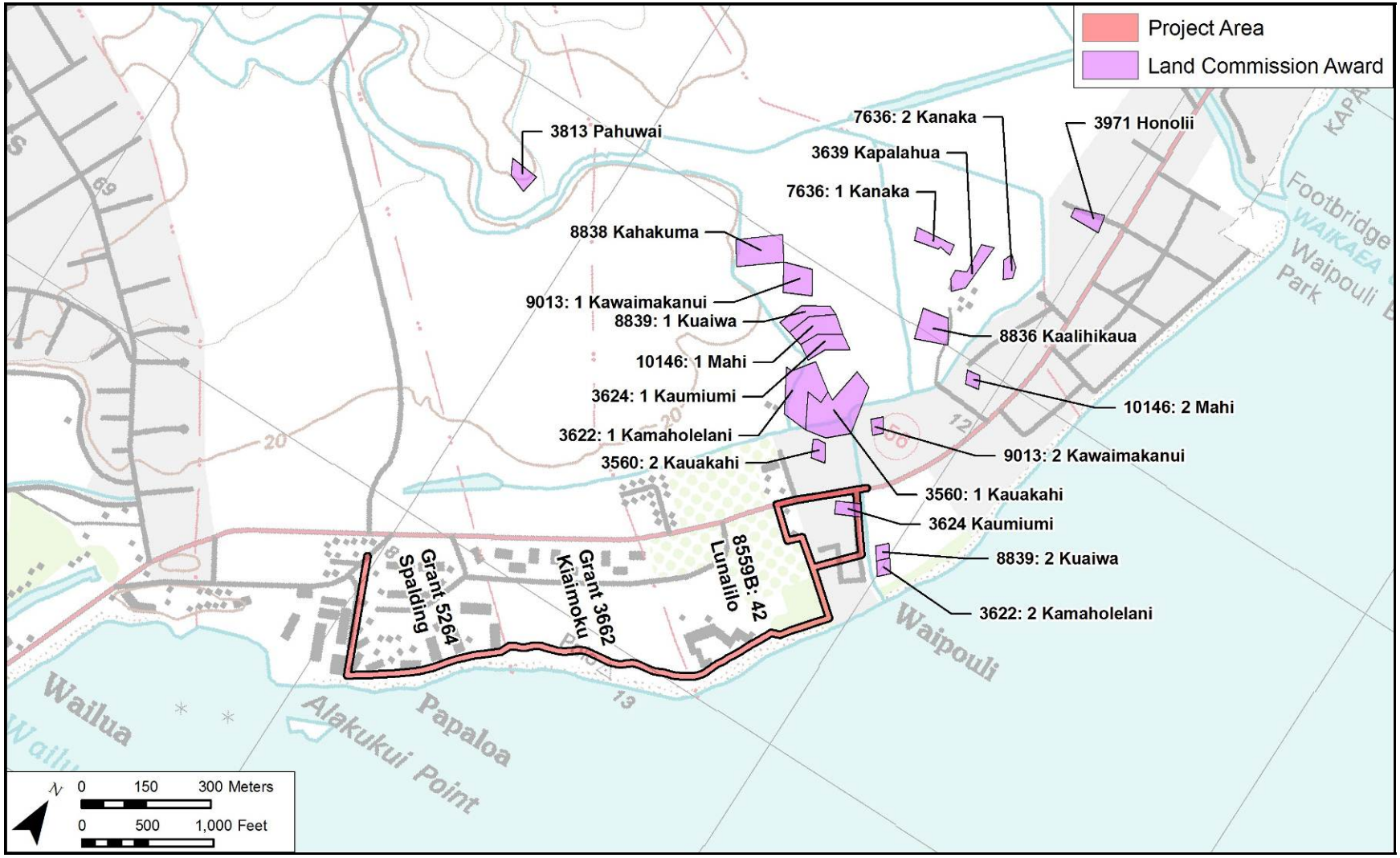

Figure 7. LCAs near the project area (base map: 1996 U.S. Geological Survey 7.5-minute topographical map, Kapa‘a quadrangle)

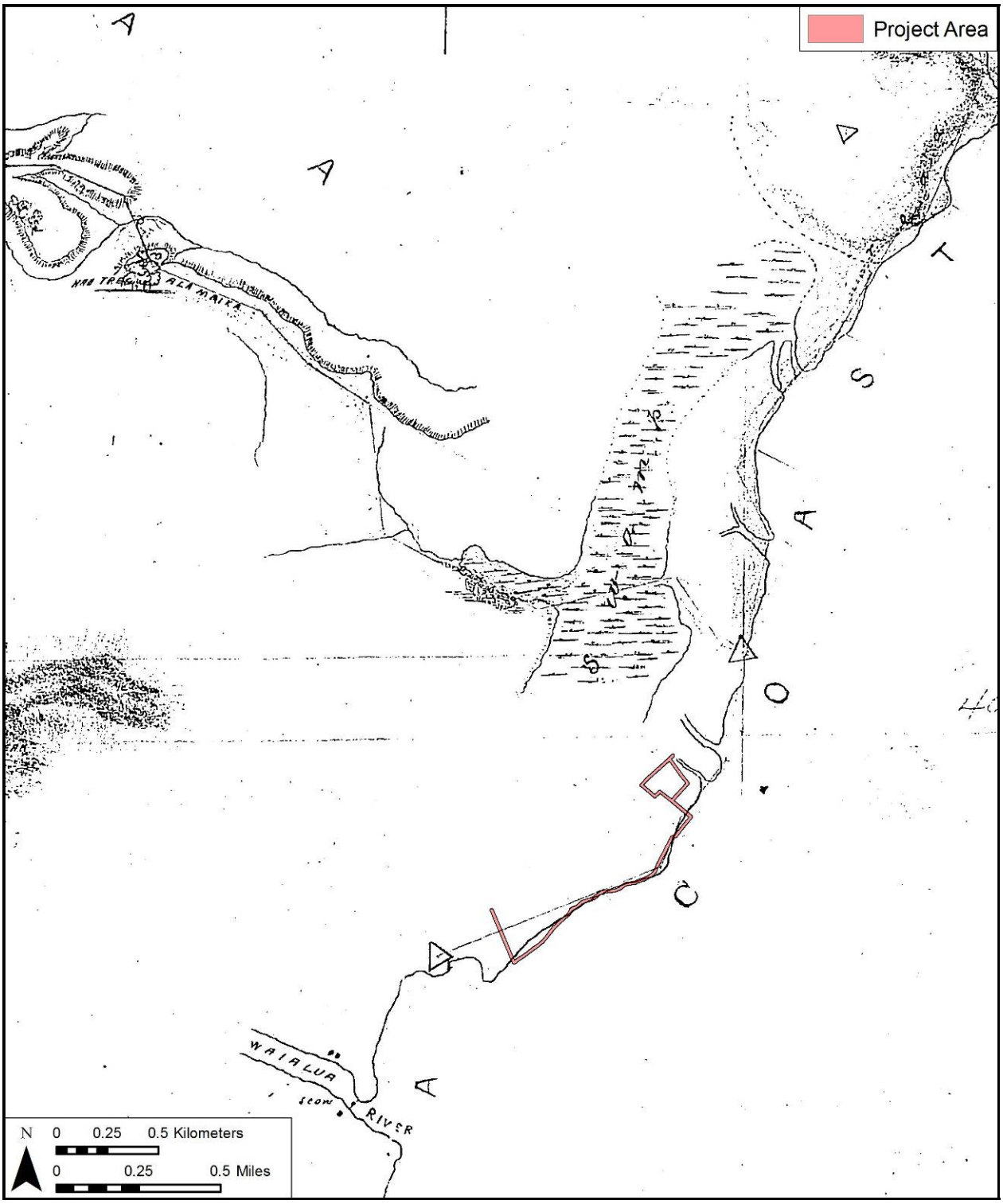

Figure 8. Portion of 1872 Government Survey map by James Gay showing *makai* marshland in Waipouli (rough estimates of *ahupua‘a* boundaries at shore added) (RM 159)

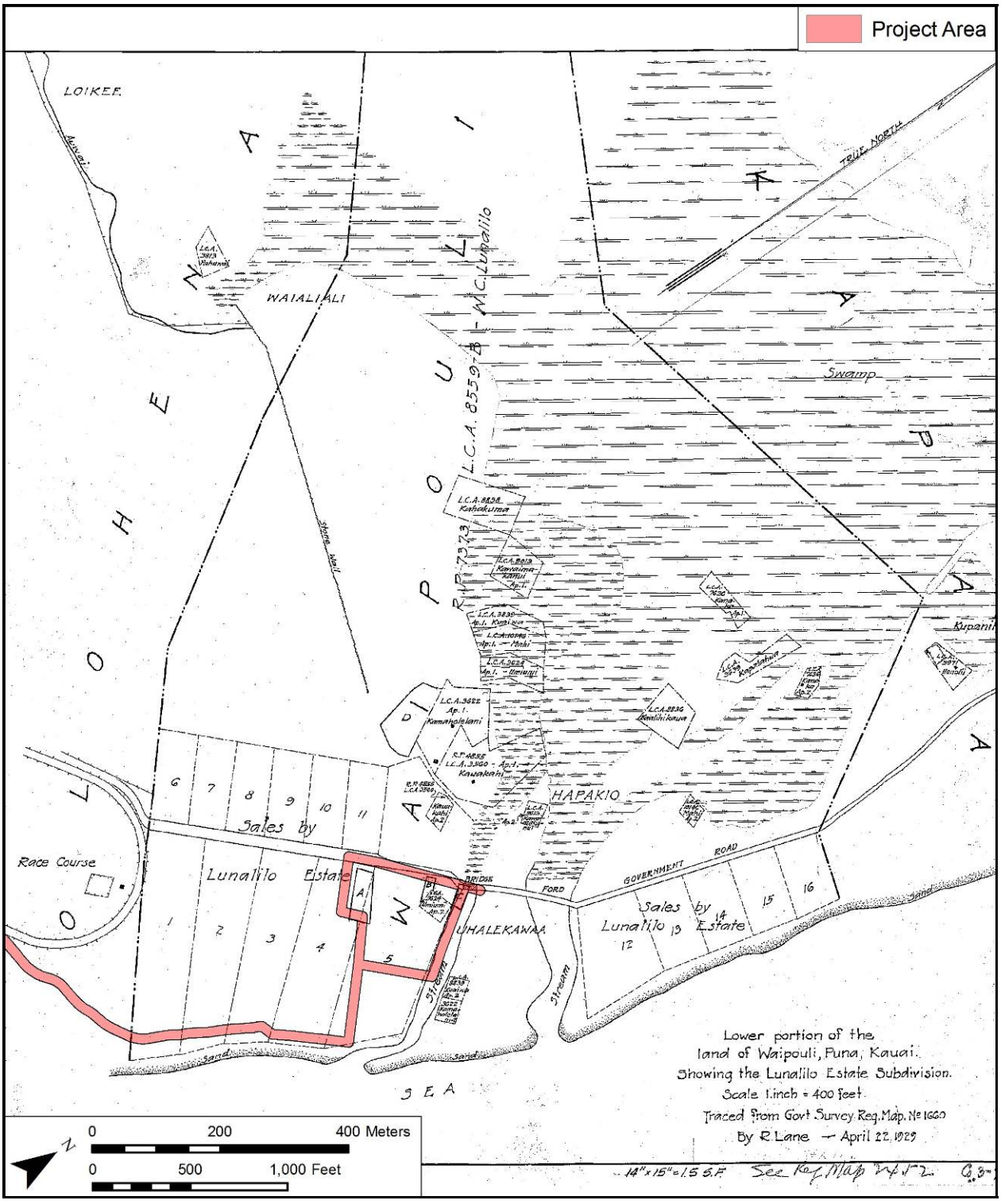

Figure 9. Portion of 1929 Government Survey map traced by R. Lane based on an 1892 M. D. Monsarrat survey showing *makai* portion of Waipouli and locations of LCAs (RM 1660)

3.2.2.3.2 North and South Olohena

North Olohena was acquired by Kiaimoku (Grant 3662) and South Olohena was acquired by Rufus P. Spalding (Grant 5264).Only one *kuleana* parcel was awarded within the *makai* portion of these *ahupua‘a*, and it is located in North Olohena (Table 3, see Figure 7).

Table 3. LCAs and Land Grants within North and South Olohena

LCA/Land Grant Number	Claimant	*‘Ili* of *Ahupua‘a*	Land Use	No of *‘Āpana*
3662	Kiaimoku	North Olohena Ahupua‘a		
3813	Pahuwai	Kuanea	four *lo‘i* and house lot	one (two rods)
5264	Rufus P. Spalding	South Olohena Ahupua‘a		

A 1914 map by Walter E. Wall traced from a Government Survey Map by Jos. Iao (Figure 10), along with Lane’s 1929 LCA map of a portion of Olohena (see Figure 9), and the 1996 US Geological Survey map showing the locations of LCAs (see Figure 7) together show North Olohena made up mostly of Kiaimoku’s grant, with a small *kuleana* award to Pahuwai, and South Olohena made up of Grant 5264 to Rufus P. Spalding for Lihue Plantation. The one *kuleana* award is inland on Konohiki Stream (LCA 3813). Pahuwai, the single claimant in both Olohena, had two parcels, one in Olohena ‘Ili and one in Kuanea ‘Ili (not shone on maps), and he lived and worked his *lo‘i* there. He was awarded one parcel, but all that he claimed was included in the award. Pahuwai’s award is near the Waipouli boundary at the edge of marshland called “Waialiali,” and Pahuwai was not far from his nearest neighbors, the most inland Waipouli claims.

Some cultural information can be derived from the 1875 Boundary Commission report. Before that, in the Māhele Awards, we know that Kiaimoku relinquished half of Olohena and retained half, and purchased Grant 3662 of 403 acres. Interior Department Book 15 (Hawaii 1830–1916:109) shows Kiaimoku had .60 miles of seacoast. Another Interior Department Document, dated June 28, 1850, shows Kiaimoku offering to exchange his Olohena land for Moloa‘a land. However Kiaimoku died in October of 1851 and no further documentation is found regarding this land (Barrère 1994:365).

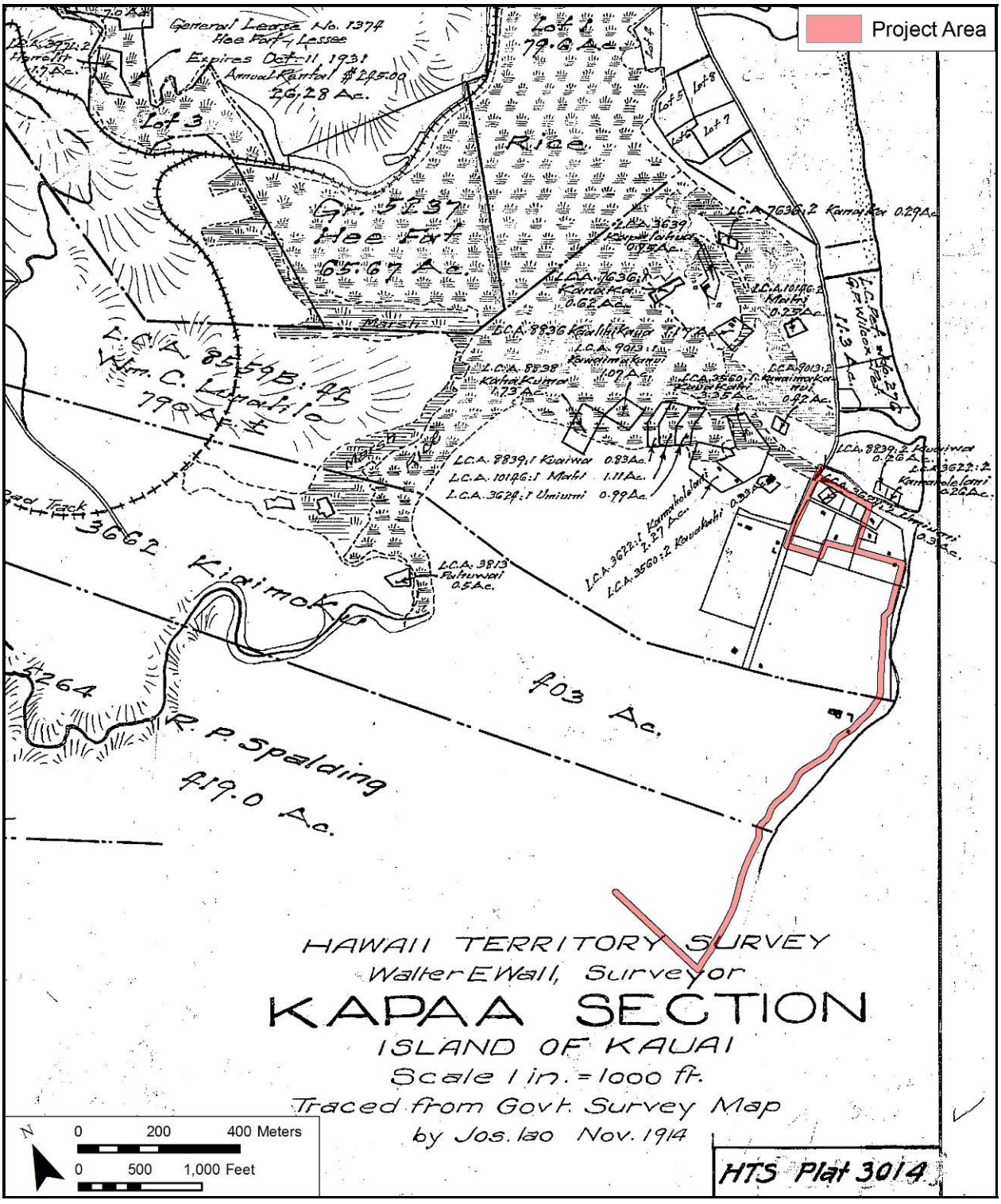

Figure 10. Portion of 1914 Government Survey, W. E. Wall map of Kapaa Section, (HTS Plat 3014)

3.2.3 Twentieth Century to the Present

3.2.3.1 Sugar Plantations

According to Edward Joesting, after 1898, with the influx of American citizens to Hawai‘i, real estate values rose and sugar plantation increased:

> The result was a leap in real estate values and in the value of personal property. Total collected real estate taxes for Kauai and Niihau in 1898 were $27,341, and collected taxes on personal property were $37,571. In 1900, when Hawaii was securely in U.S. hands, collected taxes on personal property had leaped to $69,432…
>
> Mechanical advances meant increased sugar acreage for Hawaii‘s farmers, and brought the industry to a point where a new kind of expansion was practical. The expansion took the form of a new kind of cooperative, starting in 1906 with the purchase of a large refining factory in Crockett, California. The refinery was located on San Pablo Bay, north of Oakland, where ships carrying raw sugar from Hawaii docked at the piers next to the refinery.
>
> The cooperative, named California and Hawaiian Sugar Refining Corporation, not only processed an increasing amount of Hawaii’s raw sugar as the years passed, but also marketed the sugar under the C and H label [Joesting 1987:262–264].

C and H sugar remains a popular brand of sugar today, but their sugar is no longer produced in Hawai‘i.

On Kaua‘i, in the Wailua to Kapa‘a area during the late-1800s and early 1900s, the primary sugar plantations were Makee Sugar Company, Kealia Plantation, and Hui Kawaihai. By 1934, the Lihue Plantation Company absorbed the Ahukini Terminal & Railway Company and Makee Sugar Company, the last of the Wailua area plantations (Condé and Best 1973:167; Hawaiian Sugar Planters’ Association 1925). The railway and rolling stock formerly owned by Makee Sugar Company became the Makee Division of the Lihue Plantation. At this time, in addition to hauling sugarcane, the railroad also was used to haul plantation freight, including “fertilizer, etc. …canned pineapple from Hawaiian Canneries to Ahukini and Nawiliwili, pineapple refuse from Hawaiian Canneries to a dump near Anahola, and fuel oil from Ahukini to Hawaiian Canneries Co., Ltd.” (Hawaiian Territorial Planning Board 1940:11). Former plantation workers and *kama‘āina* growing up in Kapa‘a remember when the cannery sent their waste to the pineapple dump, a concrete pier just north of Kumukumu Stream by railroad. The structure is built over the water where the rail cars would dump the pineapple waste. The current carried the waste to Kapa‘a, where the waste attracted fish and sharks (Bushnell et al. 2002).

Lihue Plantation was the last plantation in Hawai‘i to convert from railroad transport to trucking. “By 1957 the company was salvaging a part of their plantation railroad, which was being supplanted by roads laid out for the most part on or close to the old rail bed” (Condé and Best 1973:167). By 1959, the plantation had completely converted to trucking.

3.2.3.2 Waipouli Beach

By the 1920s Waipouli Beach, had become a polo ground, where Major George Patton, with his army team, beat a local team. Charles I. Fern, piloting the first plane to Kauai in the 1920s, landed his plane in the same polo field (Beacon 1971:21).

In the 1970s, a rule forbidding high-rise development throughout Kaua‘i was passed, due in part to increased inter-island plane travel, which in turn paved the way for more development on the island (Beacon 1971:20). By the end of the twentieth century it was noted that, “the backshore of Waipouli Beach is lined with long rows of tall ironwood trees. A shoreline pedestrian trail is used by strollers and joggers…. Although most of the Waipouli shoreline is developed or privately owned, six public rights of way provide access to the beach. They are all marked and easy to locate” (Clark 1990:9).

3.3 Previous Archaeological Research

Several previous archaeological studies have been conducted in the vicinity of the current project area along the coastline of South Olohena, North Olohena, and Waipouli Ahupua‘a. Table 4 outlines the previous archaeological studies that involved some type of field work, while the locations of the studies are depicted in Figure 11. Locations of historic properties identified during previous archaeological research are depicted in Figure 12. The following is a summary of the archaeological studies.

3.3.1 Kukui Heiau – Thrum 1906; Bennett 1931; Davis and Bordner 1977

Archaeological surveys conducted by Thomas G. Thrum (1906), Wendell C. Bennett (1931), and later by Davis and Bordner (1977) documented Kukui Heiau (SIHP # 50-30-08-108), located on Alakukui Point at the northern edge of Wailua Bay in South Olohena Ahupua‘a about 300 ft west of the project area. This walled heiau, approximately 85 ft in width by 196 ft in length, contained an internal enclosure, with a four-ft-wide passageway between the eight-ft-thick outside walls and the five-ft thick inside walls, and was likely paved throughout. The eastern walls were five ft thick, the north wall measured 11 ft across, and the sea wall was 16 to 22 ft across, with great slabs of lava set on edge and filled with smaller stones (Bennett 1931:127; Thrum 1906:41). Kukui Heiau served as a navigational heiau with at least two stone lamps lit along its *makai* edge that guided canoes travelling offshore at night (Carpenter and Yent 1997:8). Kukui Heiau was placed on the Hawai‘i Register (1986) and the National Register of Historic Places (1987).

3.3.2 Coconut Plantation Parcels—Rosendahl and Kai 1990; Toenjes et al. 1991; Dega et al. 2005; Wilson and Dega 2006

In 1990, Rosendahl and Kai conducted an AIS of two parcels located along the northeast coast of North Olohena Ahupua‘a. They identified two historic properties (SIHP # 50-30-08-1800 and SIHP # 50-30-08-1801), one in each land parcel.

Rosendahl and Kai (1990) documented two cultural layers and three burials (SIHP # 50-30-08-1800) within the shoreline sand berm at Coconut Plantation in North Olohena Ahupua‘a. This cultural layer extends into the current project area. An upper cultural deposit (Layer I) was

Table 4. Summary of previous archaeological studies in the vicinity of the current project area

Reference	Location	Type of Study	Findings
Thrum 1906	South Olohena Ahupua‘a, Alakukui Point— Kukui Heiau	Heiau Study	SIHP # 50-30-08-108, Kukui Heiau
Bennett 1931	Island-wide; Kukui Heiau	Archaeological Reconnaissance Survey	SIHP # 50-30-08-108, Kukui Heiau
Bordner and Davis 1977	South Olohena Ahupua‘a, Alakukui Point— Kukui Heiau	Archaeological Investigation	SIHP # 50-30-08-108, Kukui Heiau
Rosendahl and Kai 1990	North Olohena and Waipouli Ahupua‘a, *makai* of Kūhiō Highway—Coconut Plantation	Archaeological Inventory Survey	SIHP # 50-30-08-1800, 2 cultural layers and 3 burials; SIHP # 50-30-08-1801, 2 cultural layers and 5 burials
Folk, Chiogioji, McDermott and Hammatt 1991	Waipouli Ahupua‘a, *makai* of Kūhiō Highway—Waipouli Beach Resort/Golding Property	Archaeological Survey and Subsurface Testing	SIHP # 50-30-08-1836, cultural layer and 8 burials
Hammatt 1991	North Olohena and Waipouli Ahupua‘a, Kapa‘a sewer line	Archaeological Subsurface Testing	SIHP # 50-30-08-1836, cultural layer; SIHP # 50-30-08-1848, cultural layer
Shun 1991	Waipouli Ahupua‘a, *makai* of Kūhiō Highway	Archaeological Subsurface Testing	No significant findings
Toenjes Chiogioji, Folk and Hammatt 1991	South Olohena Ahupua‘a, *makai* of Kūhiō Highway—Coconut Plantation	Results of Archaeological Data Recovery	SIHP # 50-30-08-1801, re-identified two known burials (no new burials found) and identified a workshop area and permanent habitation

Reference	Location	Type of Study	Findings
Hammatt 1992	Waipouli Ahupua‘a, *makai* of Kūhiō Highway—Waipouli Beach Resort/Golding Property	Addendum to Archaeological Survey and Subsurface Testing (Folk et al. 1991)	SIHP # 50-30-08-1836, 3 additional burials
Hammatt and Folk 1992	Waipouli Ahupua‘a, *mauka* of Kūhiō Highway	Archaeological Subsurface Testing	No significant findings
Spear 1992	South and North Olohena Ahupua‘a, Kūhiō Highway, and Wailua Ahupua‘a, *makai* of Kūhiō Highway	Archaeological Subsurface Testing	No significant findings
Creed et al. 1995	Waipouli Ahupua‘a, along Kūhiō Highway	Archaeological Monitoring Report	SIHP # 50-30-08-872, 4 burials, within SIHP # 50-30-08-1848, cultural layer
Hammatt Chiogioji, Ida and Creed 1997	Wailua, South Olohena, North Olohena, and Waipouli Ahupua‘a, *mauka* of Kūhiō Highway	Archaeological Inventory Survey	No significant findings near project area; SIHP # 50-30-08-756, terrace, located north of Wailua River (not located near project area);
Hammatt, Shideler, Winieski and Perzinski 2000	Waipouli Ahupua‘a, *makai* of Kūhiō Highway—Waipouli Beach Resort/Golding Property	Archaeological Data Recovery Report	SIHP # 50-30-08-1836, extensive midden, artifacts, features, 3 additional burials
Ida, Shideler and Hammatt 2000	Waipouli Ahupua‘a, *makai* of Kūhiō Highway—Waipouli Beach Resort/Golding Property	Documentation of Burial Disinterment	SIHP # 50-30-08-1836, 1 additional burial

Reference	Location	Type of Study	Findings
Perzinski, Shideler and Hammatt 2001	South Olohena Ahupua‘a, northeast coast	Archaeological Monitoring Report	SIHP # 50-30-08-791, cultural layer and 2 burials
Dega and Powell 2003	Moloa‘a to Hanama‘ulu, Kūhiō Highway	Archaeological Monitoring Report	Ten sites identified, but only one, SIHP # 50-30-08-886 is near the project area; The site consists of a cultural layer, possible *‘auwai*, and 2 burials (designated 886A)
Hammatt and Shideler 2004	South Olohena Ahupua‘a, *mauka* of Kūhiō Highway	Archaeological Assessment	SIHP # 50-30-08-823, railroad culvert; SIHP # 50-30-08-890, grind stones; SIHP # 50-30-08-891, WWII bunker
Dega, Spear and Powell 2005	North Olohena and Waipouli Ahupua‘a, *makai* of Kūhiō Highway	Archaeological Inventory Survey	SIHP # 50-30-08-1801, additional features including pits, post molds, fire pits, portions of cultural layer, human burials, lithics, midden, and charcoal
Dega and Dagher 2006	0.440-acre coastal parcel, Waipouli area, North Olohena Ahupua‘a	Archaeological Inventory Survey	SIHP # 50-30-08-3938, a cultural layer, and SIHP # 50-30-08-3939, two Hawaiian burials
Morawski and Dega 2006	0.440-acre coastal parcel, Waipouli area, North Olohena Ahupua‘a	Monitoring Plan	No field work, but contains radiocarbon dating results from Dega and Dagher 2006
Wilson and Dega 2006	11.768 Coconut Plantation 11.783 acre Lot 6, Waipouli	Data Recovery Report	SIHP # 50-30-08-1801, pre-Contact and historic subsurface deposit with five previously identified burials.

Reference	Location	Type of Study	Findings
Tome, Cordle and Dega 2007	Waipouli 0.3295 Coastal Parcel	Archaeological Data Recovery	SIHP # 50-30-08-5003, a pre-Contact habitation hearth and pit and SIHP # 50-30-08-5004, a pre-Contact/early historic Hawaiian burial.
McCurdy, Runyon and Hammatt 2009	Waipouli Ahupua‘a, *makai* of Kūhiō Highway—Waipouli Beach Resort/Golding Property	Archaeological Monitoring Report	SIHP # 50-30-08-1836, 47 additional burials and 396 additional artifacts
Potter and Dega 2012a	Waipouli Waterline Replacement Project Phase I, Kapa‘a and Waipouli		SIHP # 50-30-08-2152 four subsurface features; SIHP # 50-30-08-2153 three subsurface features; SIHP # 50-30-08-2154 discrete charcoal lens
Potter and Dega 2012a	Waipouli Waterline Replacement Project Phase II, Kapa‘a		No significant findings

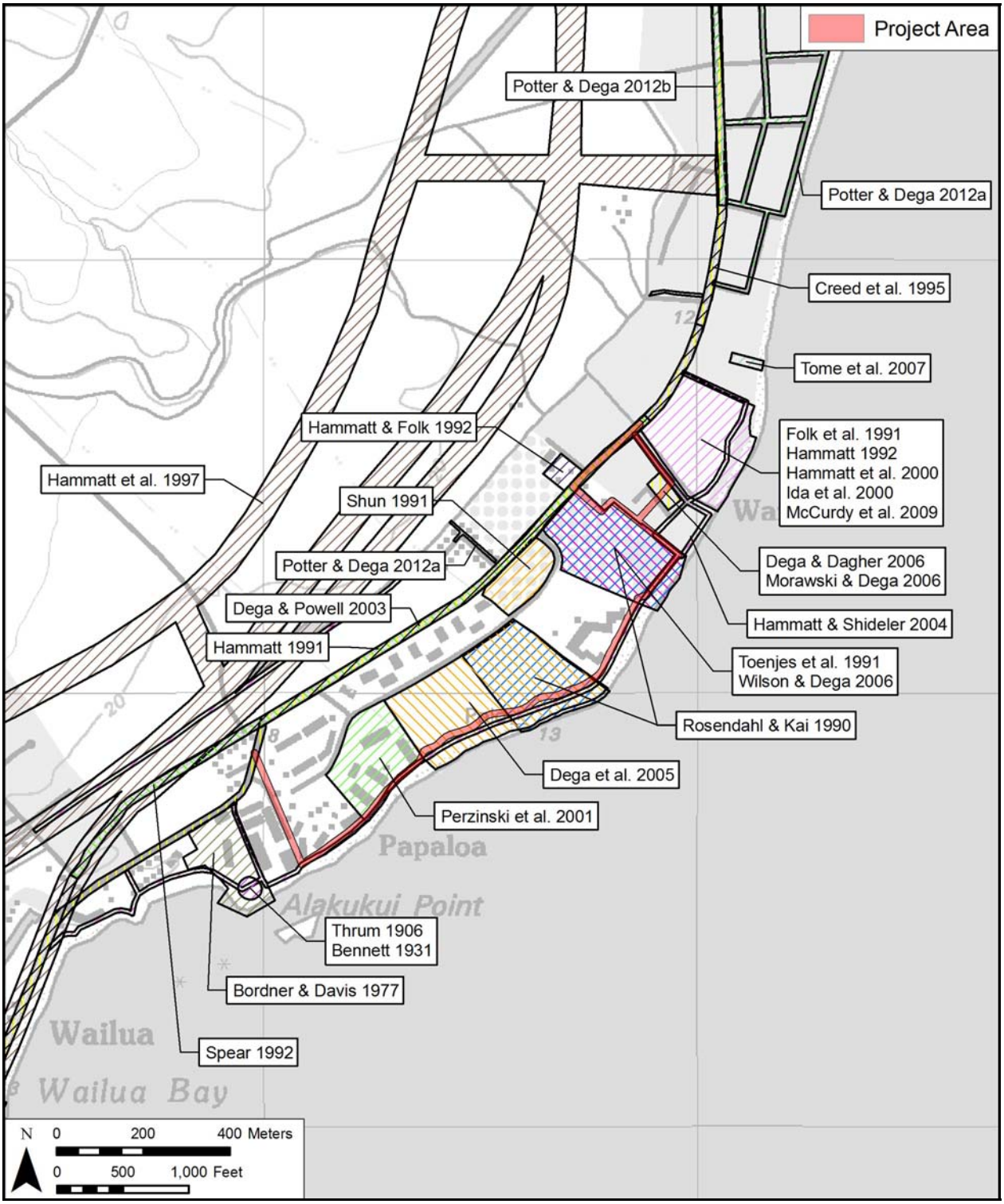

Figure 11. Previous archaeological studies in in the vicinity of the project area in Waipouli, North Olohena, and South Olohena Ahupua‘a (U.S. Geological Survey 1996 Kapa‘a Quadrangle)

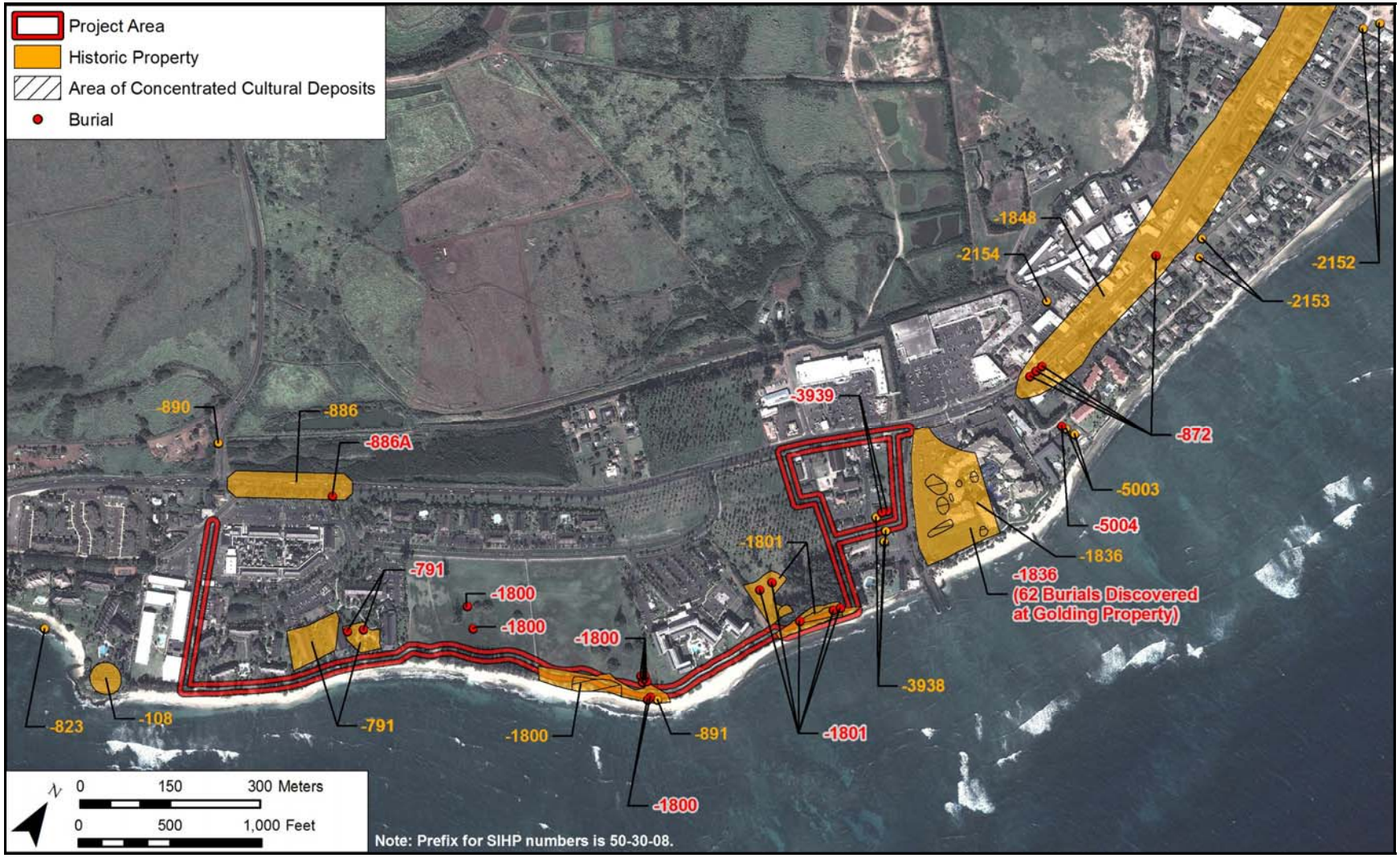

Figure 12. Historic properties (including burials) found in the vicinity of the project area (GoogleEarth 2010)

documented that extends about 25 to 80 ft inland from the shore, with shell midden, fish bone, charcoal fragments, ash, fire-cracked rock, several pit features, and six historic-era artifacts, including two ceramic bowl sherds and four glassware shards. A lower cultural deposit (Layer II) was documented that extends about 40 to 100 ft inland from the shoreline, with small amounts of shell midden, charcoal flecks, fire-cracked rocks, several pits, and 11 artifacts, including tools, flaked stones, modified bone, and cut shells. Both cultural layers are richer in midden content in a concentrated central area. Three burials were uncovered in the northeastern section of the cultural layer near the coast and left in place. The extensive nature of the cultural deposits and relative lack of artifacts suggests that the area was used for recreation or for social gatherings. Radiocarbon dating places occupation at the site from AD 1270 to 1954, but Rosendahl and Kai (1990:13) note that these dates "should be viewed with some caution." Volcanic glass hydration-rind dating indicates occupation between AD 1496 and 1556 (Rosendahl and Kai 1990:13).

Farther north up the coast, in a second parcel of land, Rosendahl and Kai (1990) documented two cultural layers and five burials (SIHP # 50-30-08-1801) within the shoreline sand berm at Coconut Plantation in Waipouli Ahupua‘a. The documented cultural layers extend into the current project area, and several burials are located immediately south of the project area. The upper cultural layer, Stratum II, covered an area of 325 square meters (m^2) and averaged 40 cm in thickness. Cultural deposits extended about 65 to 95 ft inland from the shoreline, and are also located in a discontiguous inland area. The cultural layers contained shell midden, fish and mammal bone, charcoal fragments, fire-cracked rock, several pit features, and artifacts. The midden consisted mostly of shellfish, with small quantities of fish, avian, and terrestrial remains, that has been radiocarbon dated to approximately AD 1500. Numerous indigenous artifacts (2,886) included basalt flakes, adze fragments, hematite flakes, volcanic glass, coral and urchin spine tools, files, abraders, fishhooks, shell beads, several bone awls or picks, flaked and modified stone, and cut and modified shell and bone. Of particular note is that the bone from one pick was that of an Audubon Shearwater (*Puffinus herminierie*), thought to have become extinct prior to the Contact-era (Rosendahl and Kai 1990).

This was a site of habitation with significant hearth and pit features, large quantities of midden representing a more varied diet, and artifacts representing a variety of activities, including woodworking, stone tool production, fishhook manufacture, fishing, food preparation, and consumption. Five burials were observed and left in place; three were located in shoreline deposits and two in the inland extension (Rosendahl and Kai 1990).

Subsequent data recovery at the site was performed by Toenjes et al. (1991). The data recovery identified the smaller lower cultural layer (Stratum IIa), which covered a more limited area of 10–20 m^2 and was 10–15 cm thick. The layer contained an abundance of hematite flakes and shattered debris, connected to the production of fishing line sinkers and possibly cutting tools, and an abundance and variety of shell, bone, coral, and sea urchin artifacts, associated with fishing. This lower cultural layer was likely a site that was used as a workshop for manufacturing fishing gear. The workers of Stratum IIa preferred modified bone over shell as source materials for their fishhook manufacture, a pattern that shifted to shell material in Stratum II.

Toenjes et al. (1991:88) summarily state that "A sequence of occupation developing from a limited workshop area to a site of permanent occupation has been preserved in the records of stratigraphy and material culture." Stratum IIa indicates that the site initially served as a small

discrete center for few people in about AD 1400 for the specialized production of fishhooks and fishing-related tools. Stratum II indicates that there was an abrupt shift to a period of more generalized habitation and generalized activities of a "well-populated thriving community whose vigor may have been established upon and been a continuation of the 'tradition' created by the energies of the original lone craftsmen" (Toenjes et al. 1991:96).

An archaeological inventory survey at the 20.81-acre northern Coconut Plantation parcel was conducted by Scientific Consultant Services (SCS) in 2005 (Dega et al. 2005). They identified 42 additional features including seven human burials, numerous pits, post molds, fire pits, portions of a traditional cultural layer, lithics, midden, and charcoal. These features were incorporated into SIHP # 50-30-08-1801. Radiocarbon dates for the project revealed use as early as the 14th century (Dega et al. 2005:ii).

A data recovery report for the 11.783-acre southern parcel of the Coconut Plantation was completed in 2006 by SCS (Wilson and Dega 2006). The purpose of the study was to conduct three tasks at SIHP # 50-30-08-1801: to disinter two of the five previously identified burials, to define the boundaries of the site, and to gather additional information on the site through excavation. The two previously identified burials, identified during the Rosendahl and Kai (1990) study, could not be relocated. The site boundary was redrawn to indicate that the area was actually smaller than the original drawn perimeter. A large amount of marine shell, bone, traditional Hawaiian artifacts, and historic artifacts were recovered from four test units and 10 shovel probes.

3.3.3 Waipouli Beach Resort/Golding Property Parcel—Folk et al. 1991; Hammatt 1992; Hammatt et al. 2000; Ida et al. 2000; McCurdy et al. 2009

A cultural layer with numerous artifacts and 62 human burials (SIHP # 50-30-08-1836) in the Waipouli Beach Resort/Golding Property at the shoreline in Waipouli Ahupua‘a immediately east of the current project area have been documented through several investigations: archaeological survey and subsurface testing (Folk et al. 1991) and addendum (Hammatt 1992), archaeological data recovery (Hammatt et al. 2000), documentation of burial disinterment (Ida et al. 2000), and an archaeological monitoring report (McCurdy et al. 2009).

The 12-acre site was once a sand island named Uhalekawa‘a that was bounded on the north and west by marsh land, on the south by Waipouli Stream, and on the east by the sea. The studies by Folk et al. (1991), Hammatt (1992), Hammatt et al. (2000), and Ida et al. (2000) identified hundreds of features, a cultural layer, and numerous artifacts. Identified features consisted of hearths, pits, charcoal concentrations, *imu*, postholes, midden scatters, a lithic reduction area, a concentration of *‘alaea* (water-soluble colloidal ocherous earth, used for coloring salt, for medicine, for dye, and formally in the purification ceremony called *hi‘uwai*), coral scatters, 47 human burials, and an animal interment. The cultural layer contained 59,741 artifacts (50,717 indigenous artifacts and 9,024 historic artifacts), including 75 fishhooks or fragments, four tattoo needles, one basalt slingstone, a cache of limestone slingstones in various stages of completion, a basalt slingstone, a shell necklace (burial good), eight perforated boar tusks (burial goods), two carved stone effigy bowls (burial goods) (see Ida et al. 2000), basalt adzes and preforms, polished flakes, hammerstones, bone picks, coral abraders and files, sea urchin files, a shell grater, and four fishing net gauges. Four of the burials contained burial goods signifying

status of the deceased (e.g., rare effigy bowls). The earliest radiocarbon dates range from AD 1280 to 1450, but widespread permanent habitation likely occurred between AD 1380 and 1550 (Hammatt et al. 2000).

The data indicate that this site was a moderate permanent settlement that may have been a staging area for fishing events involving fleets of canoes and associated feasting and religious activities, a location for the canoes' construction, repair, and storage, a location for stone, bone, and shell tool manufacture such as fishhooks and nets, a place for the preparation and consumption of food, a location for the manufacture of slingstones, and a special place for tattooing (Hammatt et al. 2000).

McCurdy et al. (2009) identified an additional 47 traditional Hawaiian burials and 396 Pre-Contact artifacts and burials goods and post-Contact artifacts. In total, 62 human burials, hundreds of features, and over 60,000 artifacts have been identified at this property.

3.3.4 Kūhiō Hwy. Sewer Line, Fiber Optic—Hammatt 1991; Spear 1992; Creed et al. 1995; Dega and Powell 2003

A cultural layer, SIHP # 50-30-08-1848, was documented during archaeological subsurface testing in Waipouli Ahupua‘a along Kūhiō Highway by Hammatt (1991). This layer contained small amounts of shell midden, fire-cracked rock, basalt flakes, charcoal, and a pit. This site was likely a permanent habitation site associated with shoreline occupation (Hammatt 1991). Four burials were later identified within this cultural layer by Creed et al. (1995) during archaeological monitoring and designated SIHP # 50-30-08-872.

Dega and Powell (2003) completed a report for the monitoring of fiber optic duct lines along Kūhiō Highway in 2003. The project area extended from Moloa‘a Ahupua‘a in the north to Hanamaulu Ahupua‘a in the south and was divided into 11 sections. Only Section 13 is near the project area; all features found in this section were designated SIHP # 50-30-08-886. The site consisted of a cultural layer, a possible *‘auwai*, and two sets of previously disturbed disarticulated human remains, which were designated SIHP # 50-30-08-886A (Dega and Powell 2003:40–44). This historic property extends into the northern end of the current project area. The cultural layer consists of an oval hearth remnant with charcoal flecking and ash indicative of a single combustion event and an *‘auwai* that may have been utilized to drain a portion of a shallow basin.

Spear (1992) conducted an archaeological subsurface testing program along Kūhiō Highway in South and North Olohena Ahupua‘a and *makai* of Kūhiō Highway within Waipouli Ahupua‘a. No significant findings were reported.

3.3.5 Shun 1991

Shun (1991) performed an archaeological subsurface testing *mauka* of Kūhiō Highway within Waipouli Ahupua‘a. No significant findings were reported.

3.3.6 Hammatt and Folk 1992

In 1992, CSH conducted an archaeological subsurface testing program of a parcel *mauka* of Kūhiō Highway in Waipouli Ahupua‘a (Hammatt and Folk 1992). No significant findings were reported.

3.3.7 Hammatt and Shideler 2004

In 2004, CSH conducted an archaeological assessment of alternative routes for the current project, the Lydgate-Kapa‘a Bike and Pedestrian Path Project (Hammatt and Shideler 2004). This work primarily included a synthesis of the pertinent literature, including previous archaeological studies. Fieldwork in the form of a pedestrian inspection was also carried out and focused on the coast in South and North Olohena and Waipouli Ahupua‘a and along the Lihue Plantation Railroad. During this inspection, three historic properties were identified: a railroad culvert (SIHP # 50-30-08-823), grind stones (SIHP 50-30-08-890), and a WWII-era bunker (SIHP 50-30-08-891).

The railroad culvert is stone and concrete and was used for drainage of a railroad bed, understood to be a portion of the Lihue Plantation Railroad Embankment (SIHP # 50-30-08-823), *mauka* of Kūhiō Highway in South Olohena Ahupua‘a. The alignment of this railroad has been virtually destroyed.

Several grind stones (SIHP # 50-30-08-890) were observed along the shoreline near the high tide line within a small bay west of Kukui Heiau in South Olohena Ahupua‘a. The grind stones consist of large boulders with both linear and circular worn depressions. These stones would have been used in traditional times to sharpen stone tools and weapons.

The WWII-era military structure (SIHP # 50-30-08-891), likely a bunker, pillbox, or machine-gun emplacement, was observed in the southeast corner of a vacant lot on the edge of the sandy shoreline in North Olohena Ahupua‘a. The structure is one of hundreds of bunkers located throughout the shorelines of the Hawaiian Islands built to defend against a coastal invasion during WWII.

3.3.8 Hammatt et al. 1997

Hammatt et al. (1997) conducted an AIS *mauka* of Kūhiō Highway in Wailua, South Olohena, North Olohena, and Waipouli Ahupua‘a. A terrace (SIHP # 50-30-08-756) was located north of Wailua River, but no significant findings were reported near the current project area.

3.3.9 Perzinski et al. 2001

A cultural layer and two burials (SIHP # 50-30-08-791) were uncovered during archaeological monitoring on the coast of South Olohena Ahupua‘a by Perzinksi et al. (2001). A portion of the cultural layer is located within the current project area, while the burials are located about 100 ft north of the project area. The cultural layer displayed a relatively high concentration of marine midden, which is suggestive of substantial fishing activity. Several artifacts were uncovered, including fishhook fragments, a cut shell fragment, a sea urchin spine file, a coral file, a coral manuport, and a broken fishhook preform, as well as such features as pits and a hearth. Perzinski et al. (2001) suggest that this site was the location of a structure, possibly

an eating house, that has been radiocarbon dated to AD 1275 to 1645. The two burials consists of an in situ human burial and isolated human remains. A 30 ft-diameter burial preserve was planned to be centered over the in situ burial.

3.3.10 Borges Property—Tome et al. 2007

In 2005, SCS (Tome et al. 2007) conducted an archaeological inventory survey of a small 0.3295 coastal parcel in Waipouli Ahupua‘a. During the excavation of eight trenches, two sites were identified, SIHP # 50-30-08-5003, a pre-Contact habitation hearth and pit, and SIHP # 50-30-08-5004, a pre-Contact/early historic Hawaiian burial. Radiocarbon analysis of charcoal from the hearth indicated an AD 1450-1660 date for the hearth. Only the cranium and femoral head of the burial were uncovered by the archaeologists, but it was assumed that the remains were part of a complete burial. The bones were left in place and the trench was refilled. The human bones were not found associated with the cultural deposit, SIHP # -5003.

3.3.11 Darcy McCartney-Scott Hansen Properties—Dega and Dagher 2006; Morawski and Dega 2006

In 2006, SCS conducted an archaeological inventory of a 0.444-acre coastal parcel in Waipouli and North Olohena Ahupua‘a (Dega and Dagher 2006). Ten backhoe trenches were excavated and two sites were identified, SIHP # 50-30-08-3938, a cultural layer, and SIHP # 50-30-08-3939, two pre-Contact/early historic Hawaiian burials, found in the beach portion of the project area. Both burials were left in place. A pit feature with charcoal and fire-cracked rocks was recorded from SIHP # -3938. The radiocarbon dating result for this feature, dated to AD 1690-1775, was first reported in a subsequent monitoring report for the property (Morawski and Dega 2006:14).

3.3.12 Waipouli Waterline Replacement Project—Potter and Dega 2012a, 2012b

For Phase I of the Waipouli Waterline Replacement Project in 2012, SCS (Potter and Dega 2012a) conducted an AIS in the coastal area south of Waipouli Beach Park and on two spurs on the west, *makai*, side of Kūhiō Highway. Twenty seven trenches were excavated in the right-of way corridor and three sites were identified. SIHP # 50-30-08-2152 consists of four subsurface features, including a cultural deposit with charcoal dated to AD 1440-1480. SIHP # 50-30-08-2153 consists of three subsurface features, two fire pits, and a cultural layer. Charcoal from the base of one of the fire pits was dated to AD 1800-1890. SIHP # 50-30-08-2154 consists of a discrete charcoal lens with charcoal dating to AD 1730-1810. No artifacts were associated with these features, so the archaeologists suggested that they were associated with pre-Contact temporary habitation.

In advance of Phase II of the Waterline Project along the north-bound lane of Kūhiō Highway, SCS (Potter and Dega 2012b) conducted an assessment of the project area, including the excavation of four trenches. No cultural layers or features were found in these four trenches.

3.4 Background Summary

Traditionally, Waipouli Ahupua‘a was known for its fine surf area. The LCAs show several house lots at the beach, but there are also house lots within the plots claimed for *lo‘i* and *kula*

along the southern edge and within the marshy area more in the Kapa‘a direction. While most of the claims are for *lo‘i* and *kula*, one LCA (8836) also claimed a fishpond and some *wauke*. This general area is known as Hapakio or the *konohiki's* fishpond. Homes and *kula* were scattered around the pond where *lo‘i* would have been on the edges of the wetland and the flatlands were used for pasture and grasslands. The settlement in Waipouli, unlike adjoining *ahupua‘a*, is spread from the shoreline inland and those living inland at the time of the Māhele also had houses with their *lo‘i* and *kula*, even in the most *mauka* claim (8838). The Boundary Commission record adds locations of old home sites far inland as well locations of *koa* and *kukui* trees and places to catch wild fowl.

Little cultural history is known for North and South Olohena Ahupua‘a. According to LCAs, only one *kuleana* parcel was awarded (within the *makai* portion of North Olohena) to Pahuwai. Pahuwai lived and worked his *lo‘i* there.

The archaeological research of Waipouli, North Olohena, and South Olohena Ahupua‘a has been mostly aligned to development along the coast. These studies have revealed vast tracts of intact subsurface cultural layers and high concentrations of burials that suggest a long occupation spanning several centuries beginning approximately AD 1400–1500, with evidence of a range of activities, subsistence through *kalo lo‘i* cultivation and aquaculture, patterns of settlement, and indicators of social status. Additional extents of subsurface cultural layers as well as burials can be expected to be encountered during field survey in the vicinity.

Section 4 Results of Fieldwork

CSH conducted subsurface testing between July 25 and August 6, 2012 and on September 11, 2012. The subsurface testing program included the excavation of 10 backhoe test trenches, 33 backhoe-assisted shovel tests, and 15 manual shovel tests along the length of the project area (totaling 58 test units). The test trenches are labeled Test Trenches 1-3, 5, 12-17, and the shovel tests are labeled Shovel Tests 1-48. Note that orientations for the manual shovel test profiles were not obtained as they were circular (i.e., they did not have a straight edge to measure orientation). Orientations for many of the other backhoe-assisted shovel tests also were not taken in the field.

One or more subsurface cultural layer was observed in the majority of test units (39 of 58 test units). Cultural material, in the form of charcoal, shell midden, fire-cracked rock, or human remains, was observed. In five of the test units, two cultural layers, an upper and lower, were observed. Historic property designations for this cultural layer(s) were incorporated into pre-existing historic properties, based on location (*ahupua‘a*): the cultural layer observed within test units in Waipouli Ahupua‘a were incorporated into SIHP # 50-30-08-1801; the cultural layer(s) observed within test units in North Olohena Ahupua‘a were incorporated into SIHP # 50-30-08-1800; and the cultural layer observed within test units in South Olohena Ahupua‘a were incorporated into SIHP # 50-30-08-791.

Two new burials were documented within the project area (SIHP #s TBD). Detailed descriptions of the burials are presented in Section 4.4, below.

One isolated find, a coral file, was observed within one of the test units. A detailed description of the find is presented in Section 5, below.

4.1 GPR Findings

The main purpose of this GPR study was to determine the viability of GPR in identifying stratigraphy and locating cultural deposits. The presentation of GPR data has been categorized to show GPR results for the shoreline portion of the project area and GPR results from the two inland excavations that identified human interments.

Prior to excavation, the majority of the project’s backhoe test trenches and all of the project’s shovel test locations were surveyed with GPR. Post-processing of GPR data was used to create GPR profile maps and horizontal slice maps of a selection of GPR survey areas along the coastline as well as the two test units with burials. The GPR maps of individual test units are depicted alongside matching digitized stratigraphic profile maps. The side-by-side presentation of GPR data and stratigraphic profile data allow for a visual analysis of the effectiveness of GPR to identify stratigraphic interfaces, buried cultural deposits, and interments.

In general, the results of the GPR survey allowed for some general observations regarding the correlation of GPR data with field-verified stratigraphic data as well as the limitations of GPR survey in the identification of subsurface anomalies. GPR analysis indicated that the uppermost strata documented during subsurface excavation throughout the project area generally corresponded to linear signatures of high reflectivity within the initial 10-20 cm of GPR profile

data. Additionally, changes in reflectivity within the deeper signals of the GPR profile do appear, in some instances, to correspond with stratigraphic interfaces.

The clearest example of the correlation between GPR data and stratigraphic information may be seen in Shovel Tests 37 and 38 (refer to Figure 26). While the depths of the changes in reflectivity of GPR data differ slightly with the depths recorded on the stratigraphic profile, there does appear to be a general correlation. Stratum Ia in both Shovel Tests 37 and 38 is represented by a linear band of high reflectivity, Stratum Ib by wavy, high reflectivity banding, and Stratum II by the absence of reflectivity and banding. The portion of the GPR profile beyond 1.0 m in both Shovel Tests 37 and 38, which was unexcavated, is beyond the depth of penetration of the GPR signal.

While Shovel Tests 37 and 38 present a data correlation, numerous other GPR data from within the project area do not readily correlate to observed and recorded stratigraphy. An example of poor correlation is observed in Shovel Test 25, which consisted of four observed strata (refer to Figure 19). The GPR data for Shovel Test 25 do not depict clear interfaces or reflectivity changes between strata. It may be postulated that the poor correlation is related to a number of limiting factors including soil conditions, content, and chemistry. The GPR profile of Shovel Test 13 also represents poor correlation with observed stratigraphy as Stratum II through Stratum IIIb returned a similar reflectivity signal (refer to Figure 21).

The GPR data did not produce a clear signature of the buried, culturally-enriched sandy A horizon that was documented throughout much of the project area. Additionally, GPR anomalies that appear within several GPR profiles as discrete parabolas (such as in Shovel Tests 15, 34, and 39; refer to Figure 14, Figure 24, and Figure 27) did not correlate with any objects (e.g., utility lines, boulders, excavated pits) observed during excavation. It is possible that these anomalies correlate to variations in density, compaction, or composition within a stratigraphic layer that were not readily observable during the process of backhoe excavation.

Particular attention is given to the post-processing and analysis of the GPR data from Test Trench 2 and Shovel Test 43, the locations of the two human interments identified during subsurface testing (refer to Figure 29 through Figure 31). In addition to GPR profiles, horizontal slice maps of Test Trench 2 and Shovel Test 43 were produced. The location and depth of each human interment is plotted on both the GPR profile and slice maps for each test unit in order to indicate whether or not a GPR signature for a burial pit or interment is visible.

The GPR profile and slice map of Test Trench 2 did not produce a reflectivity signature for the burial pit or interment. The GPR profile and slice map of Shovel Test 43 did identify two subsurface parabolic anomalies; however, the excavation of Shovel Test 43 verified that these anomalies corresponded to buried utility lines, one of which likely truncated the burial pit and disturbed the interment.

In conclusion, GPR data was collected and is presented below for a portion of the coastline in the project area and for the two inland test locations where human interments were identified. In some instances, the data has correctly identified stratigraphic transitions and interfaces. The GPR data has failed to accurately provide a reflectivity signature for the buried, culturally-enriched sandy A horizon (cultural layer) identified throughout the project area and for the human interments identified within Test Trench 2 and Shovel Test 43. The use of GPR within the

project area has contributed to the on-going understanding of the effectiveness of GPR analysis within the Hawaiian Islands, and the data collected during the current project will be used to establish and refine future GPR survey techniques and interpretation.

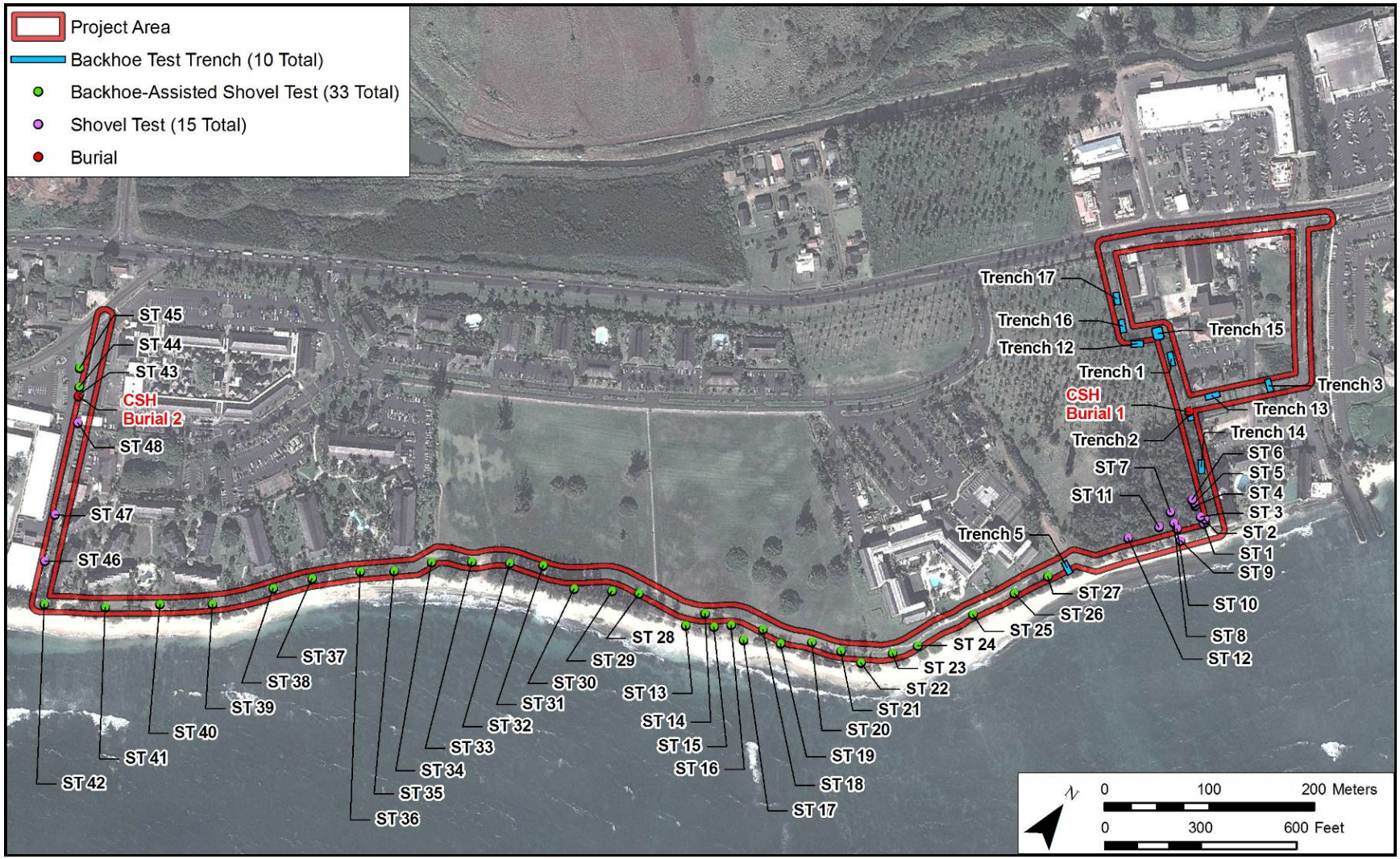

Figure 13. Locations of test trenches and shovel tests excavated within the project area during the current AIS (base map: Google Earth 2010)

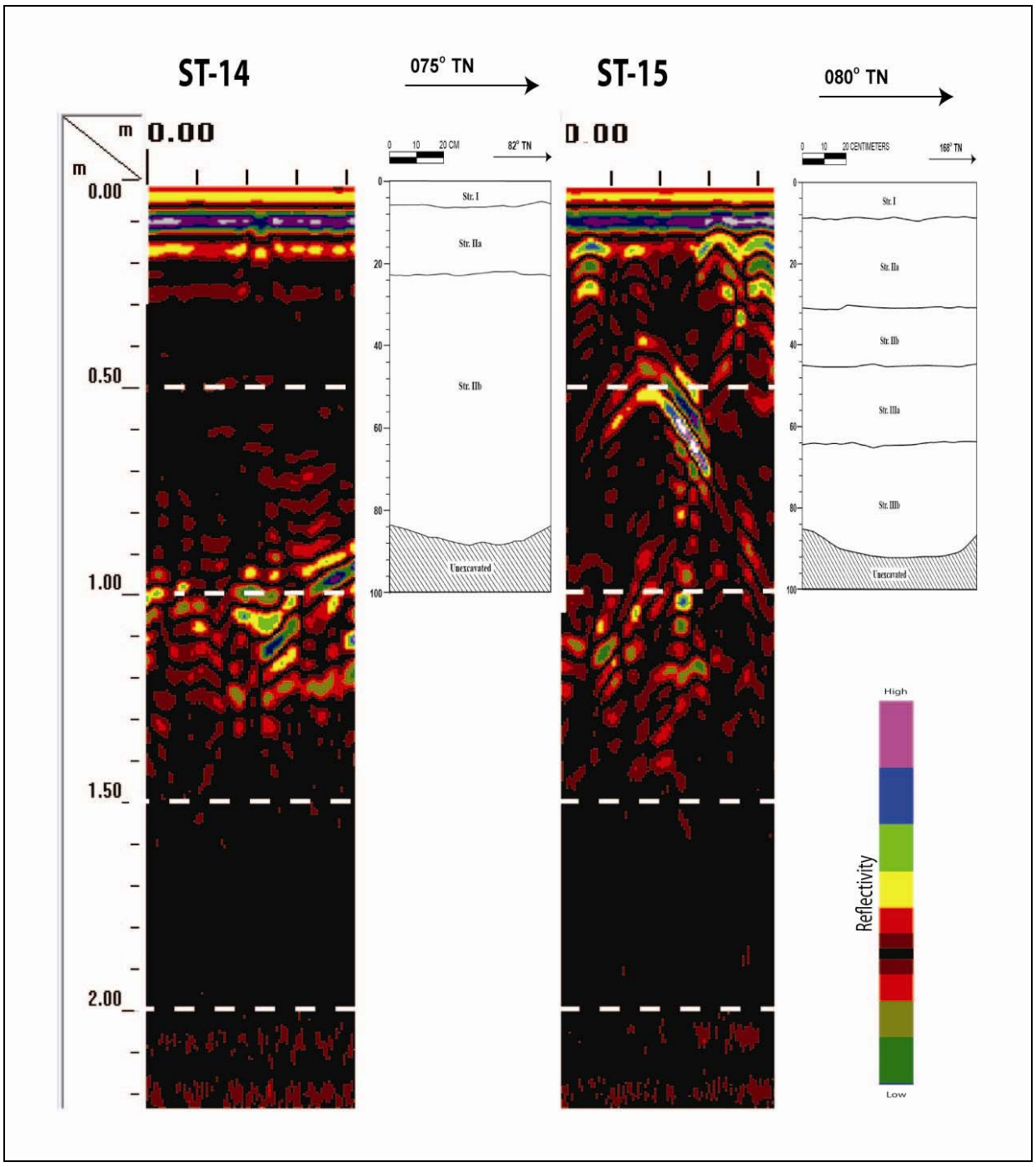

Figure 14. Comparison of GPR profiles and excavation profiles for Shovel Tests 14 and 15

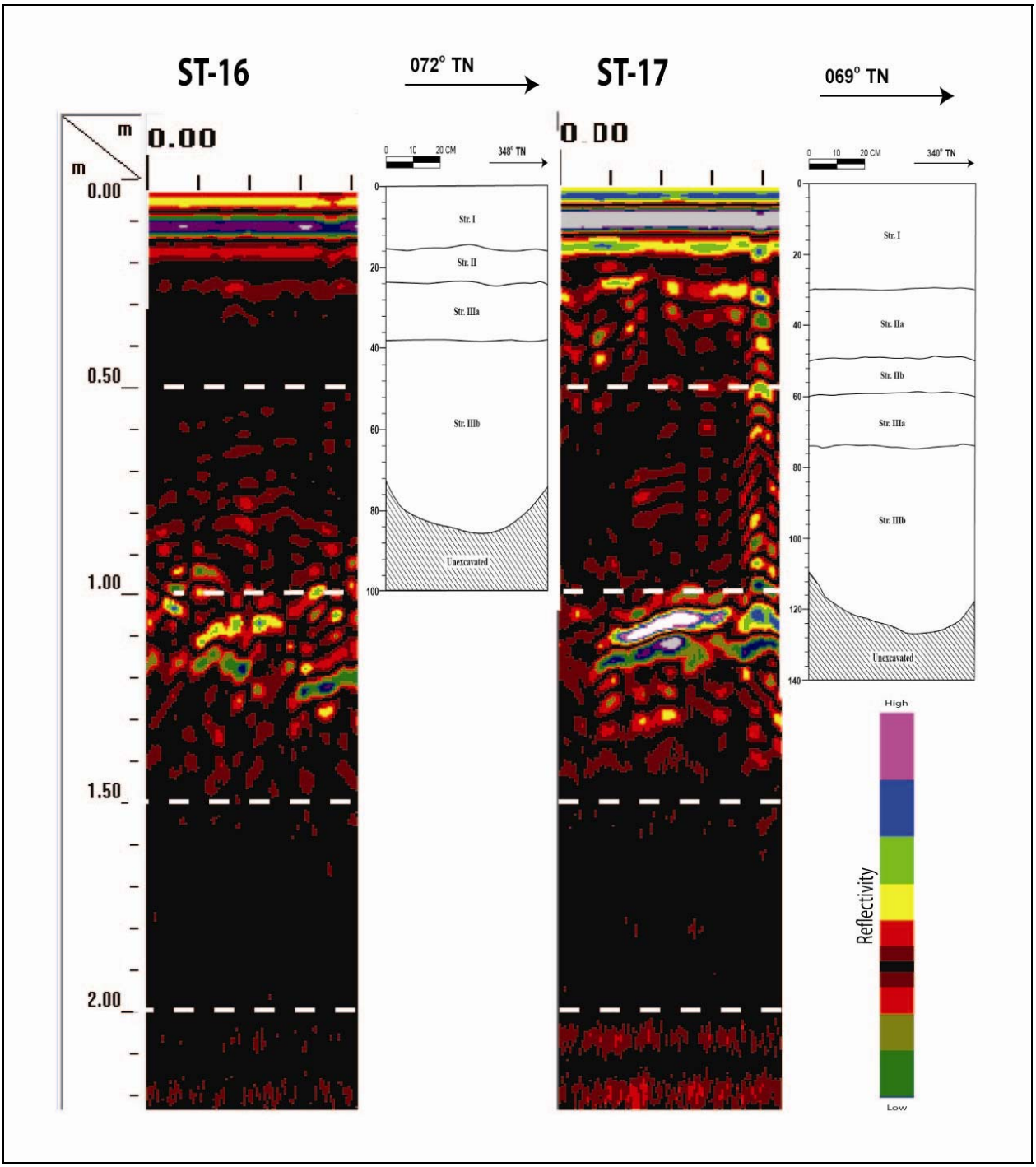

Figure 15. Comparison of GPR profiles and excavation profiles for Shovel Tests 16 and 17

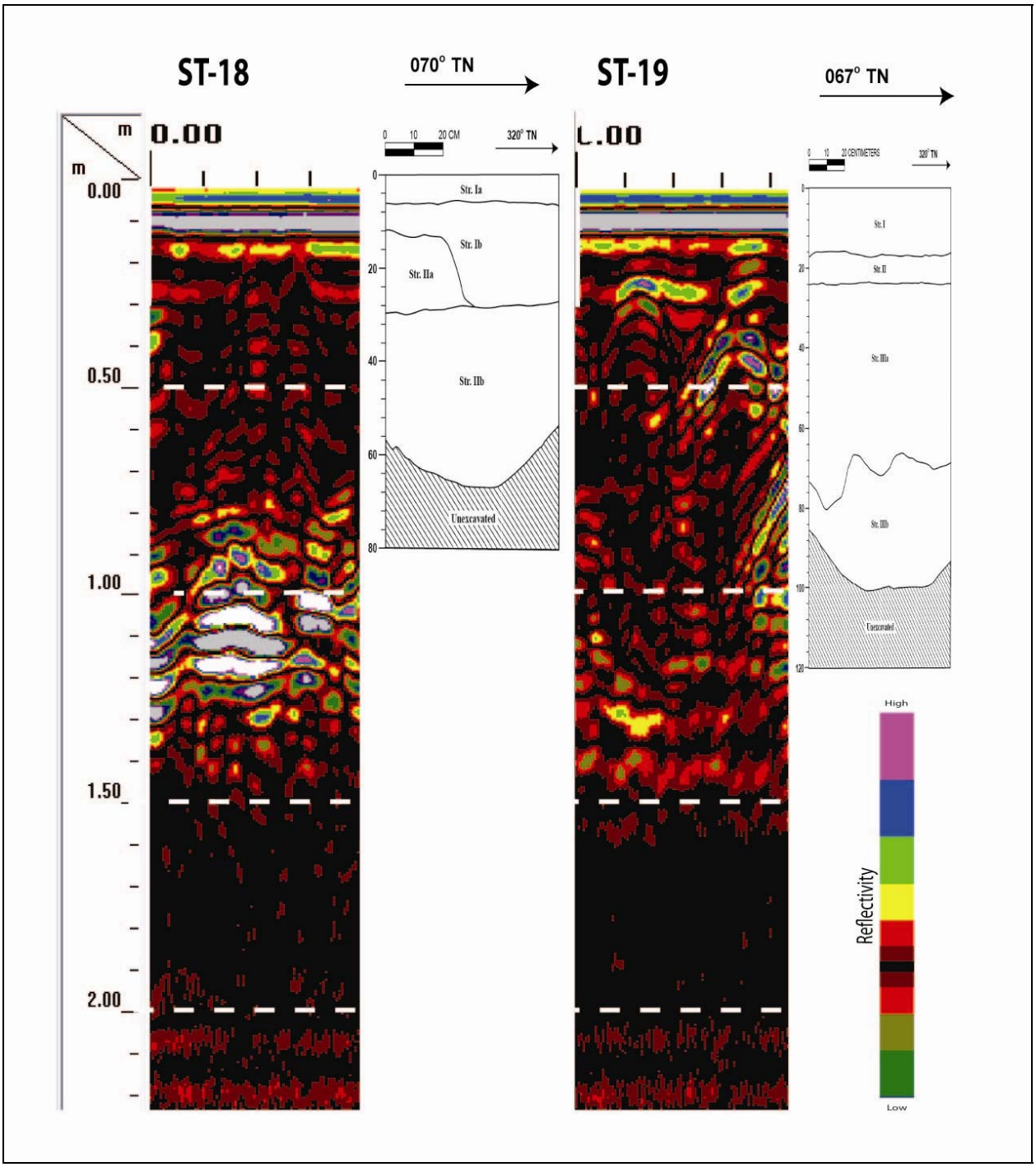

Figure 16. Comparison of GPR profiles and excavation profiles for Shovel Tests 18 and 19

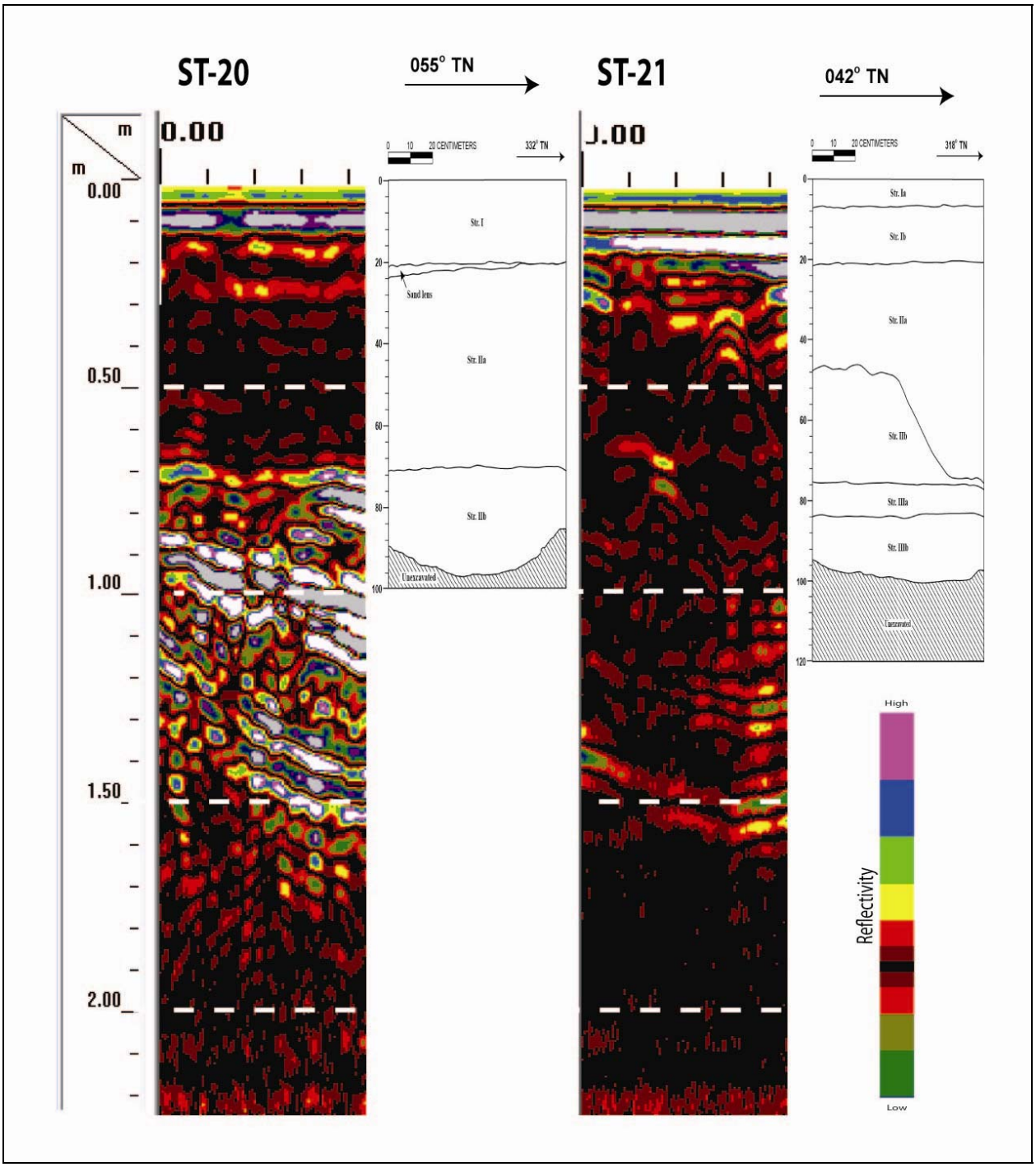

Figure 17. Comparison of GPR profiles and excavation profiles for Shovel Tests 20 and 21

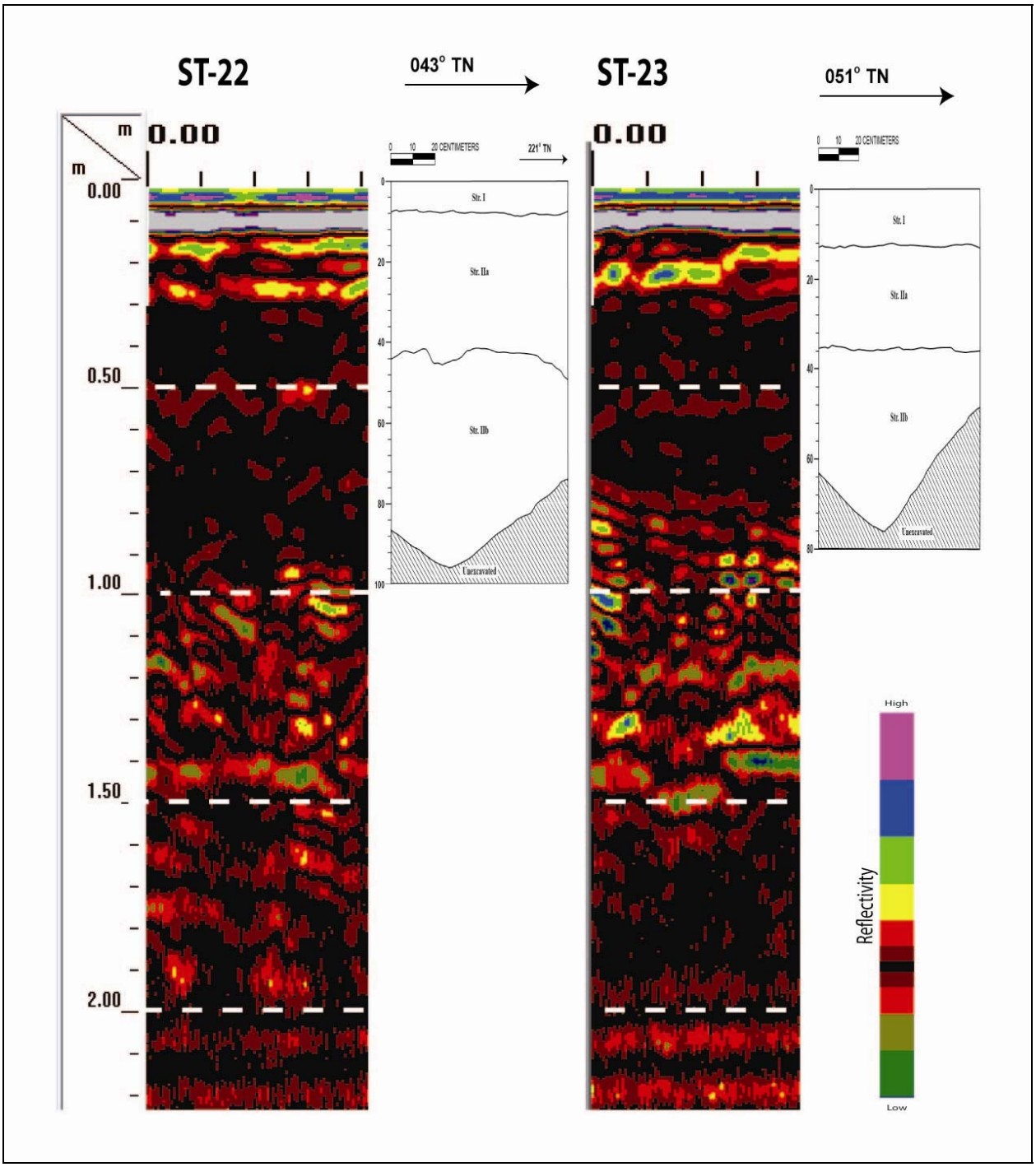

Figure 18. Comparison of GPR profiles and excavation profiles for Shovel Tests 22 and 23

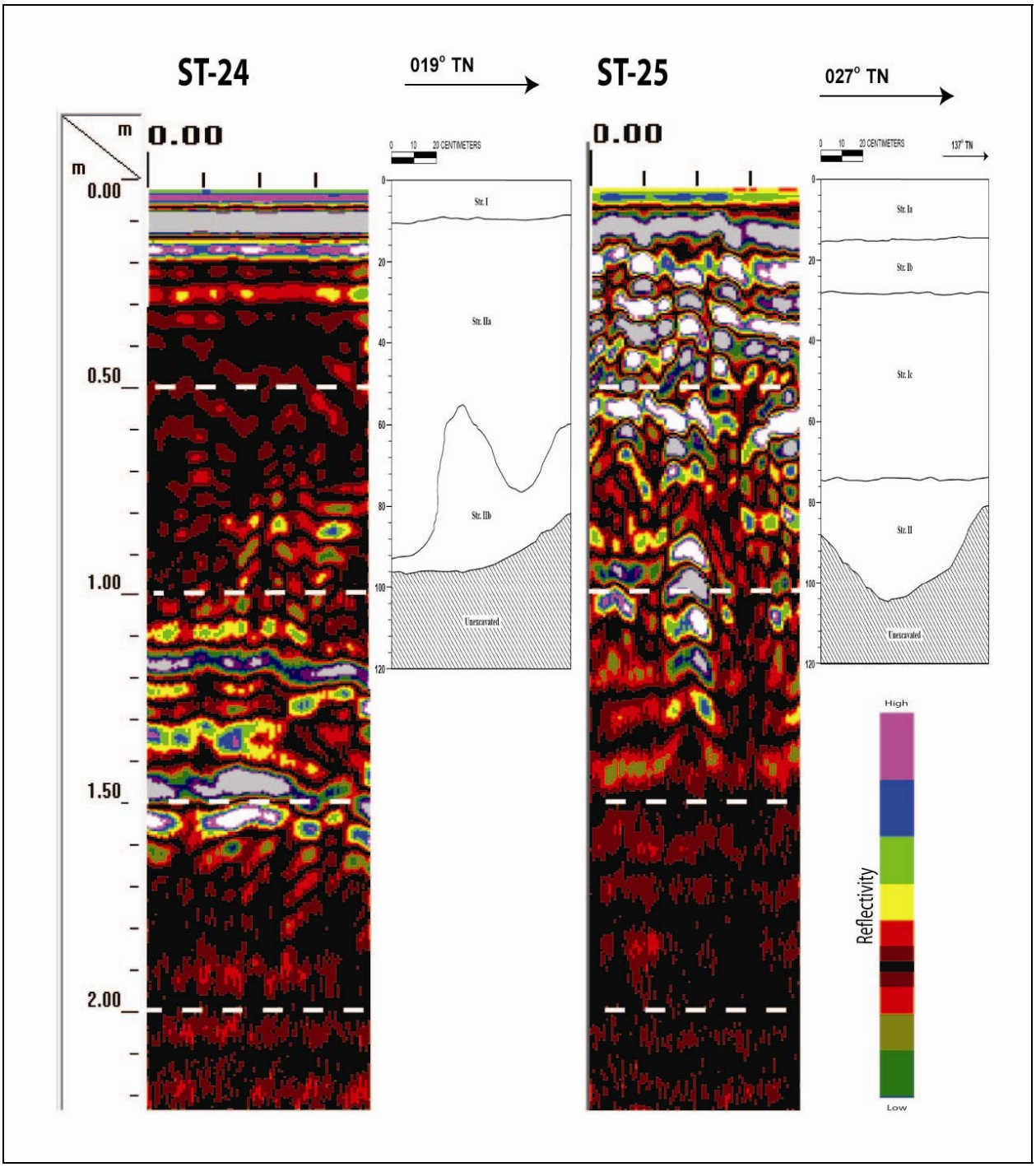

Figure 19. Comparison of GPR profiles and excavation profiles for Shovel Tests 24 and 25

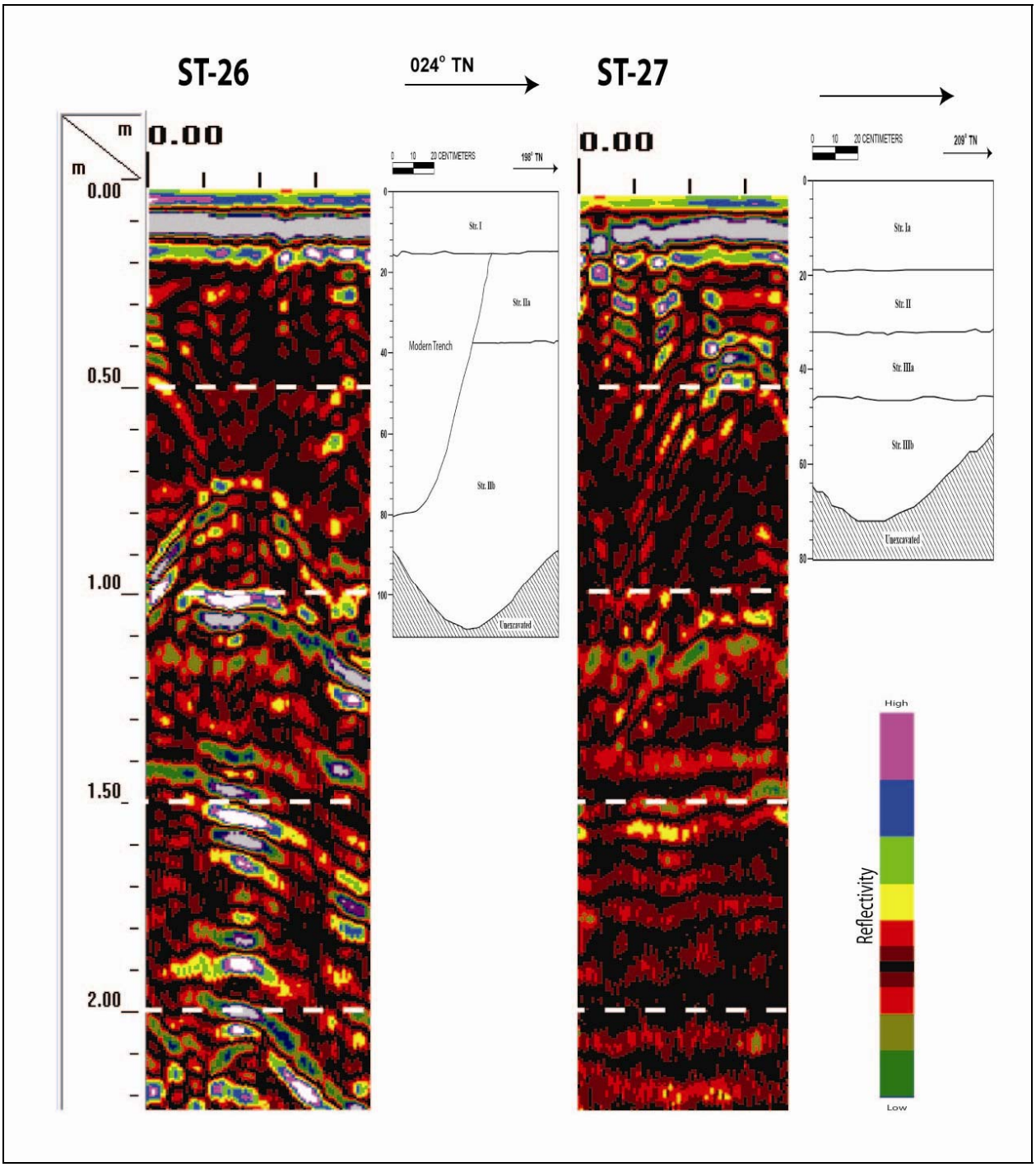

Figure 20. Comparison of GPR profiles and excavation profiles for Shovel Tests 26 and 27

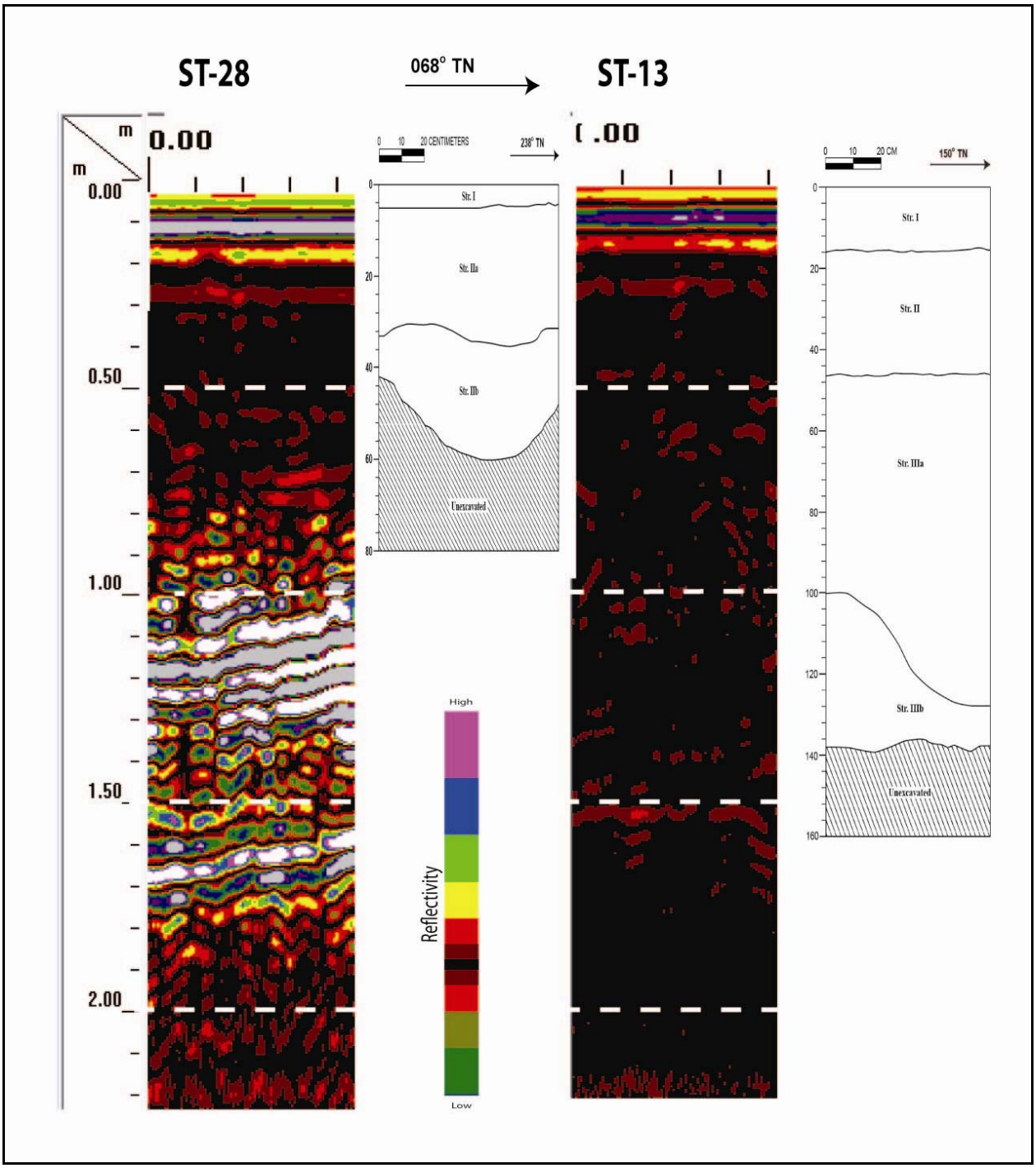

Figure 21. Comparison of GPR profiles and excavation profiles for Shovel Tests 13 and 28

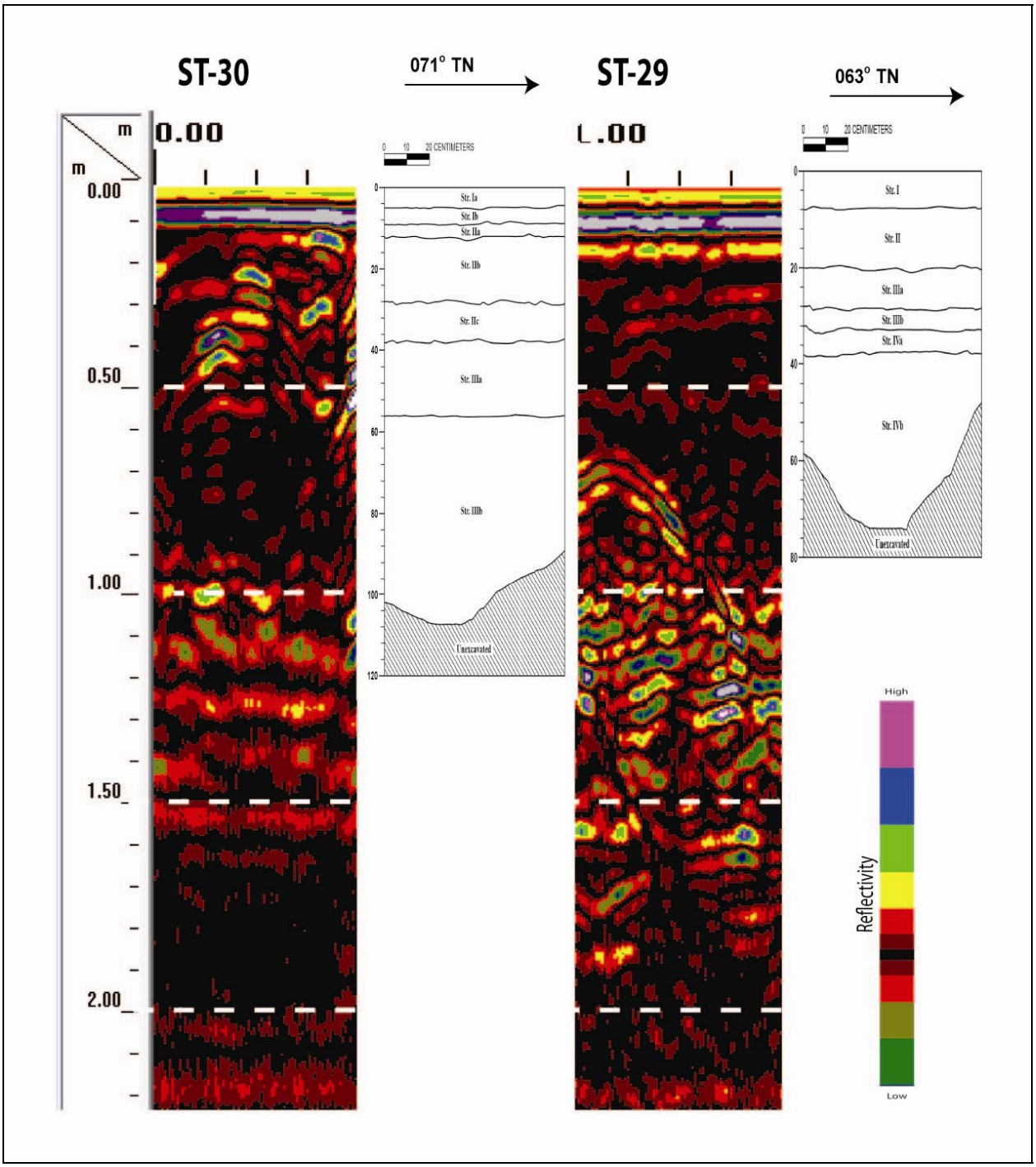

Figure 22. Comparison of GPR profiles and excavation profiles for Shovel Tests 29 and 30

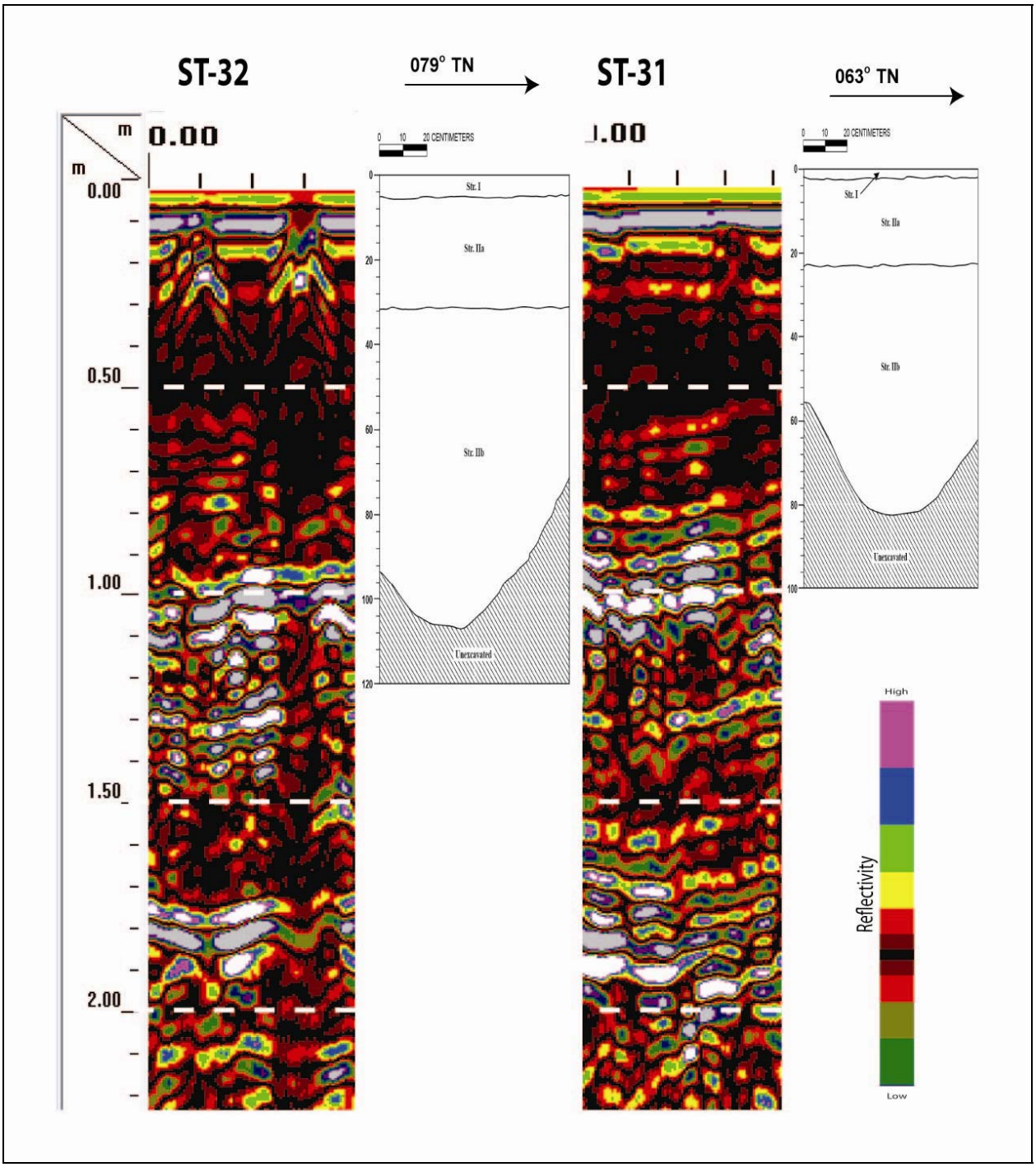

Figure 23. Comparison of GPR profiles and excavation profiles for Shovel Tests 31 and 32

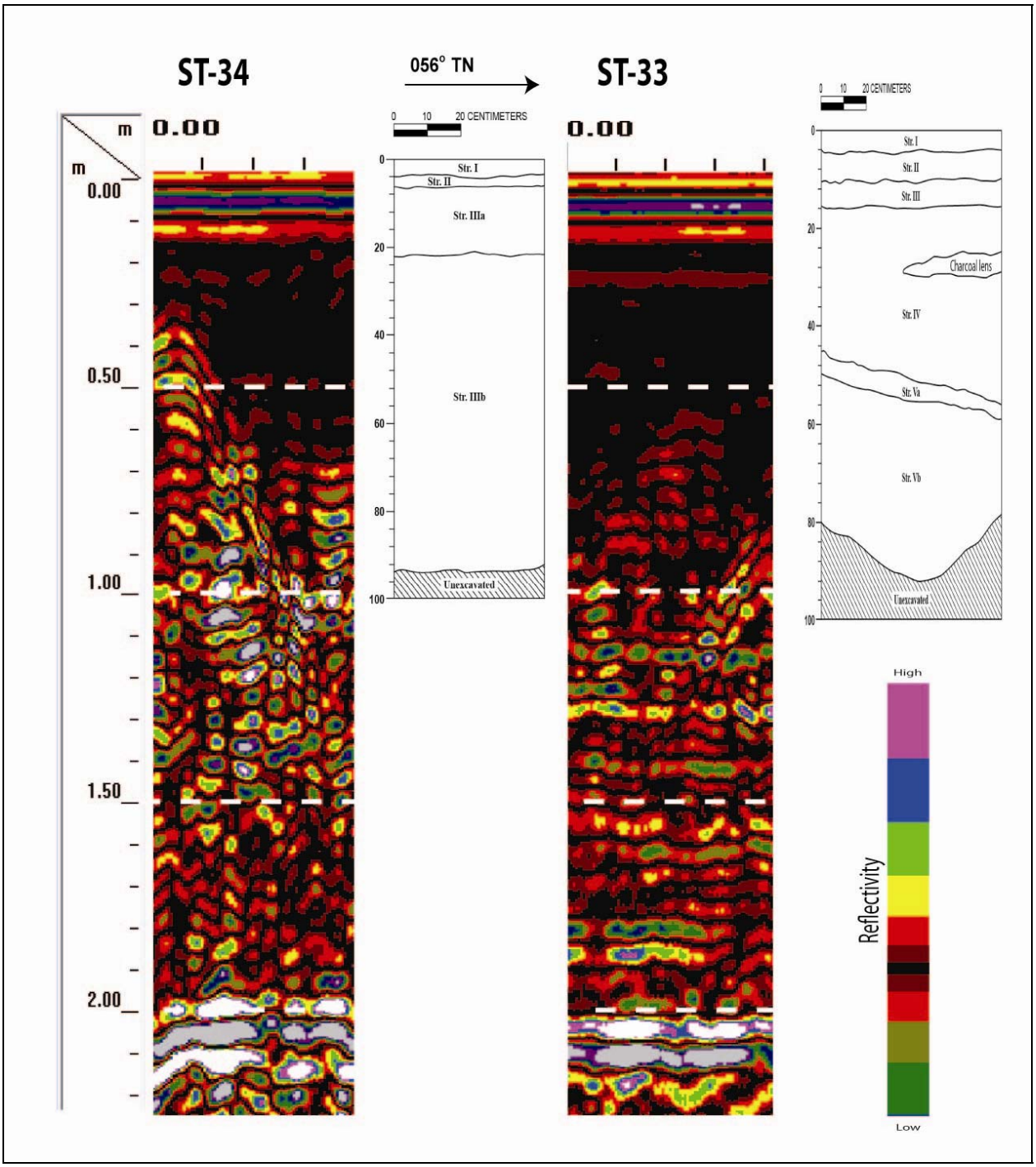

Figure 24. Comparison of GPR profiles and excavation profiles for Shovel Tests 33 and 34

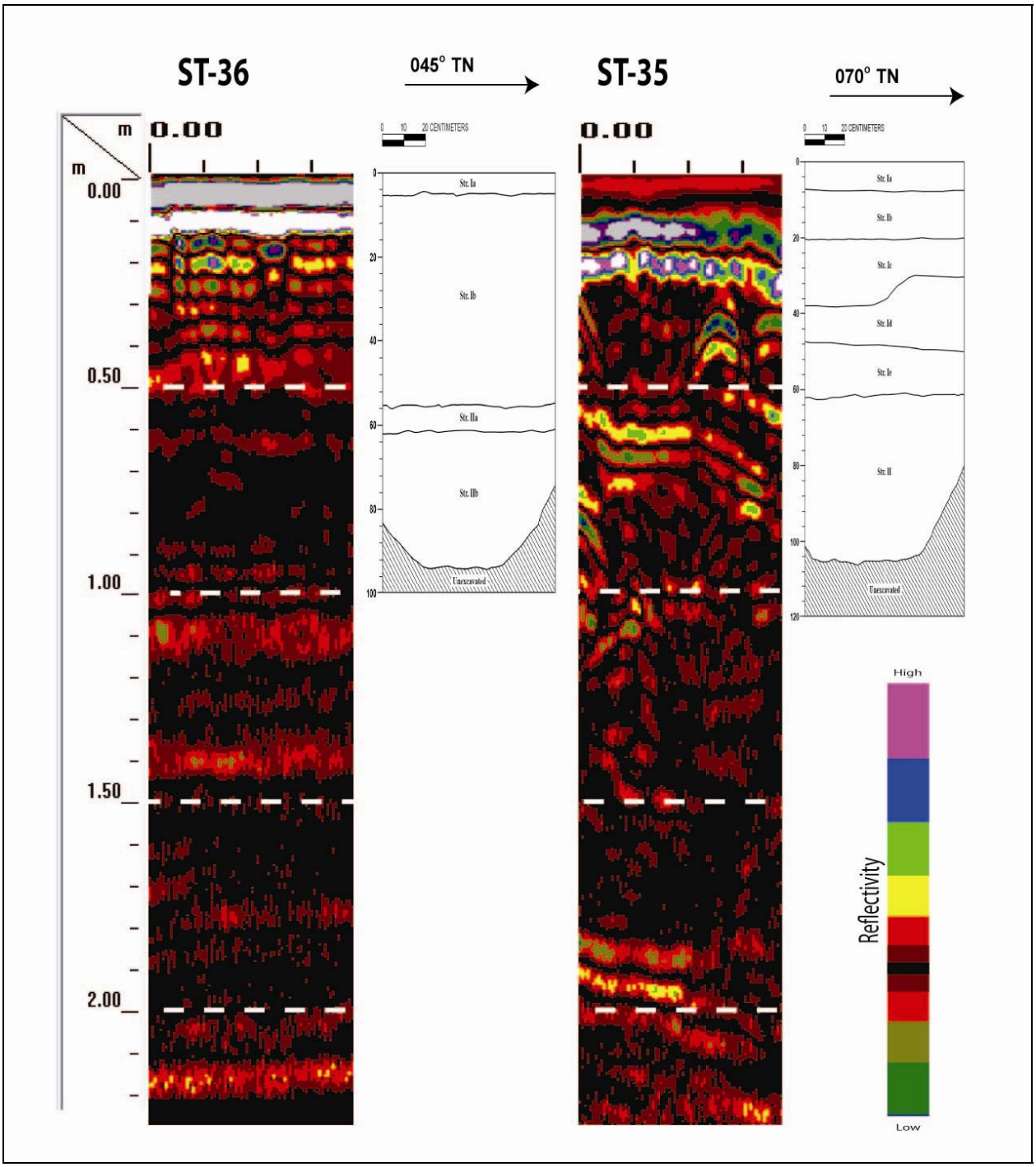

Figure 25. Comparison of GPR profiles and excavation profiles for Shovel Tests 35 and 36

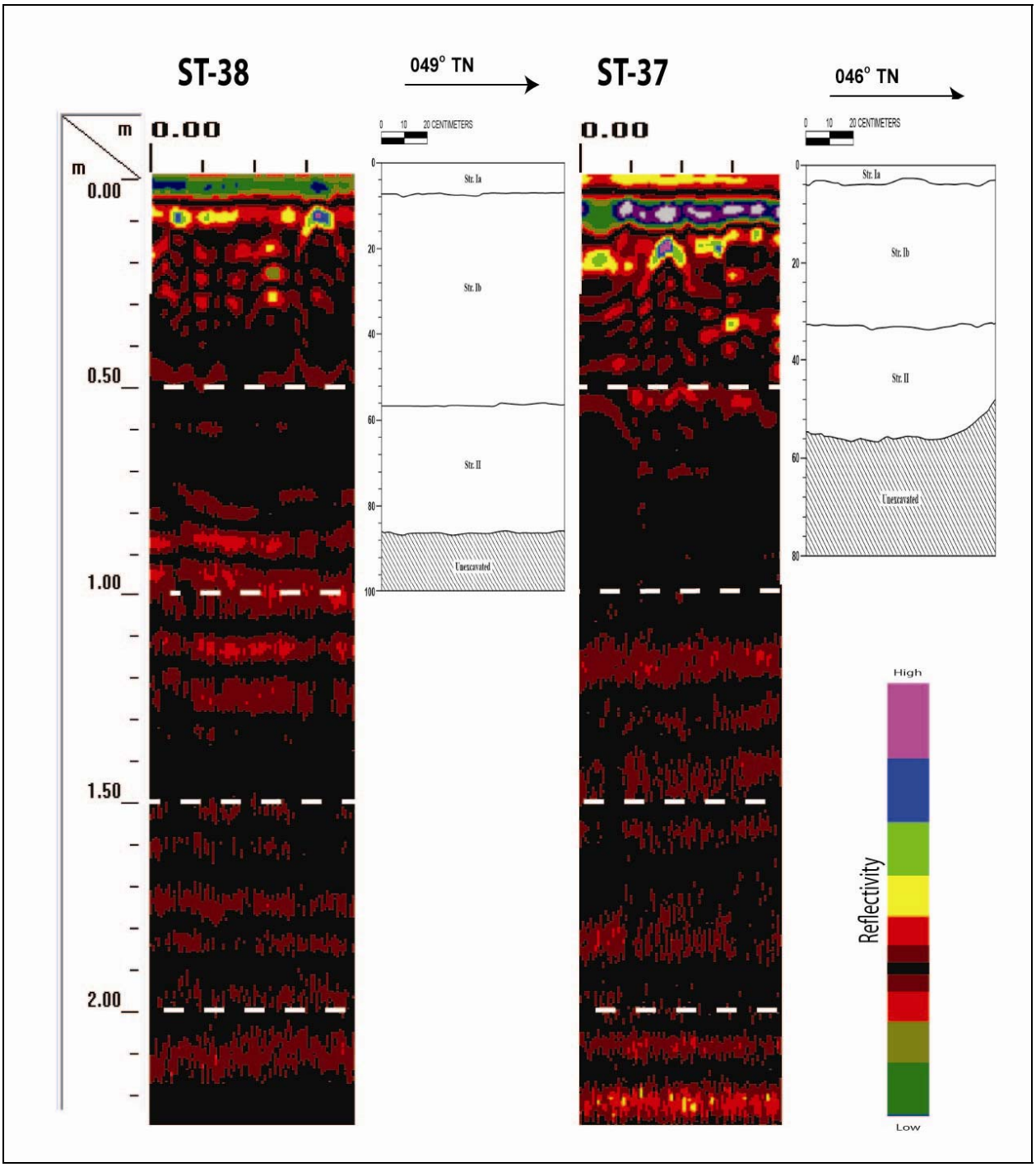

Figure 26. Comparison of GPR profiles and excavation profiles for Shovel Tests 37 and 38

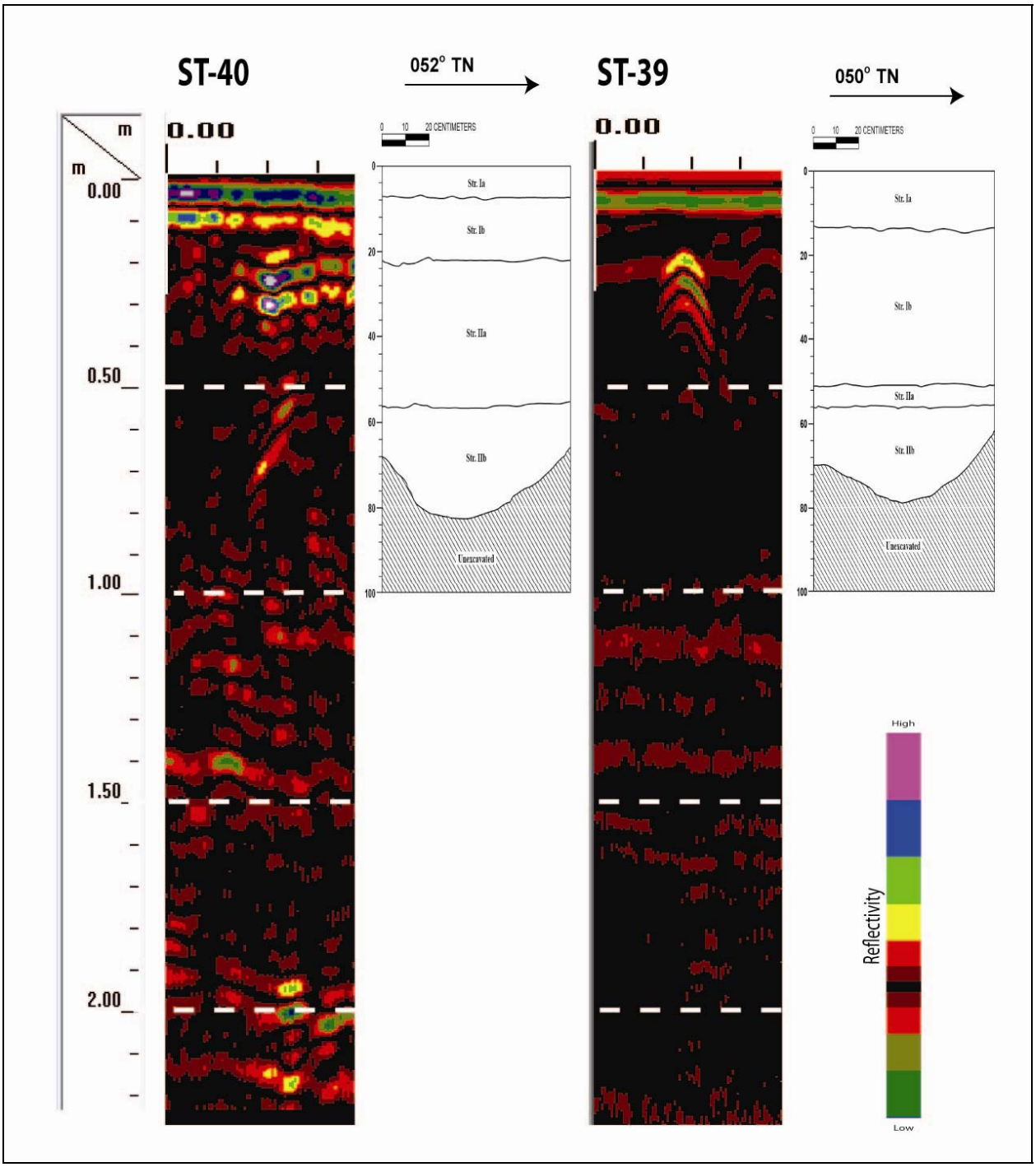

Figure 27. Comparison of GPR profiles and excavation profiles for Shovel Tests 39 and 40

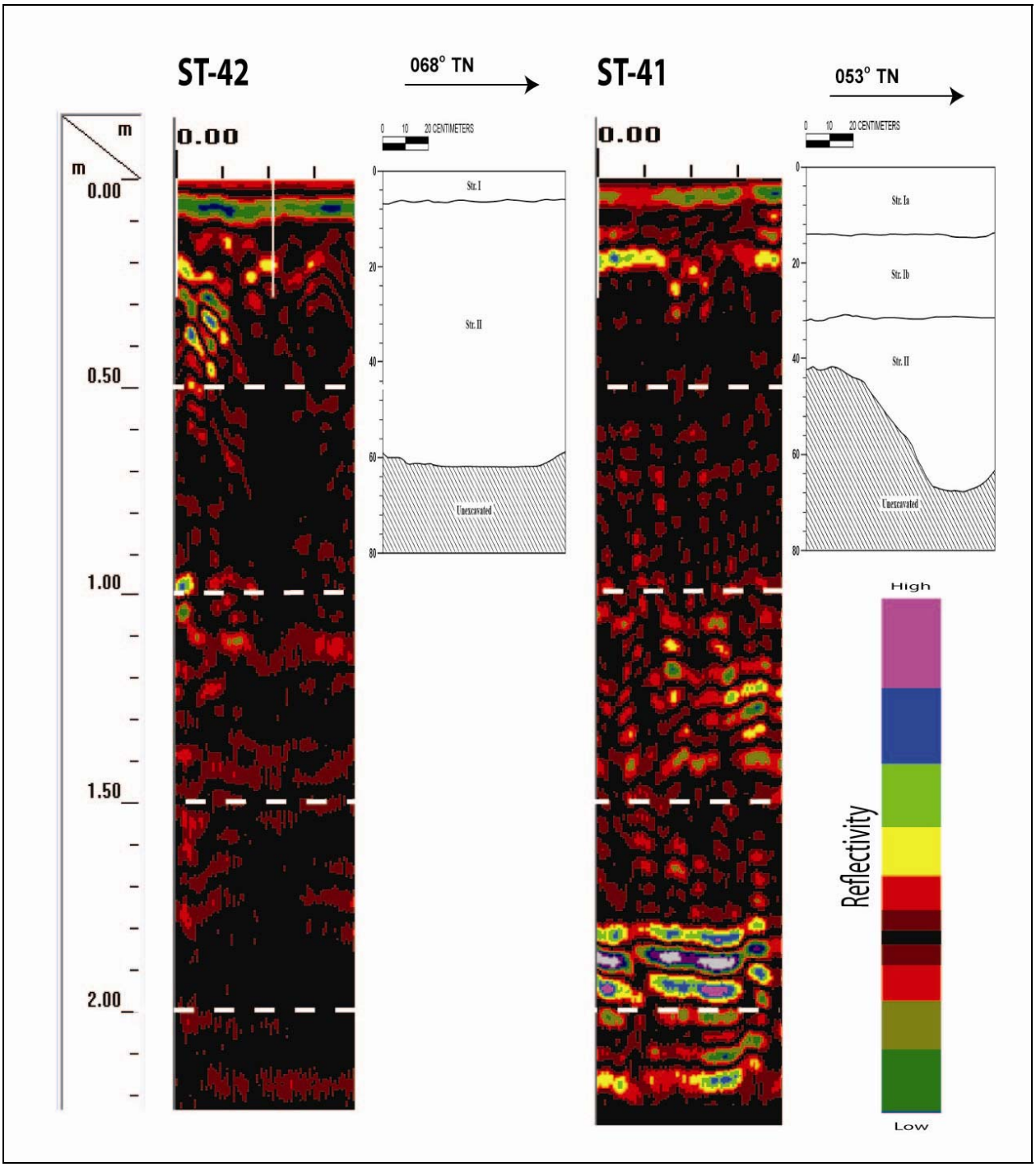

Figure 28. Comparison of GPR profiles and excavation profiles for Shovel Tests 41 and 42

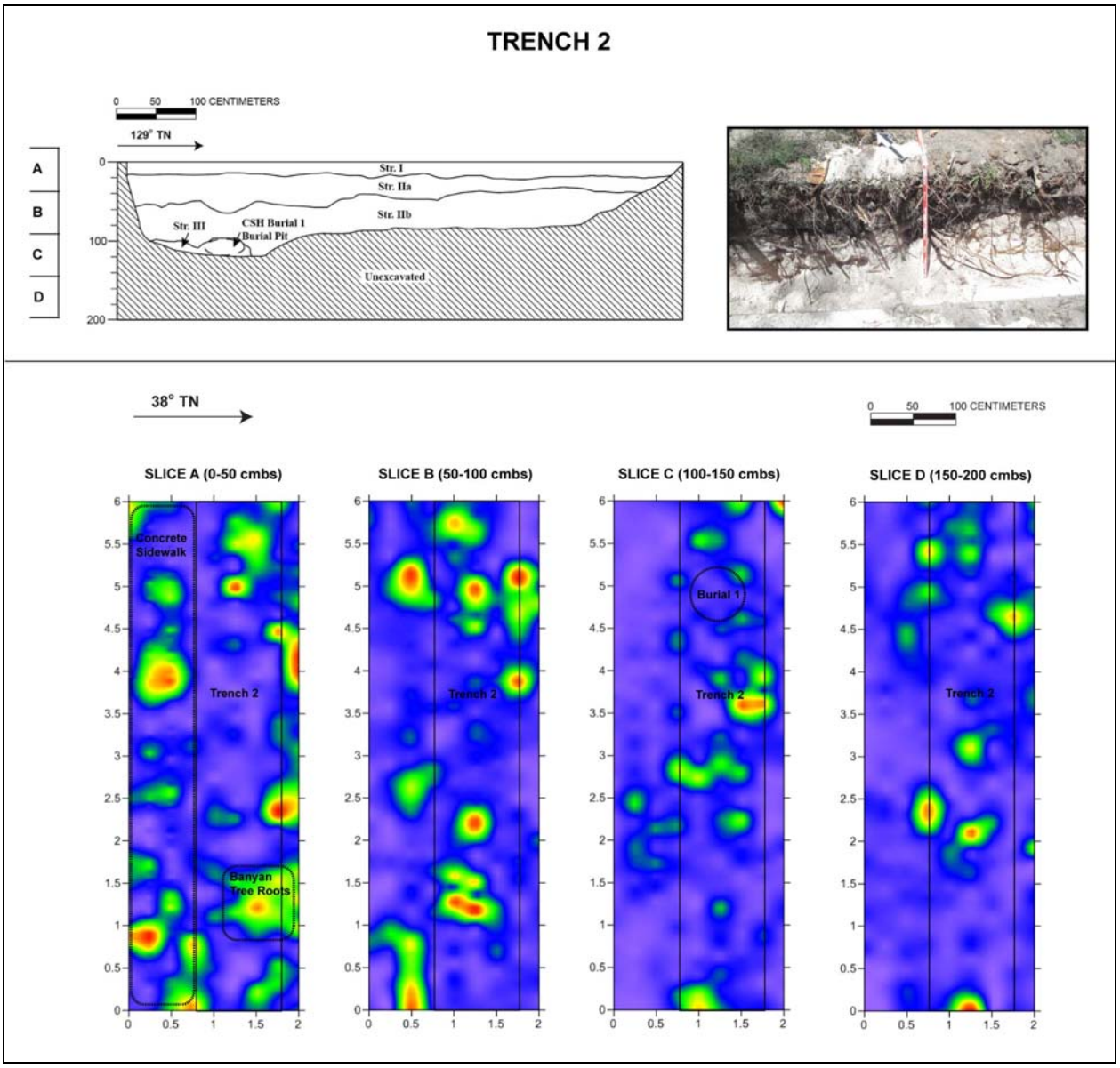

Figure 29. Excavated profile, photo, and GPR slice maps of Test Trench 2; location of CSH Burial 1 (SIHP # TBD) marked on SLICE C

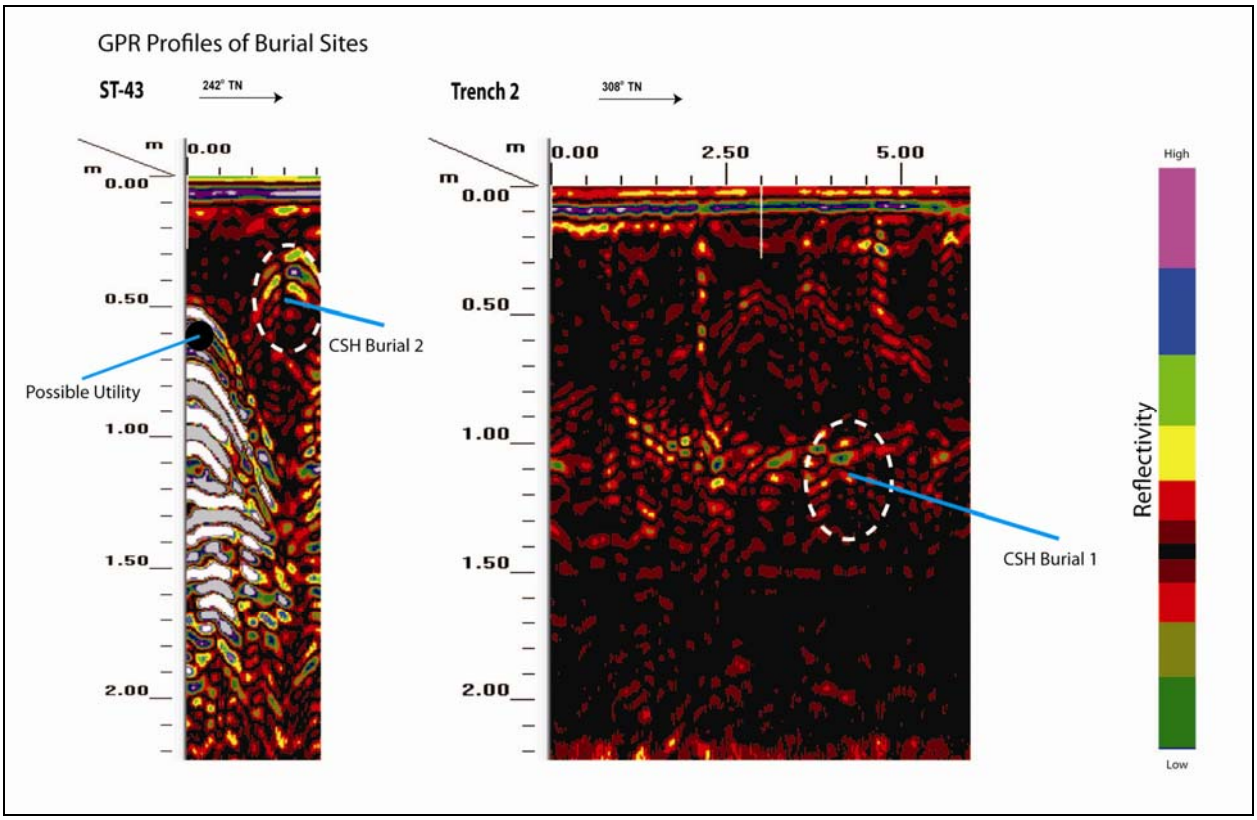

Figure 30. Views of both burials in GPR profiles

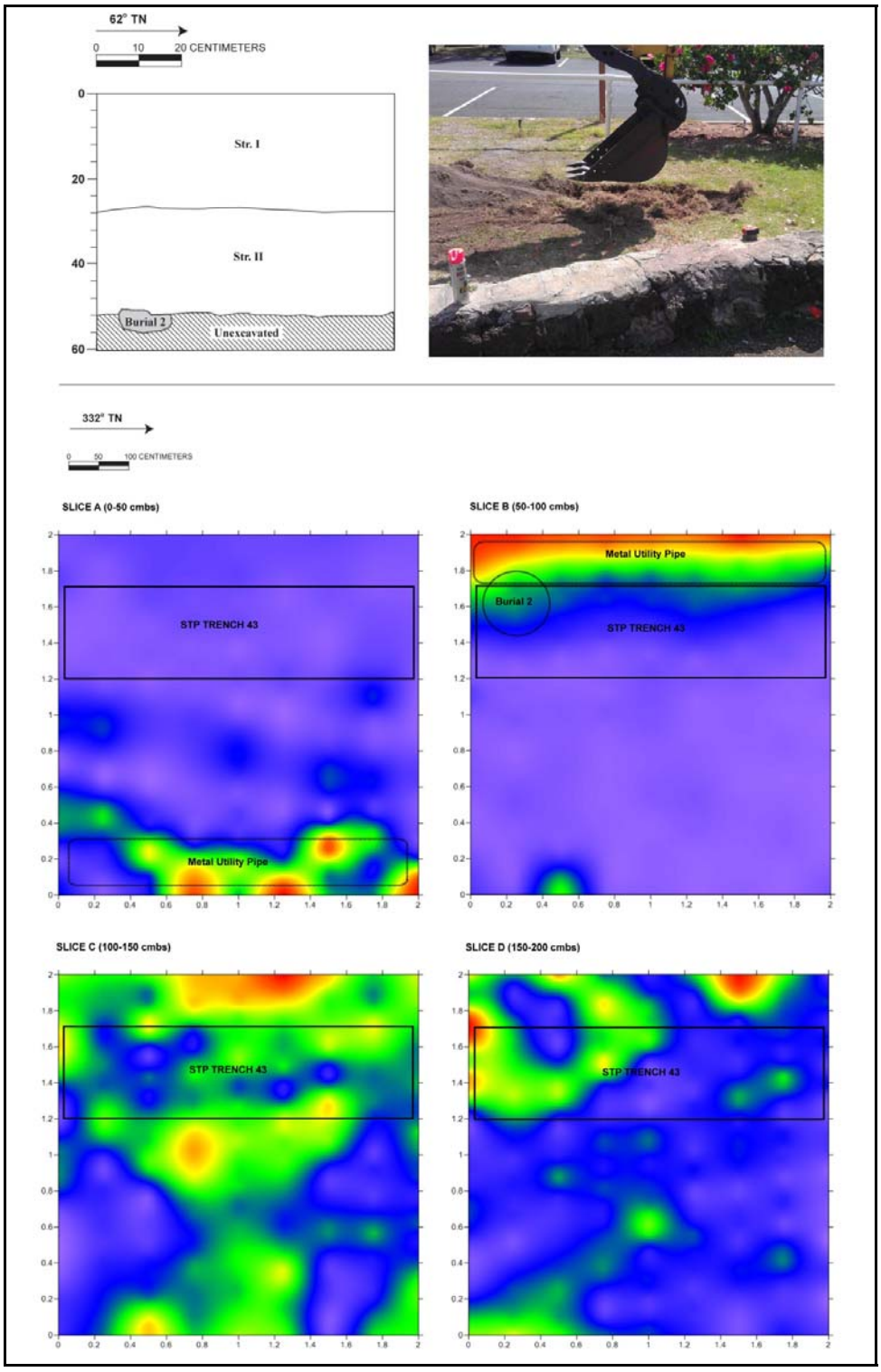

Figure 31. Excavated profile, photo, and GPR slice maps of Shovel Test 43; location of CSH Burial 2 (SIHP # TBD) marked on SLICE B

4.2 Stratigraphy

The following paragraphs provide an overview of the stratigraphy observed within the 58 test units excavated within the project area. For detailed information regarding each of the excavated test units, refer to the trench profiles, sediment descriptions, and photographs, below.

Strata were designated I through V and sub-designated a through e. The observed stratigraphic sequences throughout the project area were largely similar. In general, the test units had grass or organic material on the surface. Some trenches at the north end of the project area had asphalt surfaces. This was often followed by various fill layers including landscaping fill and grading fill, mostly composed of loamy sands or sandy loams. Following this, loamy sand or sandy loam buried A horizons were often noted. In some instances, layers of wind-deposited or high surf-deposited natural sand were observed. At the base of all excavations, natural jaucas sand was present. Some trenches at the north end of the project area exhibited a very hard, cemented layer of sand, like a soft coral shelf, at the top of their natural sand layer.

In most cases, cultural material, in the form of charcoal, shell midden, fire-cracked rock, basalt flakes, or coral, was observed within the old, buried A horizons observed. In five of the test units, two cultural layers, an upper and lower, were observed.

4.2.1 Test Trench 1

Test Trench 1 was located at the northern end of the project area. The trench measured 6.80 m long, 0.90 m wide, and 0.75 m deep. The stratigraphy of Test Trench 1 consisted of a silt loam and organic matter topsoil (Stratum Ia) overlying silt loam fill (Stratum Ib) overlying cobbly sand fill (Stratum Ic) overlying natural compacted sand (Stratum II) (Figure 32, Figure 33, and Table 5).

Figure 32. Photograph of Test Trench 1, northeast wall of excavation

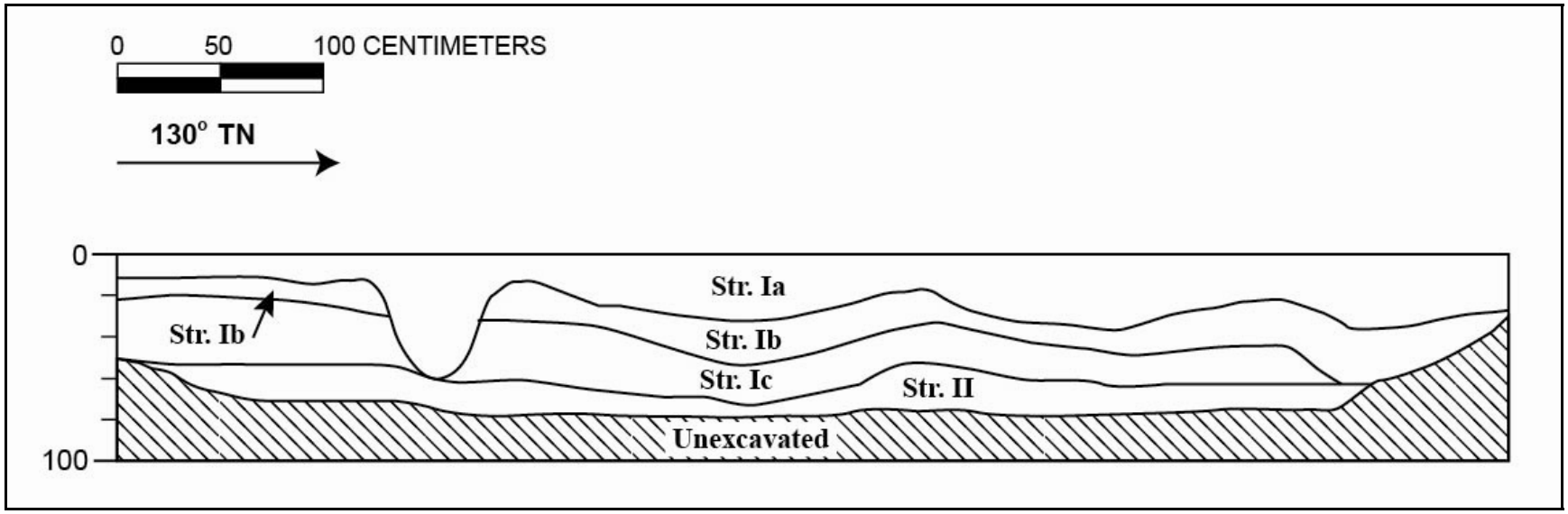

Figure 33. Test Trench 1 profile, northeast wall of excavation

Table 5. Stratigraphy Observed at Test Trench 1

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-60	Organic matter and topsoil; 10YR 3/3, dark brown; silt loam; weak, fine, granular structure; dry, loose consistency; non-plastic; terrigenous origin; abrupt, wavy lower boundary; common, fine roots.
Ib	10-60	Fill; 10YR 2/2, very dark brown; silt loam; weak, fine, granular structure; dry, loose consistency; non-plastic; terrigenous origin; abrupt, wavy lower boundary; few fine roots.
Ic	20-70	Fill; 10YR 7/6, yellow; cobbly sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, wavy lower boundary; few fine roots.
II	50-77 (base of excavation [BOE])	Natural; 10YR 7/2, light gray; sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; compacted and hard.

4.2.2 Test Trench 2

Test Trench 2 was located at the northern end of the project area. The trench measured 7.00 m long, 0.75 m wide, and 1.18 m deep. The stratigraphy of Test Trench 2 consisted of grass over a sandy loam topsoil (Stratum I) overlying a loamy sand buried A horizon (Stratum IIa) overlying natural loamy sand (Stratum IIb) overlying natural sand (Stratum III) (Figure 34, Figure 35, and Table 6). The buried A horizon contained no cultural material. CSH Burial 1 (SIHP # TBD) was located within Stratum III, in the northwest end of the trench. For a detailed description of the burial, see Section 4.4.1, below.

Figure 34. Photograph of Test Trench 2, northeast wall of excavation

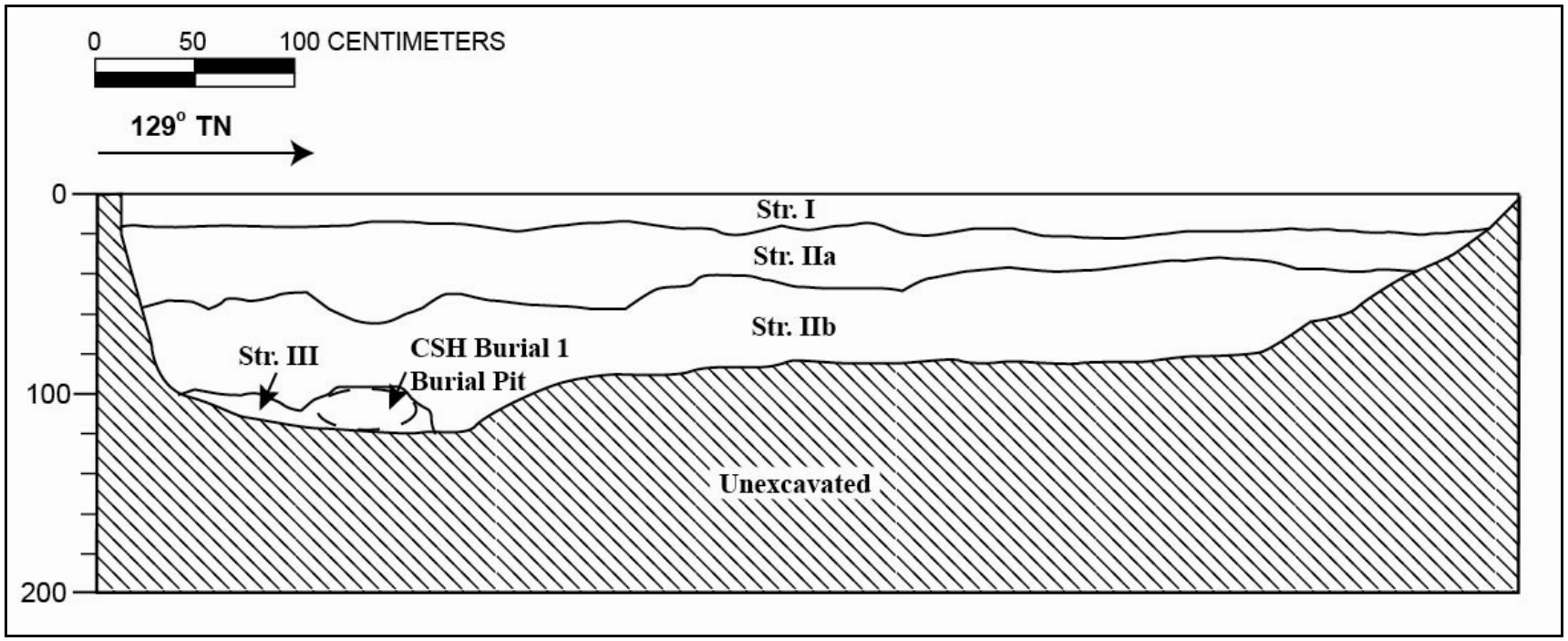

Figure 35. Test Trench 2 profile, northeast wall of excavation

Table 6. Stratigraphy Observed at Test Trench 2

Stratum	Depth (cmbs)	Description of Sediments
I	0-20	Grass and topsoil; 10YR 3/3, dark brown; sandy loam; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; many fine to medium roots.
IIa	13-66	Buried A horizon; 10YR 2/2, very dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
IIb	30-118 (BOE)	Natural; 10YR 6/2, light brownish gray; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots.
III	100-118 (BOE)	Natural jaucas sand; 10YR 7/6, yellow; fine-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; contained CSH Burial 1 (SIHP # TBD)

4.2.3 Test Trench 3

Test Trench 3 was located at the northern end of the project area. The trench measured 6.00 m long, 0.80 m wide, and 1.59 m deep. The stratigraphy of the south end of Test Trench 3 consisted of grass and a loamy sand topsoil (Stratum Ia) overlying natural silty sand (Stratum II) overlying natural sand (Stratum III), while the north end of the trench consisted of asphalt (Stratum Ib) overlying natural sand (Stratum III) (Figure 36, Figure 37, and Table 7).

Figure 36. Photograph of Test Trench 3, southwest wall of excavation

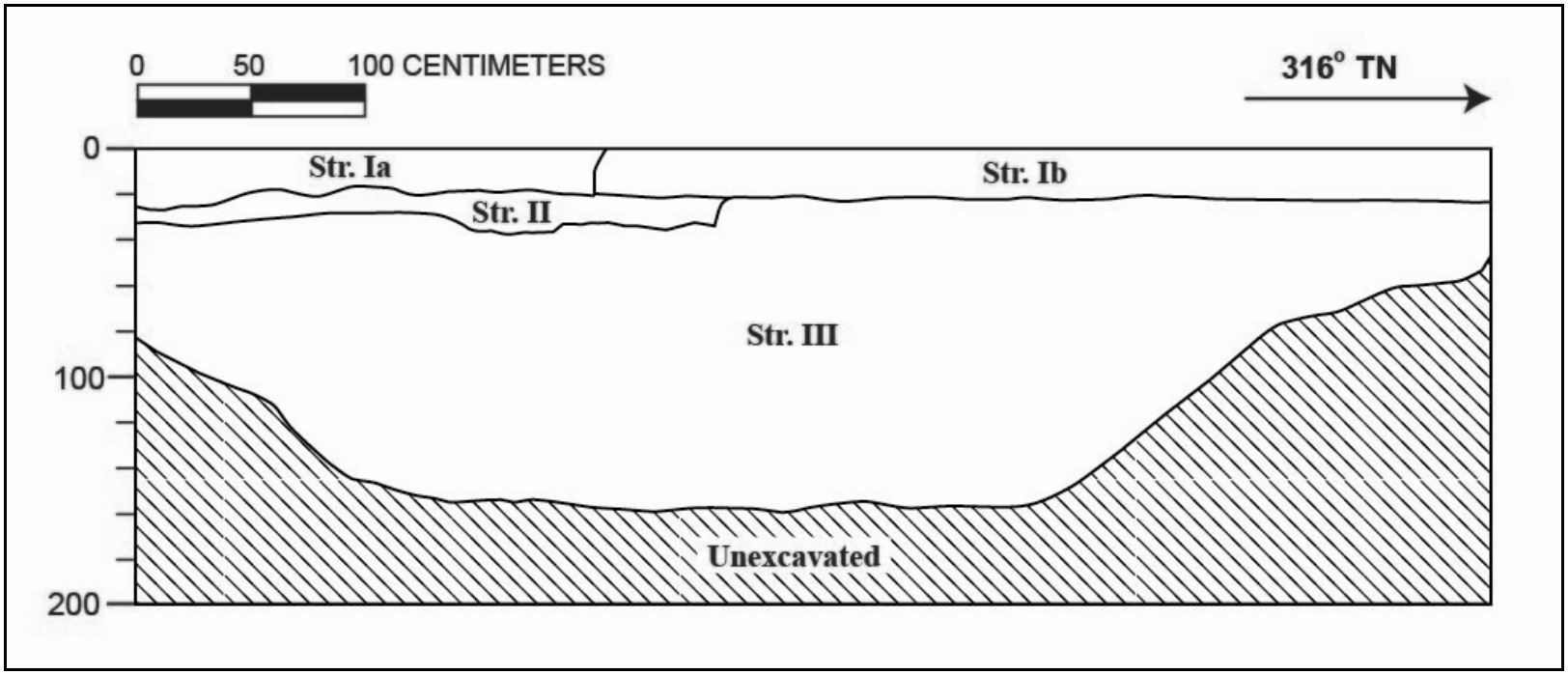

Figure 37. Test Trench 3 profile, southwest wall of excavation

Table 7. Stratigraphy Observed at Test Trench 3

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-26	Grass and topsoil; 10YR 4/2, dark grayish brown; loamy sand; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common, fine roots.
Ib	0-20	Asphalt parking lot surface
II	15-36	Natural; 10YR 5/2, grayish brown; silty sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary.
III	20-159 (BOE)	Natural jaucas sand; 10YR 7/6, yellow; fine-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.4 Test Trench 5

Test Trench 5 was located at the northeast edge of the project area along the ocean. The trench measured 7.00 m long, 0.75 m wide, and 0.95 m deep. The stratigraphy of the northwest end of Test Trench 5 consisted of grass and loamy sand fill (Stratum Ia) overlying natural loamy sand buried A horizon (Stratum IIa) overlying natural jaucas sand (Stratum IIb), while the southeast end of the trench consisted of grass and sandy clay fill (Stratum Ib) overlying a natural loamy sand buried A horizon (Stratum IIa) overlying natural jaucas sand (Stratum IIb) (Figure 38, Figure 39, and Table 8). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 38. Photograph of Test Trench 5, northeast wall of excavation

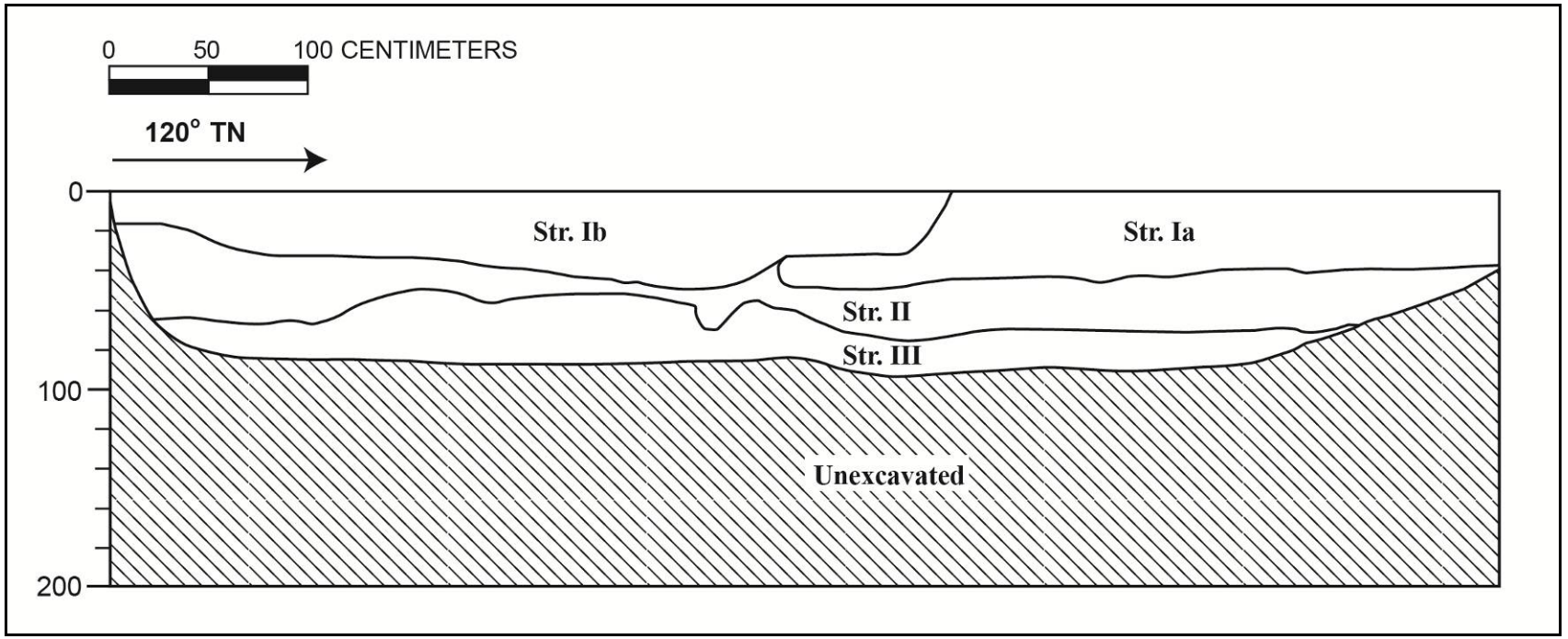

Figure 39. Test Trench 5 profile, northeast wall of excavation

Table 8. Stratigraphy Observed at Test Trench 5

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-50	Grass and fill; 10YR 4/2, dark grayish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, wavy lower boundary; common fine roots.
Ib	0-50	Grass and fill; 5YR 3/4, dark reddish brown; sandy clay; strong, very coarse, blocky structure; dry, weakly coherent consistency; slightly plastic; mixed origin; abrupt, smooth lower boundary; common fine roots.
IIa	15-70	Buried A horizon; 10YR 2/1, black; loamy sand; weak, fine, crumb structure; dry, weakly coherent consistency; non-plastic; mixed origin; abrupt, wavy lower boundary; few fine roots; contained charcoal, shell midden, and fire-cracked rock; cultural layer, incorporated into SIHP # -1801.
IIb	50-95 (BOE)	Natural jaucas sand; 10YR 7/6, yellow; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.5 Test Trench 12

Test Trench 12 was located at the northern end of the project area. The trench measured 7.50 m long, 0.90 m wide, and 1.50 m deep. The stratigraphy of Test Trench 12 consisted of grass over a sandy loam topsoil (Stratum Ia) overlying very gravelly sandy loam fill (Stratum Ib) overlying silty clay fill (Stratum Ic) overlying two layers of natural sand (Strata IIa and IIb) (Figure 40, Figure 41, and Table 9). The water table was present in this trench at approximately 1.50 m below ground surface (mbgs).

Figure 40. Photograph of Test Trench 12, northwest wall of excavation

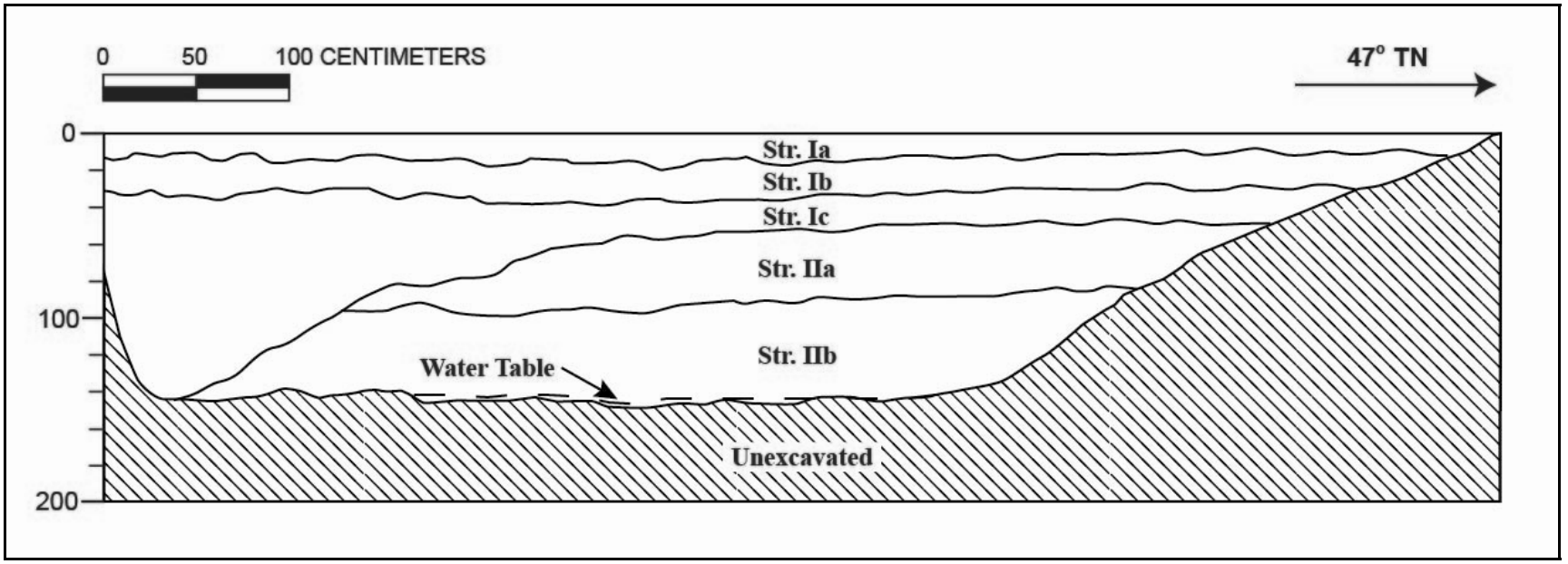

Figure 41. Test Trench 12 profile, northwest wall of excavation

Table 9. Stratigraphy Observed at Test Trench 12

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-15	Grass and topsoil; 10YR 3/4, dark yellowish brown; sandy loam; weak, fine, granular structure; dry, weakly coherent consistency; non-plastic; terrigenous origin; abrupt, smooth lower boundary; many medium roots.
Ib	15-35	Fill; 10YR 2/2, very dark brown; very gravelly sandy loam; weak, fine, granular structure; dry, loose consistency; non-plastic; terrigenous origin; abrupt, wavy lower boundary; few fine roots.
Ic	35-145	Fill; 10YR 3/1, very dark gray; silty clay; moderate, fine, blocky structure; dry, slightly hard consistency; non-plastic; terrigenous origin; abrupt, irregular lower boundary; few fine roots.
IIa	50-90	Natural; 10YR 8/3, pale brown; sand; single-grain; dry, weakly coherent consistency; non-plastic; marine origin; clear, smooth lower boundary.
IIb	90-150 (BOE)	Natural; 10YR 7/4, very pale brown; gravelly sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; 20% small coral cobble inclusions.

4.2.6 Test Trench 13

Test Trench 13 was located at the northern end of the project area. The trench measured 7.50 m long, 0.75 m wide, and 1.95 m deep. The stratigraphy of Test Trench 13 consisted of grass over a loamy sand topsoil (Stratum I) overlying natural silty sand (Stratum II) overlying natural sand (Stratum III) (Figure 42, Figure 43, and Table 10).

Figure 42. Photograph of Test Trench 13, southeast wall of excavation

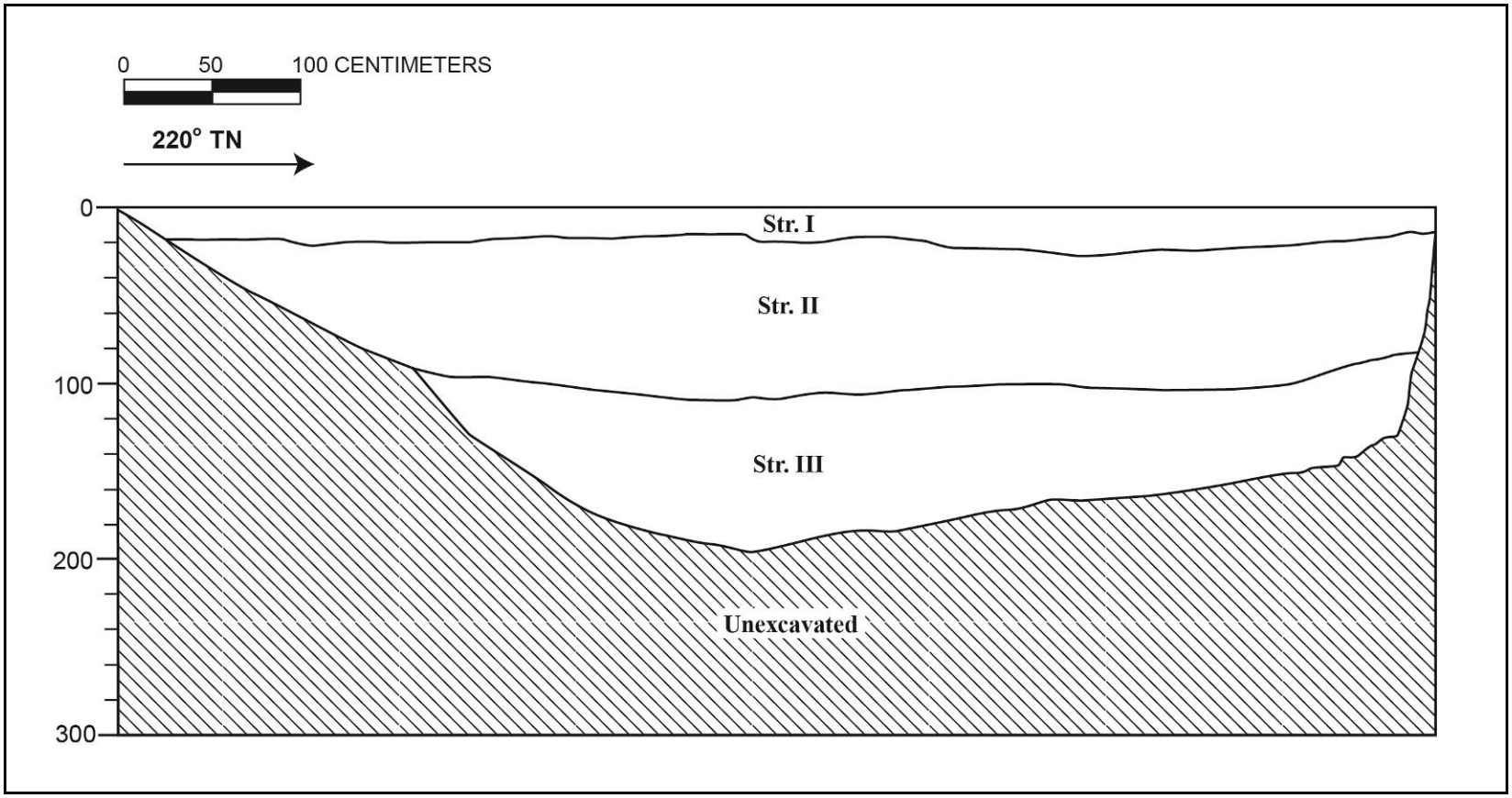

Figure 43. Test Trench 13 profile, southeast wall of excavation

Table 10. Stratigraphy Observed at Test Trench 13

Stratum	Depth (cmbs)	Description of Sediments
I	0-27	Grass and topsoil; 10YR 4/2, dark grayish brown; loamy sand; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; abrupt, wavy lower boundary; common, fine roots.
II	14-109	Natural; 10YR 5/2, grayish brown; silty sand; weak, fine, crumb structure; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots.
III	82-195 (BOE)	Natural jaucas sand; 10YR 7/6, yellow; fine-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.7 Test Trench 14

Test Trench 14 was located at the northeastern end of the project area. The trench measured 6.50 m long, 0.90 m wide, and 0.90 m deep. The stratigraphy of Test Trench 14 consisted of grass over loamy sand (Stratum I) overlying a loamy sand buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 44, Figure 45, and Table 11). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 44. Photograph of Test Trench 14, northeast wall of excavation

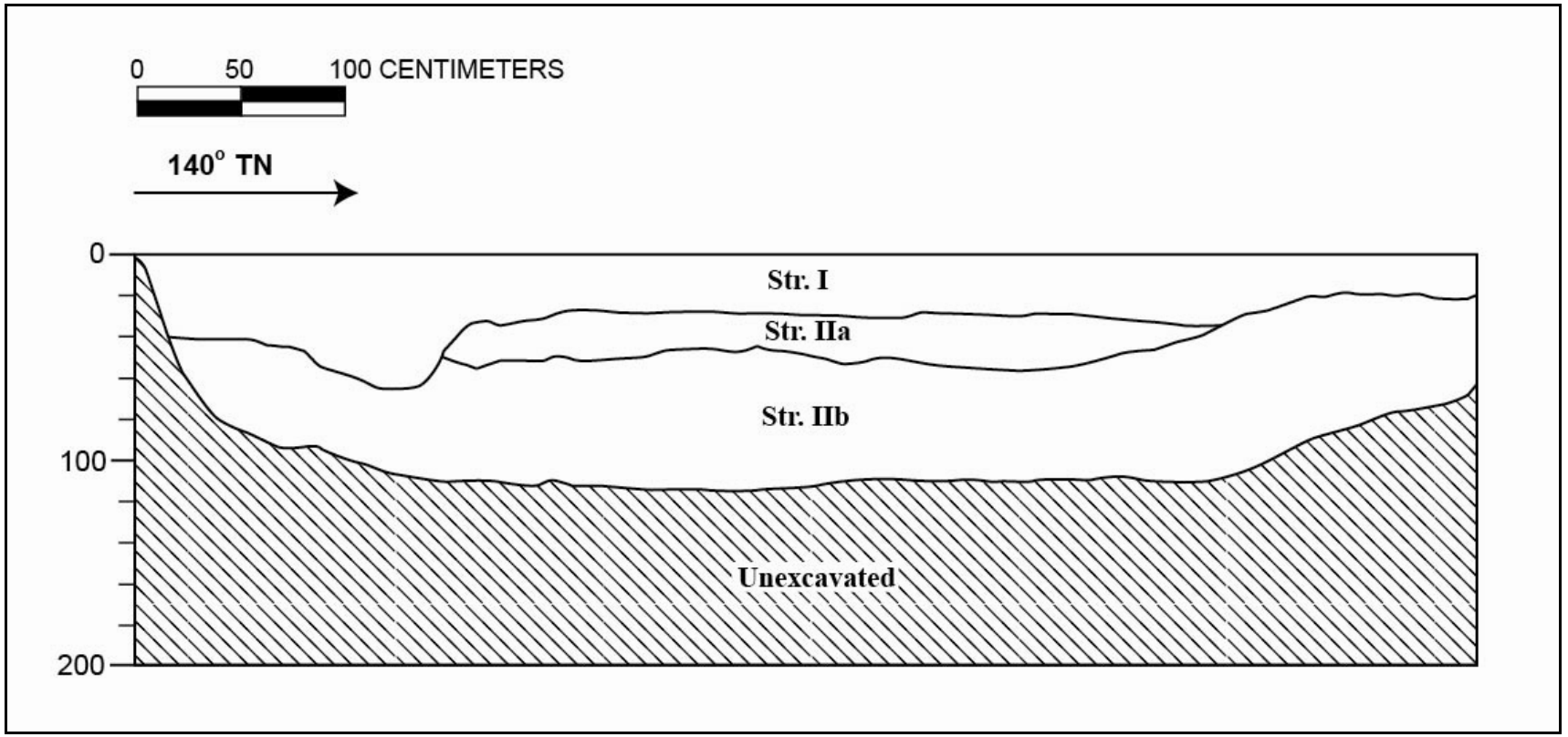

Figure 45. Test Trench 14 profile, northeast wall of excavation

Table 11. Stratigraphy Observed at Test Trench 14

Stratum	Depth (cmbs)	Description of Sediments
I	0-60	Grass and fill; 10YR 4/2, dark grayish brown; loamy sand; weak, fine, crumb structure; dry, weakly coherent consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; many medium roots.
IIa	10-60	Buried A horizon; 10YR 3/2, very dark grayish brown; loamy sand; weak, fine, crumb structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, wavy lower boundary; common fine roots; charcoal present; cultural layer, incorporated into SIHP -1801.
IIb	50-77 (BOE)	Natural jaucas sand; 10YR 7/6, yellow; fine-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; many medium roots; coral inclusions.

4.2.8 Test Trench 15

Test Trench 15 was located at the northern end of the project area. The trench measured 7.32 m long, 4.88 m wide, and 1.5 m deep. Profile maps were drawn of portions of the southeast and northwest walls. The stratigraphy of both walls consisted of asphalt (Stratum Ia) overlying crushed coral base course (Stratum Ib) overlying clay loam fill (Stratum Ic) overlying a loamy sand buried A horizon, the top of which has been graded off (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 46 through Figure 49, Table 12, and Table 13). The top of most of Stratum IIb consisted of very hard cemented sand, like a soft coral shelf. Additionally, the north end of the northwest wall contained a large pit made up of a mix of Strata Ic, IIa, and IIb, which appears to be related to a nearby sewer line. The water table was present in this trench at approximately 1.40 m below ground surface (mbgs).

Figure 46. Photograph of Test Trench 15, southeast wall of excavation

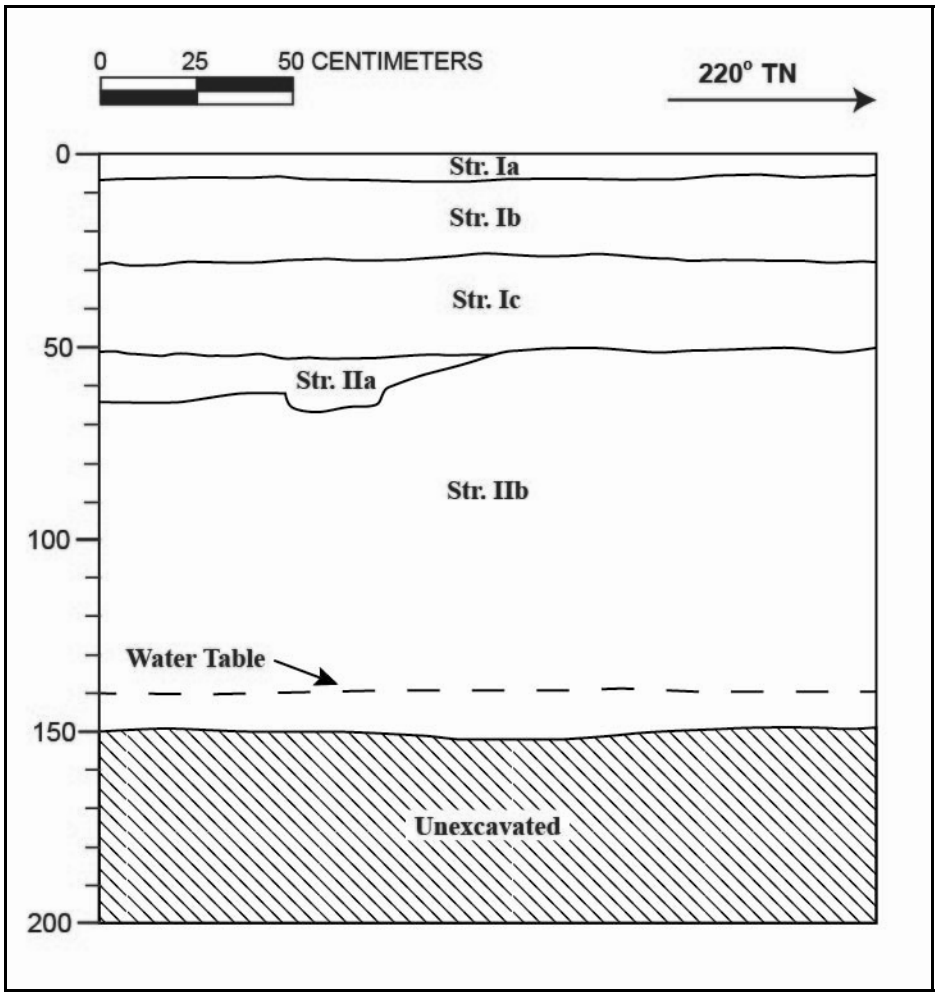

Figure 47. Test Trench 15 profile, southeast wall of excavation

Table 12. Stratigraphy Observed at Test Trench 15, northwest wall of excavation

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-7	Asphalt
Ib	7-29	Crushed coral grading fill
Ic	27-53	Fill; 7.5YR 4/6, strong brown; clay loam; moderate, medium, blocky structure; moist, friable consistency; slightly plastic; terrestrial origin; very abrupt, smooth lower boundary; plastic bag present.

Stratum	Depth (cmbs)	Description of Sediments
IIa	51-62	Buried A horizon; 10YR 4/2, dark grayish brown; loamy sand; weak, fine, crumb structure; dry, weakly coherent consistency; non-plastic; mixed origin; abrupt, smooth lower boundary.
IIb	51-150 (BOE)	Natural jaucas sand; 10YR 8/3, very pale brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; top of stratum was very hard and cemented, like a soft coral shelf; sand became coarser with depth.

Figure 48. Photograph of Test Trench 15, northwest wall of excavation

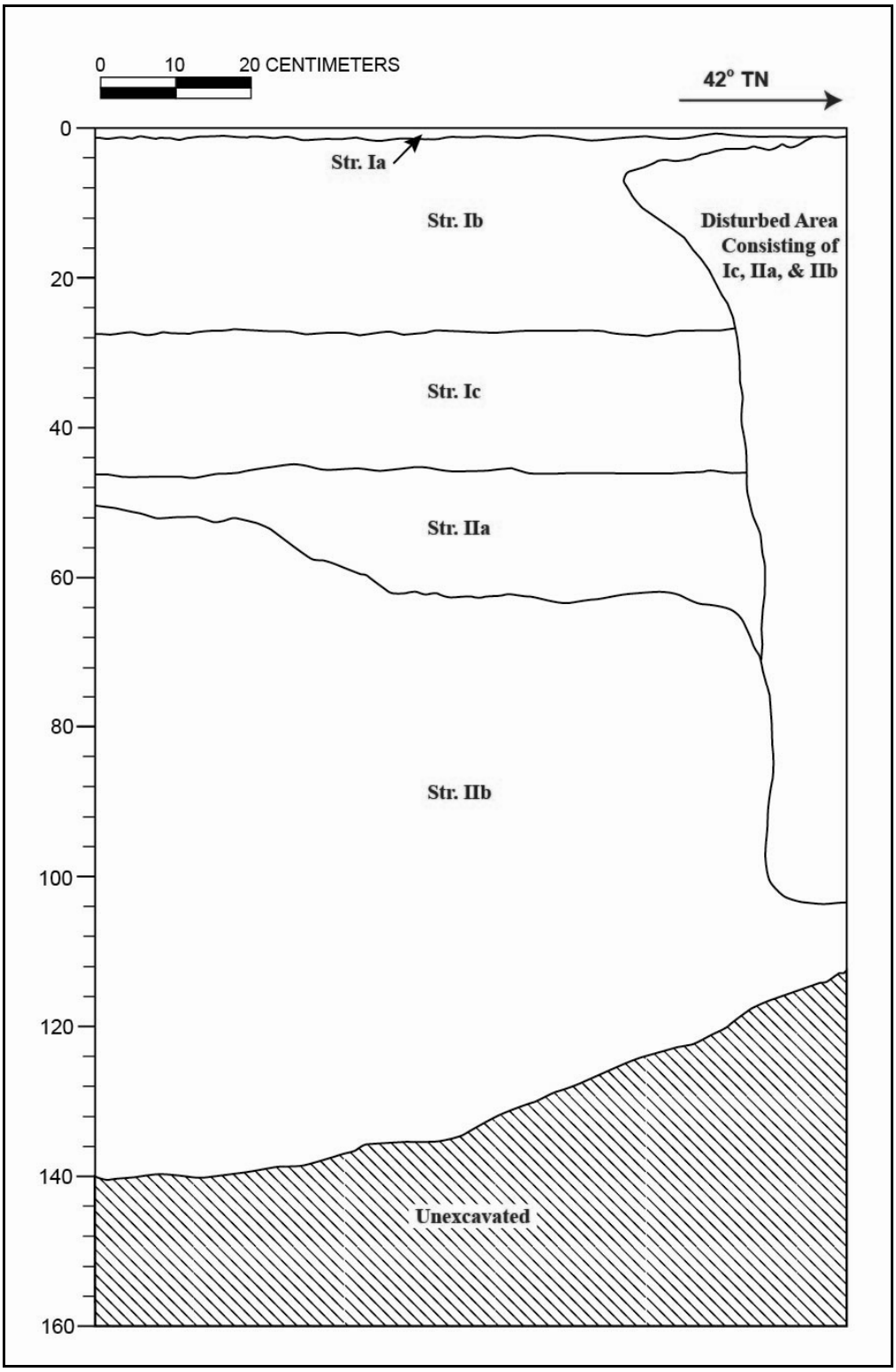

Figure 49. Test Trench 15 profile, northwest wall of excavation

Table 13. Stratigraphy Observed at Test Trench 15, northwest wall of excavation

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-5	Asphalt
Ib	5-27	Crushed coral grading fill
Ic	27-46	Fill; 7.5YR 4/6, strong brown; clay loam; moderate, medium, blocky structure; moist, friable consistency; slightly plastic; terrestrial origin; very abrupt, smooth lower boundary.
IIa	45-70	Buried A horizon; 10YR 4/2, dark grayish brown; loamy sand; weak, fine, crumb structure; dry, weakly coherent consistency; non-plastic; mixed origin; diffuse, smooth lower boundary.
IIb	50-140 (BOE)	Natural jaucas sand; 10YR 8/3, very pale brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; top of stratum was very hard and cemented, like a soft coral shelf; sand became coarser with depth.

4.2.9 Test Trench 16

Test Trench 16 was located at the northern end of the project area. The trench measured 6.00 m long, 0.70 m wide, and 1.20 m deep. The stratigraphy of Test Trench 16 consisted of organic matter over silt loam topsoil (Stratum I) overlying a disturbed sandy loam buried A horizon (Stratum IIa) overlying disturbed natural sand (Stratum IIb) overlying a sandy loam buried A horizon (Stratum IIIa) overlying natural sand (Stratum IIIb) (Figure 50, Figure 51, and Table 14). The top of a portion of Stratum IIb consisted of very hard cemented sand, like a soft coral shelf.

Figure 50. Photograph of Test Trench 16, southwest wall of excavation

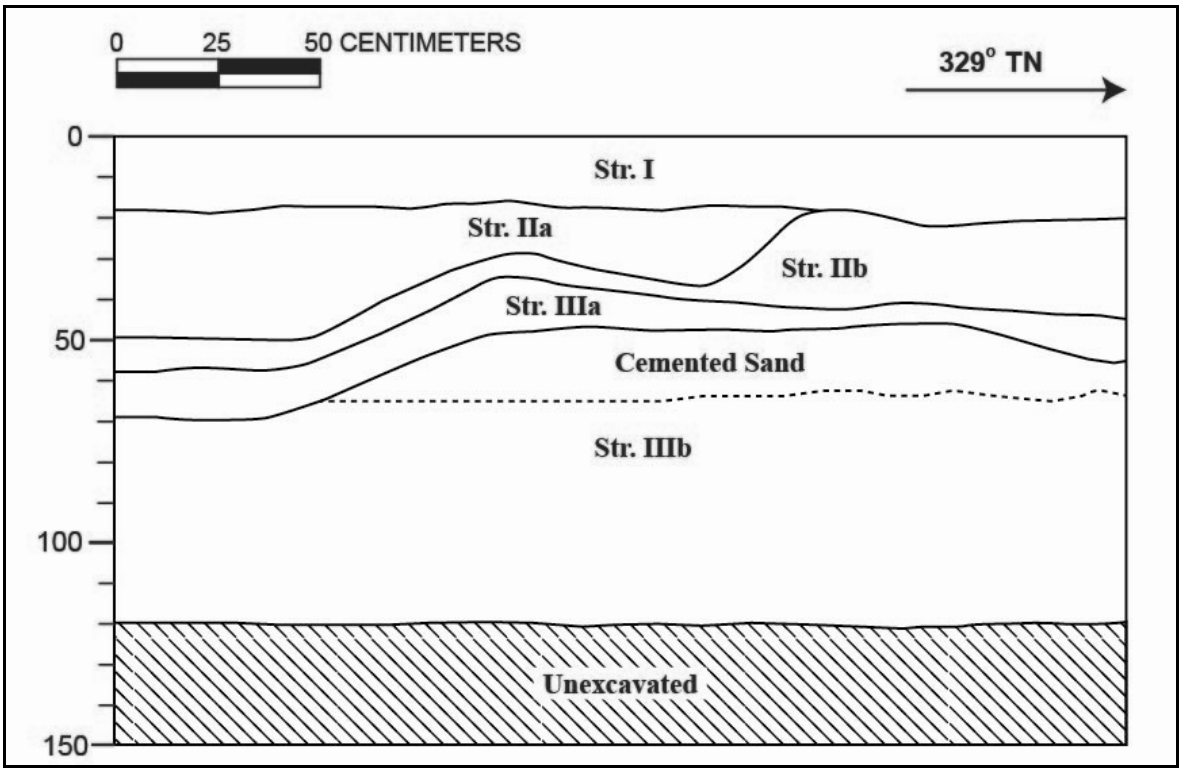

Figure 51. Test Trench 16 profile, southwest wall of excavation

Table 14. Stratigraphy Observed at Test Trench 16

Stratum	Depth (cmbs)	Description of Sediments
I	0-17	Organic matter and topsoil; 10YR 3/4, dark yellowish brown; silt loam; weak, fine, crumb structure; dry, loose consistency; non-plastic; terrestrial origin; clear, smooth lower boundary; many fine roots.
IIa	17-50	Disturbed buried A horizon; 10YR 4/2, dark grayish brown; loamy sand; weak, very fine, crumb structure; dry, weakly coherent consistency; non-plastic; mixed origin; diffuse, smooth lower boundary.
IIb	18-58	Disturbed natural jaucas sand; 10YR 8/3, very pale brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; abrupt, irregular lower boundary.
IIIa	35-70	Buried A horizon; 10YR 4/2, dark grayish brown; loamy sand; weak, very fine, crumb structure; dry, weakly coherent consistency; non-plastic; mixed origin; diffuse, smooth lower boundary.
IIIb	46-120 (BOE)	Natural jaucas sand; 10YR 8/3, very pale brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; top of stratum was very hard and cemented, like a soft coral shelf.

4.2.10 Test Trench 17

Test Trench 17 was located at the northern end of the project area. The trench measured 6.20 m long, 0.70 m wide, and 1.25 m deep. The stratigraphy of Test Trench 16 consisted of organic matter over sandy loam topsoil (Stratum I) overlying a loamy sand buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 52, Figure 53, and Table 15). The top of a portion of Stratum IIb consisted of very hard cemented sand, like a soft coral shelf.

Figure 52. Photograph of Test Trench 17, southwest wall of excavation

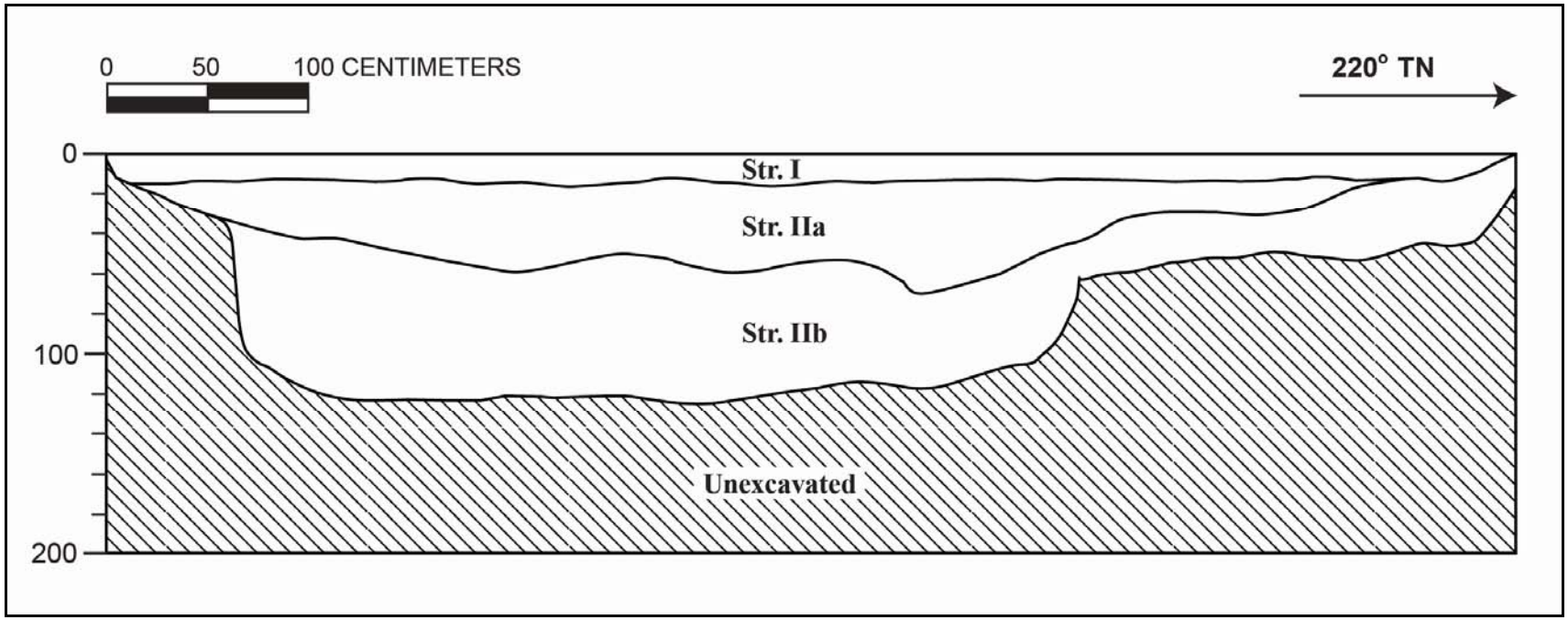

Figure 53. Test Trench 17 profile, southwest wall of excavation

Table 15. Stratigraphy Observed at Test Trench 17

Stratum	Depth (cmbs)	Description of Sediments
I	0-15	Organic matter and topsoil; 10YR 3/4, dark yellowish brown; sandy loam; weak, fine, crumb structure; dry, loose consistency; non-plastic; terrestrial origin; clear, smooth lower boundary; many fine roots.
IIa	15-65	Buried A horizon; 10YR 4/2, dark grayish brown; loamy sand; weak, fine, crumb structure; dry, loose consistency; non-plastic; mixed origin; clear, wavy lower boundary.
IIb	35-125 (BOE)	Natural jaucas sand; 10YR 8/3, very pale brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few medium roots; top of stratum was very hard and cemented, like a soft coral shelf.

4.2.11 Shovel Test 1

Shovel Test 1 was located at the northeastern corner of the project area along the ocean. The shovel test had a diameter of 0.40 m and was 0.80 m deep. The stratigraphy of Shovel Test 1 consisted of organic matter over a sandy loam buried A horizon (Stratum I) overlying natural sand (Stratum II) (Figure 54, Figure 55, and Table 16). This shovel test was located within SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990). The buried A horizon (Stratum I) is incorporated into SIHP # -1801.

Figure 54. Photograph of Shovel Test 1, view northeast

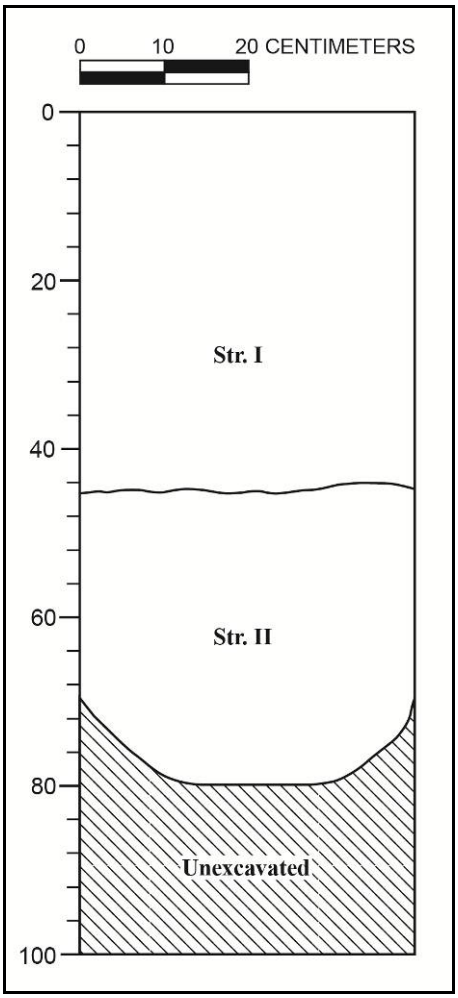

Figure 55. Shovel Test 1 profile

Table 16. Stratigraphy Observed at Shovel Test 1

Stratum	Depth (cmbs)	Description of Sediments
I	0-45	Organic matter and old A horizon; 10YR 3/2, very dark grayish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; diffuse, smooth lower boundary; common fine roots; charcoal flecking, shell midden, and coral cobbles present; cultural layer, incorporated into SIHP # -1801.
II	45-80 (BOE)	Natural jaucas sand; 10YR 8/6, yellow; fine-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.12 Shovel Test 2

Shovel Test 2 was located at the northeastern corner of the project area along the ocean. The shovel test had a diameter of 0.40 m and was 0.65 m deep. The stratigraphy of Shovel Test 2 consisted of organic matter over loamy sand (Stratum Ia) overlying natural sand (Stratum Ib) overlying a natural sand buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 56, Figure 57, and Table 17). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 56. Photograph of Shovel Test 2, view east

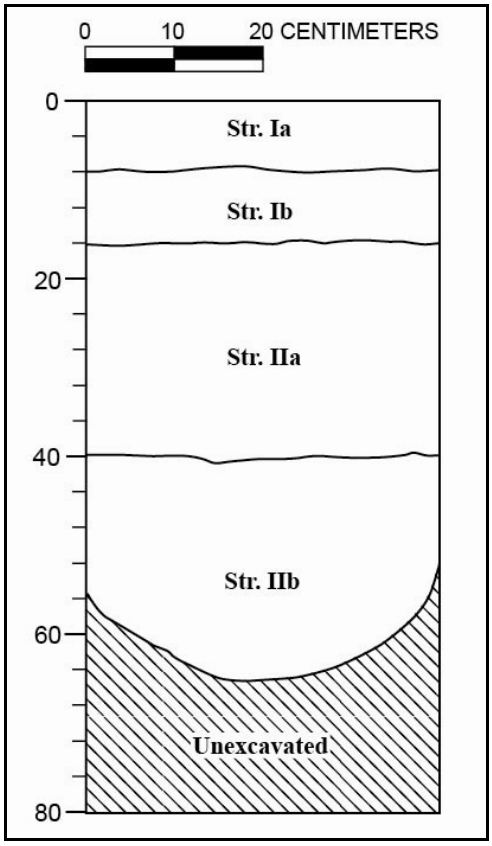

Figure 57. Shovel Test 2 profile

Table 17. Stratigraphy Observed at Shovel Test 2

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-8	Organic matter and topsoil; 10YR 2/2, black; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary.
Ib	8-16	Natural; 10YR 7/4, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; very abrupt, smooth lower boundary; few fine to medium roots.
IIa	16-40	Buried A horizon; 10YR 3/2, very dark grayish brown; sandy loam; weak, fine, crumb structure; dry, loose consistency; non-plastic; mixed origin; diffuse, smooth lower boundary; common fine roots; charcoal and shell midden present; cultural layer, incorporated into SIHP # -1801.
IIb	40-65 (BOE)	Natural jaucas sand; 10YR 8/6, yellow; fine-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; many medium roots.

4.2.13 Shovel Test 3

Shovel Test 3 was located at the northeastern corner of the project area along the ocean. The shovel test had a diameter of 0.40 m and was 0.85 m deep. The stratigraphy of Shovel Test 3 consisted of organic matter over loamy sand (Stratum Ia) overlying natural sand (Stratum Ib) overlying a natural sand buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 58, Figure 59, and Table 18). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 58. Photograph of Shovel Test 3, view east

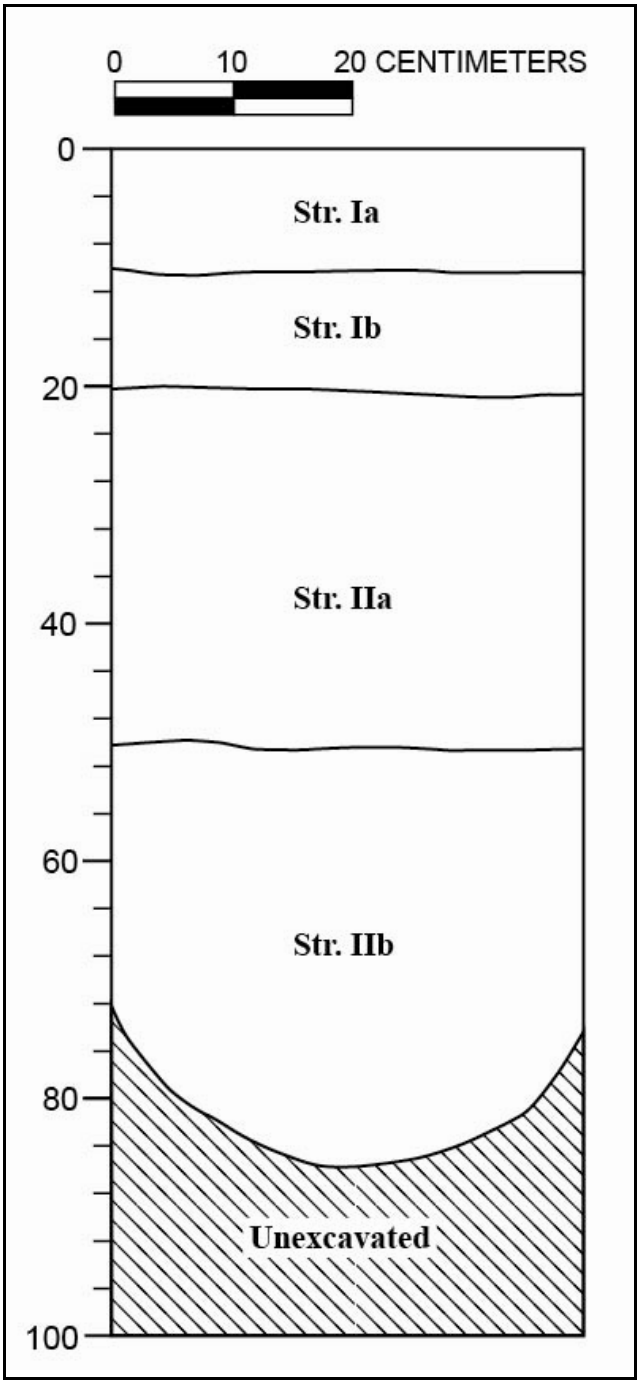

Figure 59. Shovel Test 3 profile

Table 18. Stratigraphy Observed at Shovel Test 3

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-10	Organic matter and topsoil; 10YR 2/1, black; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary.
Ib	10-20	10YR 6/4, light yellowish brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; abrupt, smooth lower boundary; few fine to medium roots.
IIa	20-50	Buried A horizon; 10YR 3/3, dark brown; sandy loam; weak, fine, crumb structure; dry, loose consistency; non-plastic; mixed origin; diffuse, smooth lower boundary; charcoal and shell midden present; cultural layer, incorporated into SIHP # -1801.
IIb	50-85 (BOE)	Natural jaucas sand; 10YR 8/6, yellow; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.14 Shovel Test 4

Shovel Test 4 was located at the northeastern corner of the project area along the ocean. The shovel test had a diameter of 0.66 m and was 0.59 m deep. The stratigraphy of Shovel Test 4 consisted of grass over loamy sand (Stratum I) overlying natural sand (Stratum II) (Figure 60, Figure 61, and Table 19).

Figure 60. Photograph of Shovel Test 4, view east

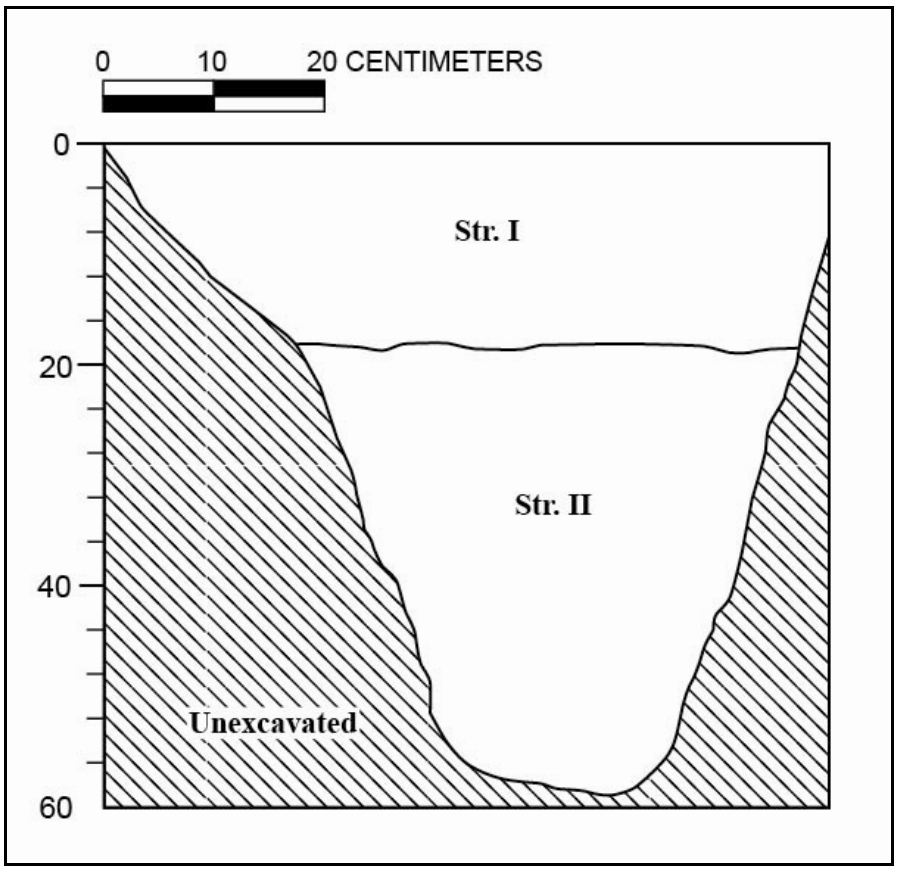

Figure 61. Shovel Test 4 profile, northeast wall of excavation

Table 19. Stratigraphy Observed at Shovel Test 4

Stratum	Depth (cmbs)	Description of Sediments
I	0-18	Grass and topsoil; 10YR 5/2, grayish brown; loamy sand; weak, fine to medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine to coarse roots.
II	18-59 (BOE)	Natural jaucas sand; 10YR 8/3, very pale brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin.

4.2.15 Shovel Test 5

Shovel Test 5 was located at the northeastern corner of the project area along the ocean. The shovel test had a diameter of 0.40 m and was 0.65 m deep. The stratigraphy of Shovel Test 5 consisted of grass over loamy sand (Stratum I) overlying natural sand (Stratum II) (Figure 62, Figure 63, and Table 20).

Figure 62. Photograph of Shovel Test 5, view northwest

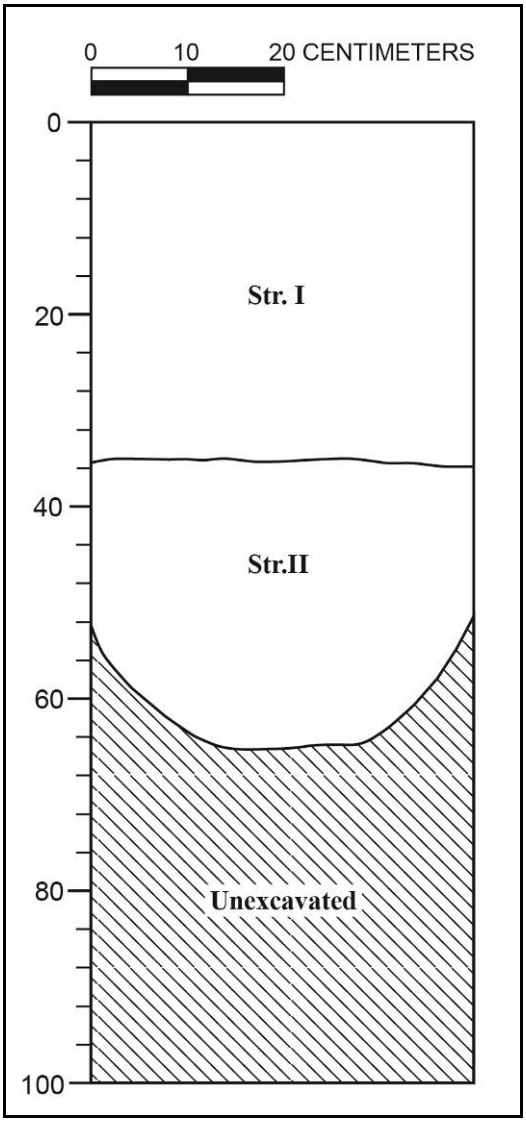

Figure 63. Shovel Test 5 profile

Table 20. Stratigraphy Observed at Shovel Test 5

Stratum	Depth (cmbs)	Description of Sediments
I	0-35	Grass and topsoil; 10YR 4/2, grayish brown; loamy sand; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots.
II	35-65 (BOE)	Natural jaucas sand; 10YR 8/4, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin.

4.2.16 Shovel Test 6

Shovel Test 6 was located at the northeastern corner of the project area along the ocean. The shovel test had a diameter of 0.50 m and was 0.50 m deep. The stratigraphy of Shovel Test 6 consisted of organic matter over loamy sand (Stratum I) overlying natural sand (Stratum II) (Figure 64, Figure 65, and Table 21).

Figure 64. Photograph of Shovel Test 6, view east

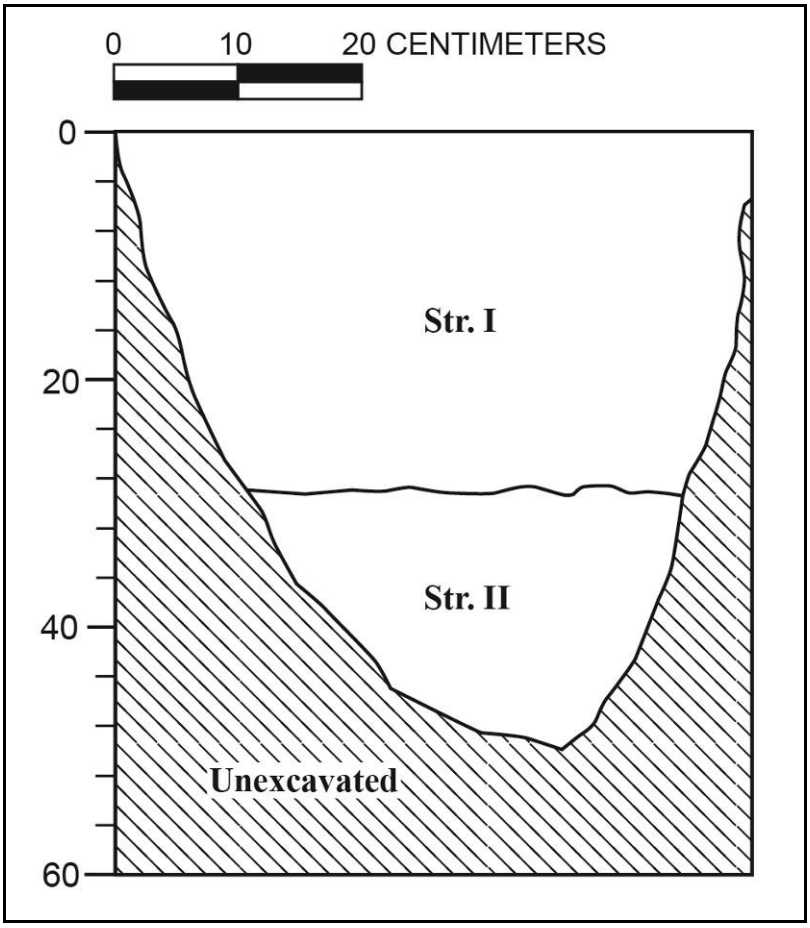

Figure 65. Shovel Test 6 profile

Table 21. Stratigraphy Observed at Shovel Test 6

Stratum	Depth (cmbs)	Description of Sediments
I	0-29	Grass and topsoil; 10YR 5/2, grayish brown; loamy sand; weak, fine to medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; many medium to coarse roots.
II	29-50 (BOE)	Natural jaucas sand; 10YR 8/3, very pale brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; few fine to medium roots.

4.2.17 Shovel Test 7

Shovel Test 7 was located at the northeastern corner of the project area along the ocean. The shovel test had a diameter of 0.60 m and was 0.64 m deep. The stratigraphy of Shovel Test 7 consisted of organic matter over sandy loam (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 66, Figure 67, and Table 22). Stratum IIa had a small pit containing charcoal. The buried A horizon (Stratum IIa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 66. Photograph of Shovel Test 7, view north

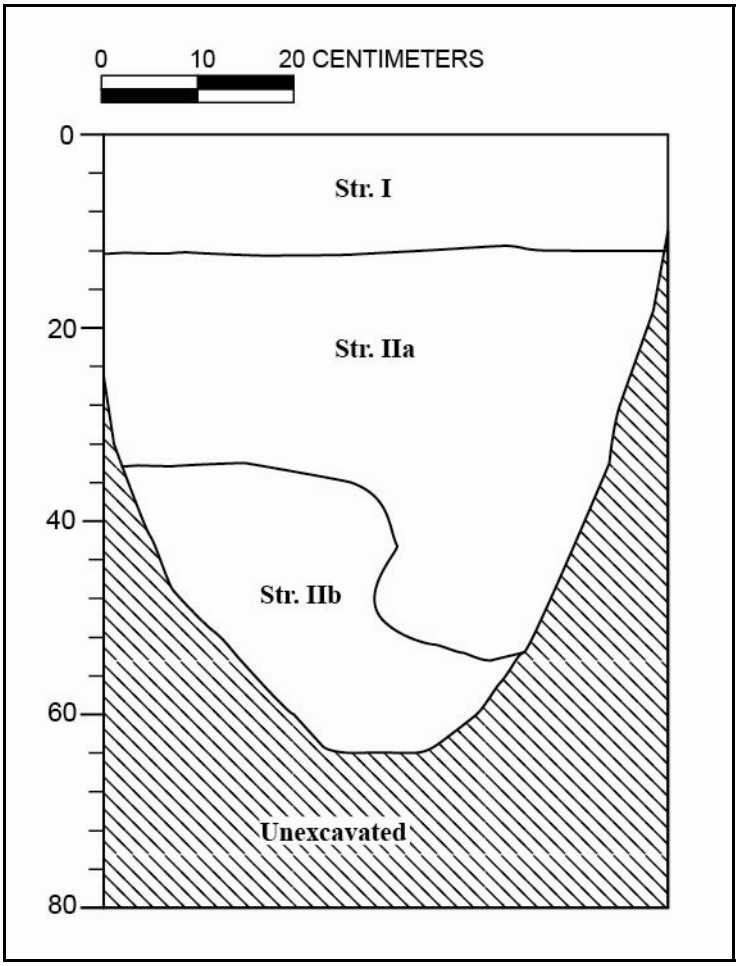

Figure 67. Shovel Test 7 profile

Table 22. Stratigraphy Observed at Shovel Test 7

Stratum	Depth (cmbs)	Description of Sediments
I	0-12	Organic matter and topsoil; 10YR 2/2, very dark brown; sandy loam; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots.
IIa	12-54	Buried A horizon; 10YR 3/3, dark brown; sandy loam; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; diffuse, wavy lower boundary; common fine to medium roots; charcoal present; cultural layer, incorporated into SIHP # -1801.
IIb	34-64 (BOE)	Natural jaucas sand; 10YR 7/6, yellow; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine to medium roots.

4.2.18 Shovel Test 8

Shovel Test 8 was located at the northeastern corner of the project area along the ocean. The shovel test had a diameter of 0.30 m and was 0.60 m deep. The stratigraphy of Shovel Test 8 consisted of organic matter over loamy sand (Stratum I) overlying natural sand (Stratum II) (Figure 68, Figure 69, and Table 23). This shovel test was located within SIHP # -1801, a pre-Contact cultural layer and burials original identified by Rosendahl and Kai (1990); however, no cultural layer was observed.

Figure 68. Photograph of Shovel Test 8, view northwest

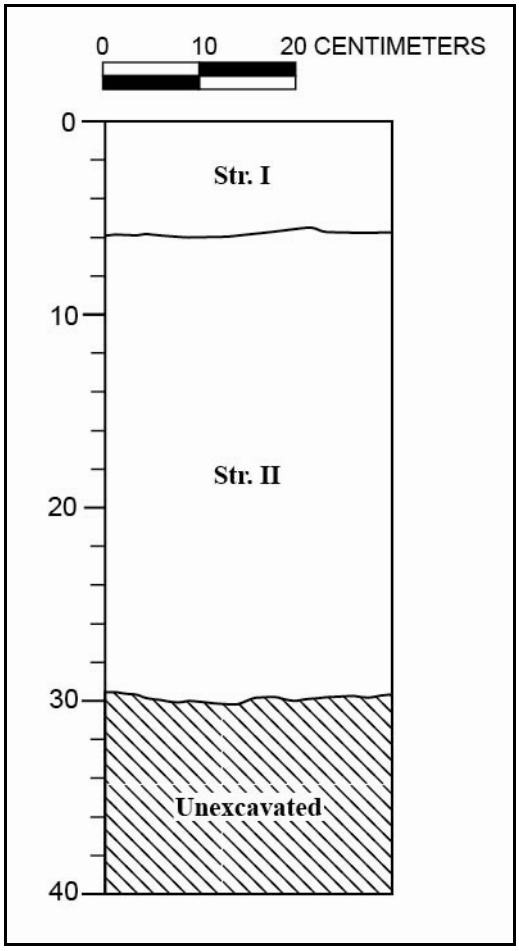

Figure 69. Shovel Test 8 profile

Table 23. Stratigraphy Observed at Shovel Test 8

Stratum	Depth (cmbs)	Description of Sediments
I	0-12	Organic matter and topsoil; 10YR 3/3, dark brown; loamy sand; weak, fine, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; diffuse, smooth lower boundary; common fine to medium roots.
II	12-60 (BOE)	Natural jaucas sand; 10YR 7/6, yellow; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.19 Shovel Test 9

Shovel Test 9 was located at the northeastern corner of the project area along the ocean. The shovel test had a diameter of 0.50 m and was 0.70 m deep. The stratigraphy of Shovel Test 9 consisted of grass over sandy loam (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 70, Figure 71, and Table 24). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 70. Photograph of Shovel Test 9, view northwest

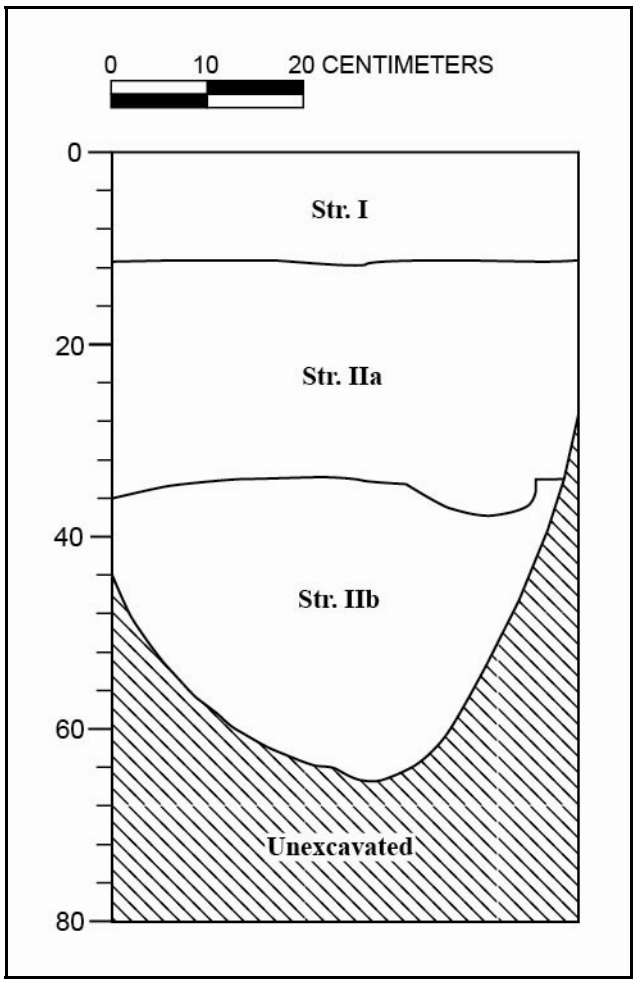

Figure 71. Shovel Test 9 profile

Table 24. Stratigraphy Observed at Shovel Test 9

Stratum	Depth (cmbs)	Description of Sediments
I	0-15	Grass and topsoil; 10YR 3/3, dark brown; sandy loam; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots.
IIa	15-38	Buried A horizon; 10YR 3/2, very dark grayish brown; sandy loam; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; diffuse, wavy lower boundary; common fine to medium roots; charcoal present; cultural layer, incorporated into SIHP # -1801.
IIb	34-65 (BOE)	Natural jaucas sand; 10YR 7/6, yellow; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine to medium roots.

4.2.20 Shovel Test 10

Shovel Test 10 was located at the northeastern corner of the project area along the ocean. The shovel test had a diameter of 0.40 m and was 0.60 m deep. The stratigraphy of Shovel Test 10 consisted of grass over sand (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 72, Figure 73, and Table 25). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 72. Photograph of Shovel Test 10, view southeast

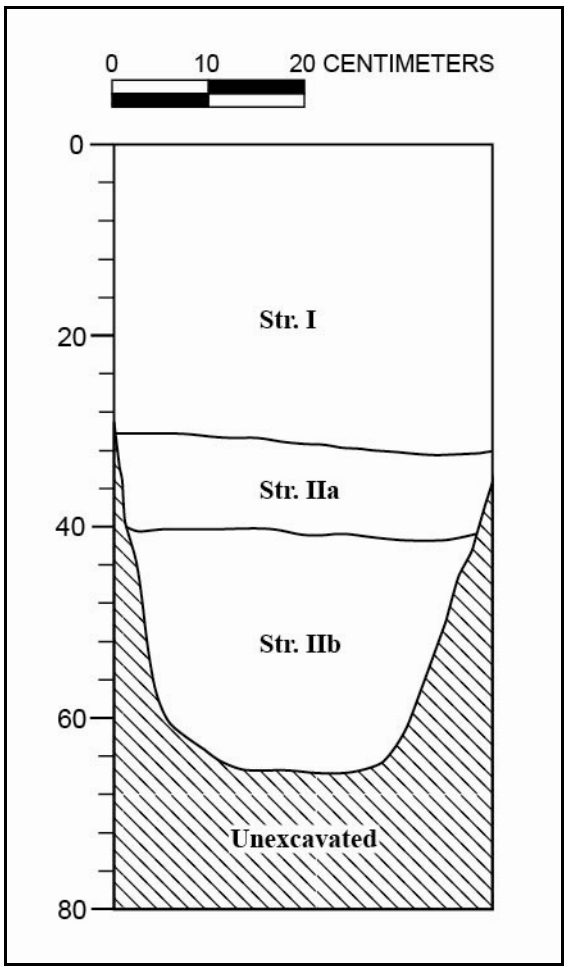

Figure 73. Shovel Test 10 profile

Table 25. Stratigraphy Observed at Shovel Test 10

Stratum	Depth (cmbs)	Description of Sediments
I	0-32	Organic matter and topsoil; 10YR 2/2, very dark brown; sandy loam; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots.
IIa	30-41	Buried A horizon; 10YR 3/3, dark brown; sandy loam; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; diffuse, wavy lower boundary; common fine to medium roots; charcoal present; cultural layer, incorporated into SIHP # -1801.
IIb	40-65 (BOE)	Natural jaucas sand; 10YR 7/6, yellow; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine to medium roots.

4.2.21 Shovel Test 11

Shovel Test 11 was located at the northeastern corner of the project area along the ocean. The shovel test had a diameter of 0.30 m and was 0.70 m deep. The stratigraphy of Shovel Test 11 consisted of organic matter over loamy sand (Stratum I) overlying a loamy sand buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 74, Figure 75, and Table 26). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 74. Photograph of Shovel Test 11, view northwest

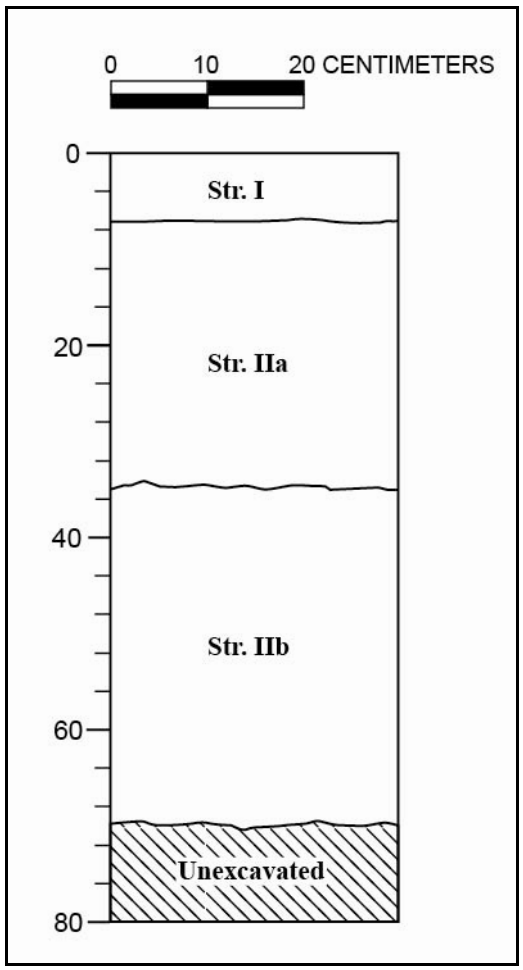

Figure 75. Shovel Test 11 profile

Table 26. Stratigraphy Observed at Shovel Test 11

Stratum	Depth (cmbs)	Description of Sediments
I	0-7	Organic matter and topsoil; 10YR 7/2, light gray; loamy sand; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots.
IIa	7-35	Buried A horizon; 10YR 4/3, dark brown; loamy sand; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; diffuse, smooth lower boundary; few fine to medium roots; charcoal present; cultural layer, incorporated into SIHP # -1801.
IIb	35-70 (BOE)	Natural jaucas sand; 10YR 7/6, yellow; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few medium to coarse roots.

4.2.22 Shovel Test 12

Shovel Test 12 was located at the northeastern corner of the project area along the ocean. The shovel test had a diameter of 0.40 m and was 0.66 m deep. The stratigraphy of Shovel Test 12 consisted of organic matter over sandy loam (Stratum I) overlying natural sand that has possibly been deposited by high surf (Stratum II) overlying a sandy loam modern A horizon (Stratum III) overlying a sandy loam Pre-Contact A horizon (Stratum IVa) overlying natural sand (Stratum IVb) (Figure 76, Figure 77, and Table 27). The buried A horizon (Stratum IVa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 76. Photograph of Shovel Test 12, view south

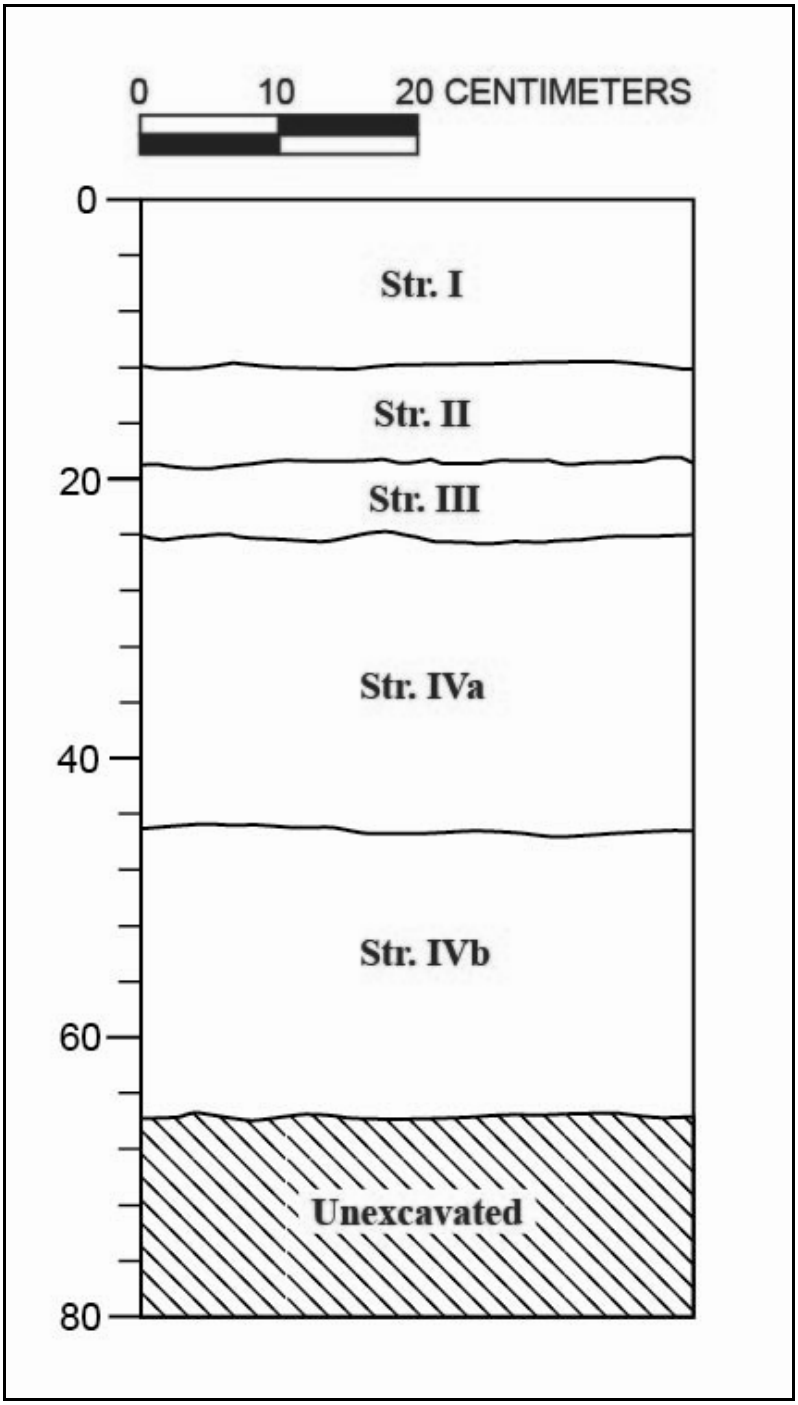

Figure 77. Shovel Test 12 profile

Table 27. Stratigraphy Observed at Shovel Test 12

Stratum	Depth (cmbs)	Description of Sediments
I	0-12	Organic matter and topsoil; 10YR 3/2, very dark grayish brown; sandy loam; weak, medium, granular structure; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots.
II	12-19	Natural; 10YR 4/2, dark grayish brown; sand; single-grain; dry, loose consistency; non-plastic; marine origin; abrupt, smooth lower boundary; few fine roots; possibly deposited by high surf.
III	19-24	Buried modern A horizon; 10YR 3/2, very dark grayish brown; sandy loam; weak, medium, granular structure; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine to coarse roots.
IVa	24-45	Buried A horizon; 10YR 3/3, dark brown; loamy sand; weak, medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine to coarse roots; charcoal present; cultural layer, incorporated into SIHP # -1801.
IVb	45-65 (BOE)	Natural jaucas sand; 10YR 6/6, brownish yellow; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; common fine to coarse roots.

4.2.23 Shovel Test 13

Shovel Test 13 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.60 m long and 1.38 m deep. The stratigraphy of Shovel Test 13 consisted of grass over loamy sand (Stratum I) overlying natural sand that has possibly been deposited by high surf (Stratum II) overlying a sandy loam buried A horizon (Stratum IIIa) overlying natural sand (Stratum IIIb) (Figure 78, Figure 79, and Table 28). The buried A horizon (Stratum IIIa) is incorporated into SIHP # -1800, pre-Contact cultural layers and burials originally identified by Rosendahl and Kai (1990).

Figure 78. Photograph of Shovel Test 13, northeast wall of excavation

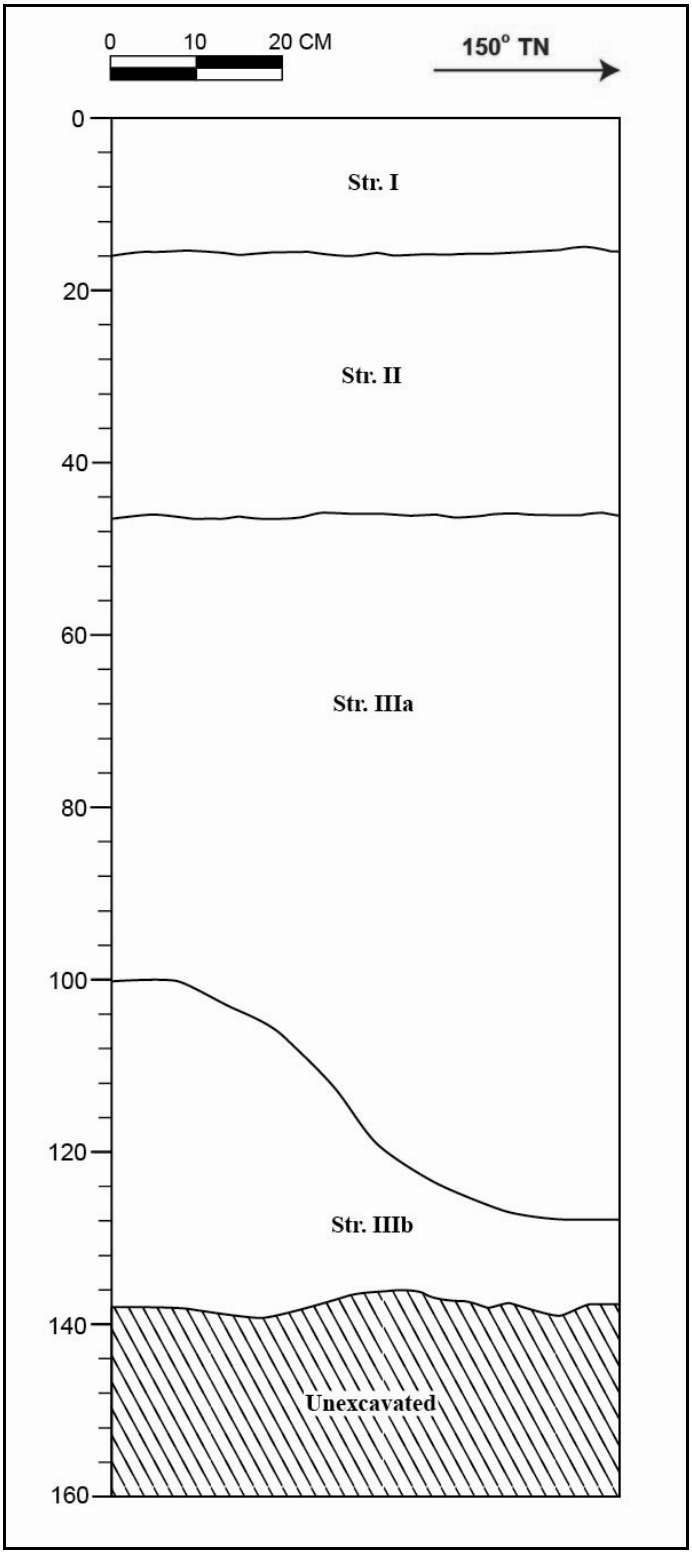

Figure 79. Shovel Test 13 profile, northeast wall of excavation

Table 28. Stratigraphy Observed at Shovel Test 13

Stratum	Depth (cmbs)	Description of Sediments
I	0-16	Grass and topsoil; 10YR 3/3, dark brown; loamy sand; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
II	16-47	Natural; 10YR 6/4, light yellowish brown; sand; single-grain; dry, loose consistency; non-plastic; marine origin; abrupt, smooth lower boundary; few fine to medium roots; possibly deposited by high surf.
IIIa	47-128	Buried A horizon; 10YR 3/2, very dark grayish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, wavy lower boundary; common fine to coarse roots; charcoal and fire-cracked rock present; cultural layer, incorporated into SIHP # -1800.
IIIb	110-138 (BOE)	Natural jaucas sand; 10YR 7/3, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.24 Shovel Test 14

Shovel Test 14 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.60 m long and 0.89 m deep. The stratigraphy of Shovel Test 14 consisted of grass over loamy sand (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 80, Figure 81, and Table 29). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1801, pre-Contact cultural layers and burials originally identified by Rosendahl and Kai (1990). One isolated find, a coral file, was discovered within Stratum IIa. A detailed description of the file is given in Section 5.

Figure 80. Photograph of Shovel Test 14, north wall of excavation

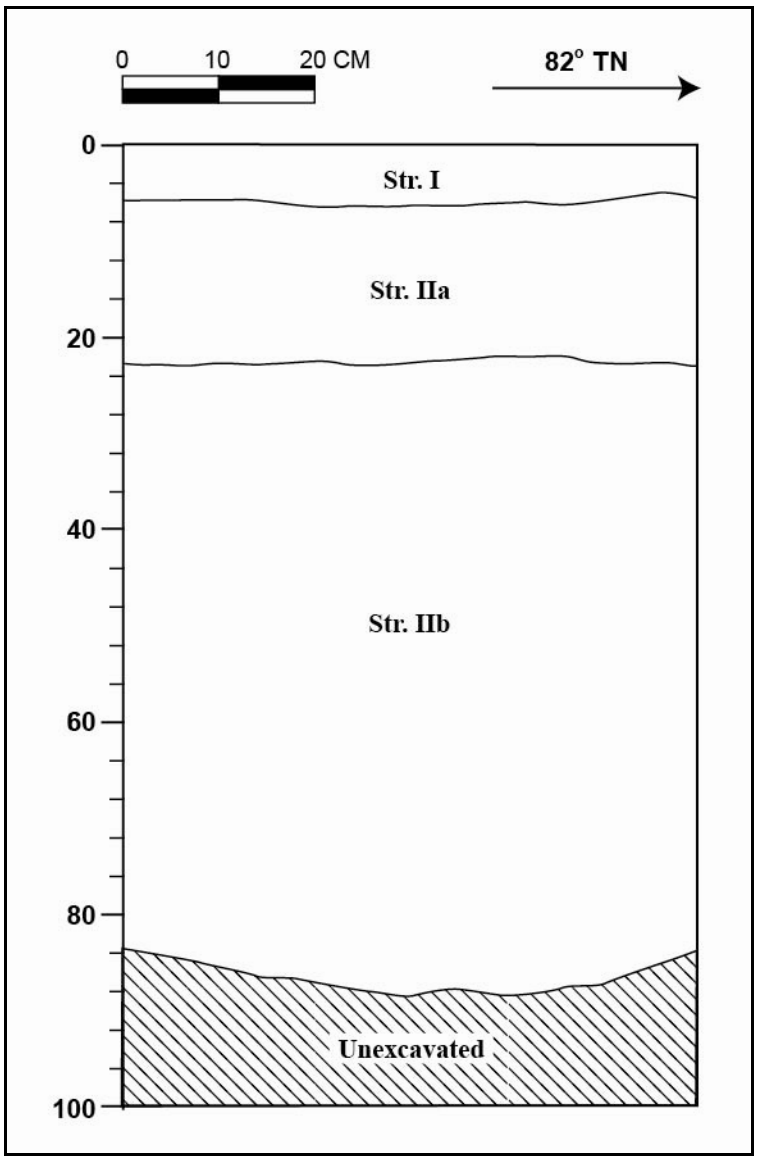

Figure 81. Shovel Test 14 profile, north wall of excavation

Table 29. Stratigraphy Observed at Shovel Test 14

Stratum	Depth (cmbs)	Description of Sediments
I	0-5	Grass and topsoil; 10YR 3/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
IIa	5-23	Buried A horizon; 10YR 3/2, very dark grayish brown; sandy loam; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots; charcoal and a coral file present; cultural layer, incorporated into SIHP # -1801.
IIb	23-89 (BOE)	Natural; 10YR 7/3, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots; micro layers of coral pebbles.

4.2.25 Shovel Test 15

Shovel Test 15 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.92 m deep. The stratigraphy of Shovel Test 15 consisted of grass over loamy sand (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand that has possibly been deposited by high surf (Stratum IIb) overlying a second and older loamy sand buried A horizon (Stratum IIIa) overlying natural sand (Stratum IIIb) (Figure 82, Figure 83, and Table 30). The buried A horizons (Strata IIa and IIIa) are incorporated into SIHP # -1801, pre-Contact cultural layers and burials originally identified by Rosendahl and Kai (1990).

Figure 82. Photograph of Shovel Test 15, east wall of excavation

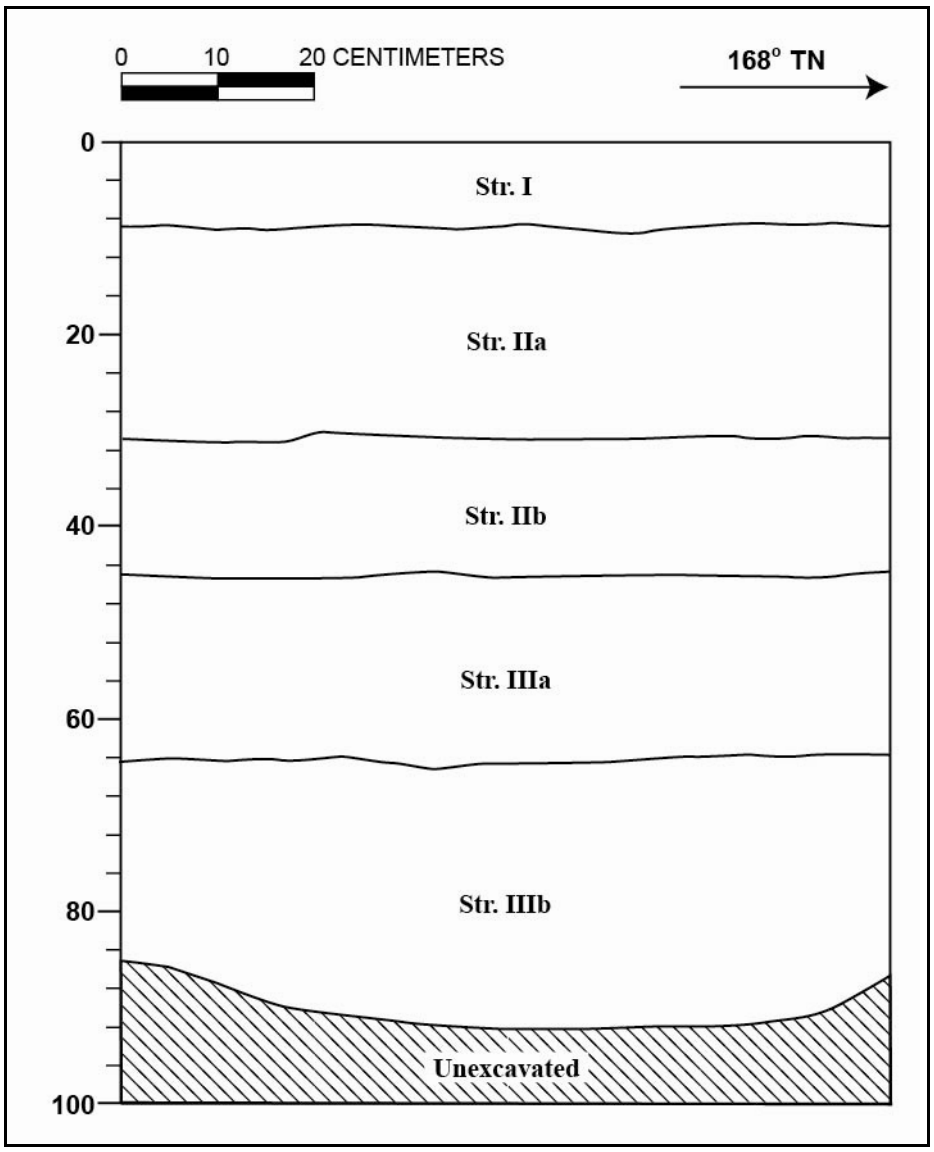

Figure 83. Shovel Test 15 profile, east wall of excavation

Table 30. Stratigraphy Observed at Shovel Test 15

Stratum	Depth (cmbs)	Description of Sediments
I	0-9	Grass and topsoil; 10YR 3/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
IIa	9-31	Buried A horizon; 10YR 3/1, very dark gray; sandy loam; weak, medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; diffuse, smooth lower boundary; common fine to coarse roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IIb	31-45	Natural; 10YR 6/4, light yellowish brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; abrupt, smooth lower boundary; few fine to medium roots; possibly deposited by high surf.
IIIa	45-65	Buried A horizon; 10YR 4/2, dark grayish brown; sandy loam; weak, medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IIIb	65-92 (BOE)	Natural jaucas sand; 10YR 7/3, very pale brown; fine-to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.26 Shovel Test 16

Shovel Test 16 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.60 m long and 0.86 m deep. The stratigraphy of Shovel Test 16 consisted of grass over loamy sand (Stratum I) overlying natural sand that has possibly been deposited by high surf (Stratum II) overlying a loamy sand buried A horizon (Stratum IIIa) overlying natural sand (Stratum IIIb) (Figure 84, Figure 85, and Table 31). The buried A horizon (Stratum IIIa) is incorporated into SIHP # -1801, pre-Contact cultural layers and burials originally identified by Rosendahl and Kai (1990).

Figure 84. Photograph of Shovel Test 16, west wall of excavation

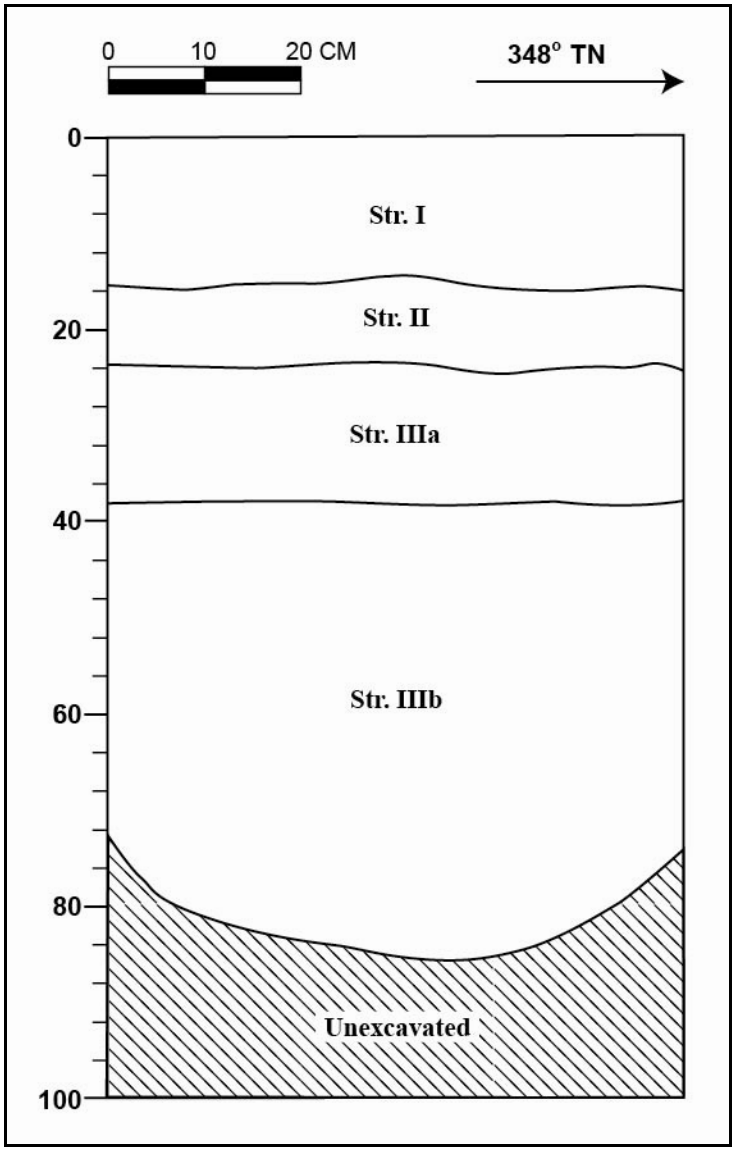

Figure 85. Shovel Test 16 profile, west wall of excavation

Table 31. Stratigraphy Observed at Shovel Test 16

Stratum	Depth (cmbs)	Description of Sediments
I	0-16	Grass and topsoil; 10YR 3/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
II	16-24	Natural; 10YR 6/4, light yellowish brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; abrupt, smooth lower boundary; few fine to medium roots; possibly deposited by high surf.
IIIa	24-38	Buried A horizon; 10YR 3/2, very dark grayish brown; sandy loam; weak, fine granular structure; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -1801.
IIIb	38-86 (BOE)	Natural jaucas sand; 10YR 7/3, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.27 Shovel Test 17

Shovel Test 17 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.60 m long and 1.27 m deep. The stratigraphy of Shovel Test 17 consisted of grass over loamy sand (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand that has possibly been deposited by high surf (Stratum IIb) overlying a second loamy sand buried A horizon (Stratum IIIa) overlying natural sand (Stratum IIIb) (Figure 86, Figure 87, and Table 32). The buried A horizons (Strata IIa and IIIa) are incorporated into SIHP # -1801, pre-Contact cultural layers and burials originally identified by Rosendahl and Kai (1990).

Figure 86. Photograph of Shovel Test 17, west wall of excavation

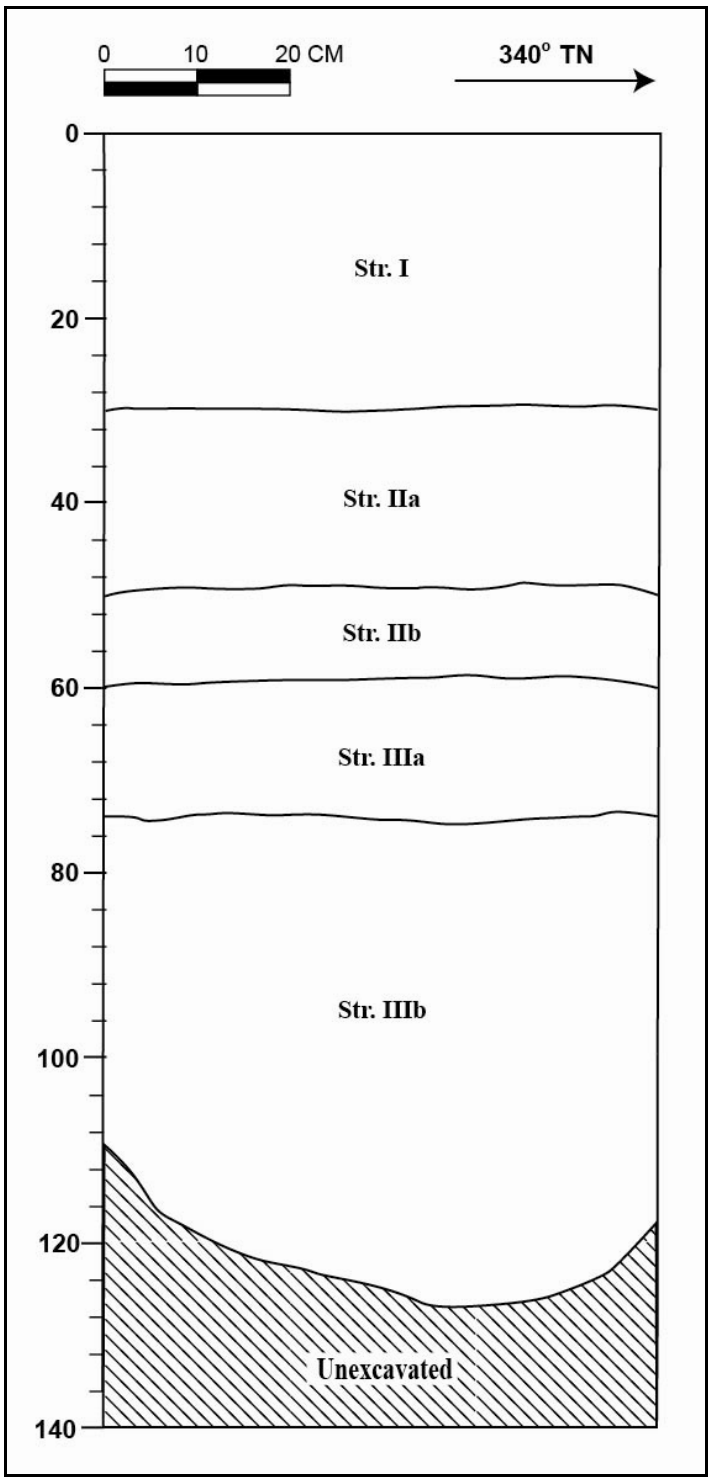

Figure 87. Shovel Test 17 profile, west wall of excavation

Table 32. Stratigraphy Observed at Shovel Test 17

Stratum	Depth (cmbs)	Description of Sediments
I	0-30	Grass and topsoil; 10YR 5/3, brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots.
IIa	30-50	Buried A horizon; 10YR 3/1, very dark gray; sandy loam; weak, fine granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IIb	50-60	Natural; 10YR 6/4, light yellowish brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; abrupt, smooth lower boundary; few fine roots; possibly deposited by high surf.
IIIa	60-74	Buried A horizon; 10YR 4/2, dark grayish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -1801.
IIIb	74-127 (BOE)	Natural jaucas sand; 10YR 7/3, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.28 Shovel Test 18

Shovel Test 18 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 1.00 m deep. The stratigraphy of Shovel Test 18 consisted of grass over loamy sand (Stratum Ia) overlying sandy loam fill (Stratum Ib) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 88, Figure 89, and Table 33). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1800, pre-Contact cultural layers and burials originally identified by Rosendahl and Kai (1990).

Figure 88. Photograph of Shovel Test 18, west wall of excavation

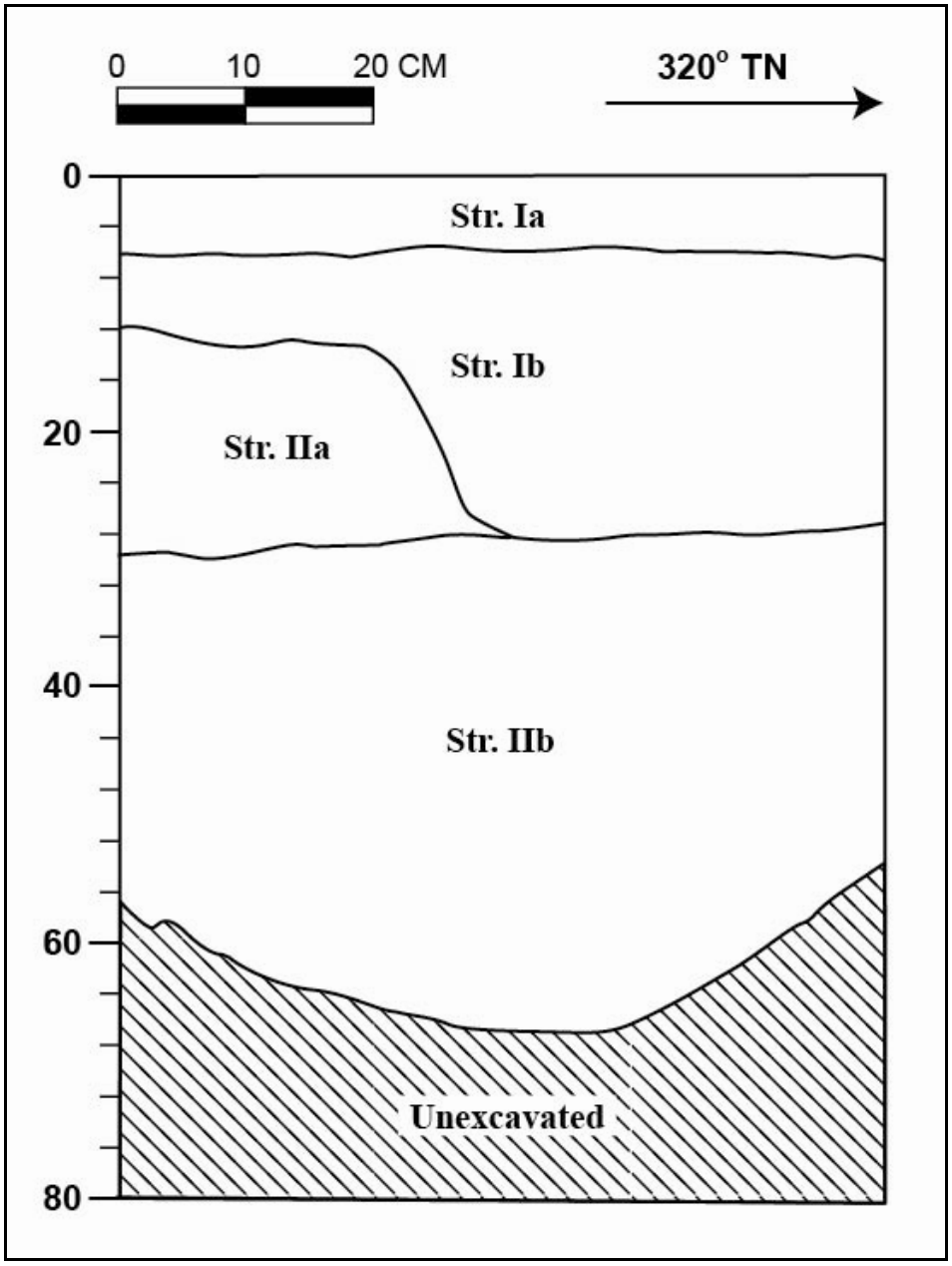

Figure 89. Shovel Test 18 profile, west wall of excavation

Table 33. Stratigraphy Observed at Shovel Test 18

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-6	Grass and topsoil; 10YR 5/3, brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots.
Ib	6-27	Fill; 10YR 3/4, dark yellowish brown; loam; weak, medium, granular structure; dry, slightly hard consistency; non-plastic; mixed origin; abrupt, irregular lower boundary; few fine roots; window glass and bottle glass present.
IIa	12-30	Buried A horizon; 10YR 4/2, dark grayish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IIb	30-66 (BOE)	Natural jaucas sand; 10YR 7/3, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.29 Shovel Test 19

Shovel Test 19 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.60 m long and 0.89 m deep. The stratigraphy of Shovel Test 19 consisted of grass over loamy sand (Stratum I) overlying natural sand that has possibly been deposited by high surf (Stratum II) overlying a sandy loam buried A horizon (Stratum IIIa) overlying natural sand (Stratum IIIb) (Figure 90, Figure 91, and Table 34). The buried A horizon (Stratum IIIa) is incorporated into SIHP # -1800, pre-Contact cultural layers and burials originally identified by Rosendahl and Kai (1990).

Figure 90. Photograph of Shovel Test 19, southwest wall of excavation

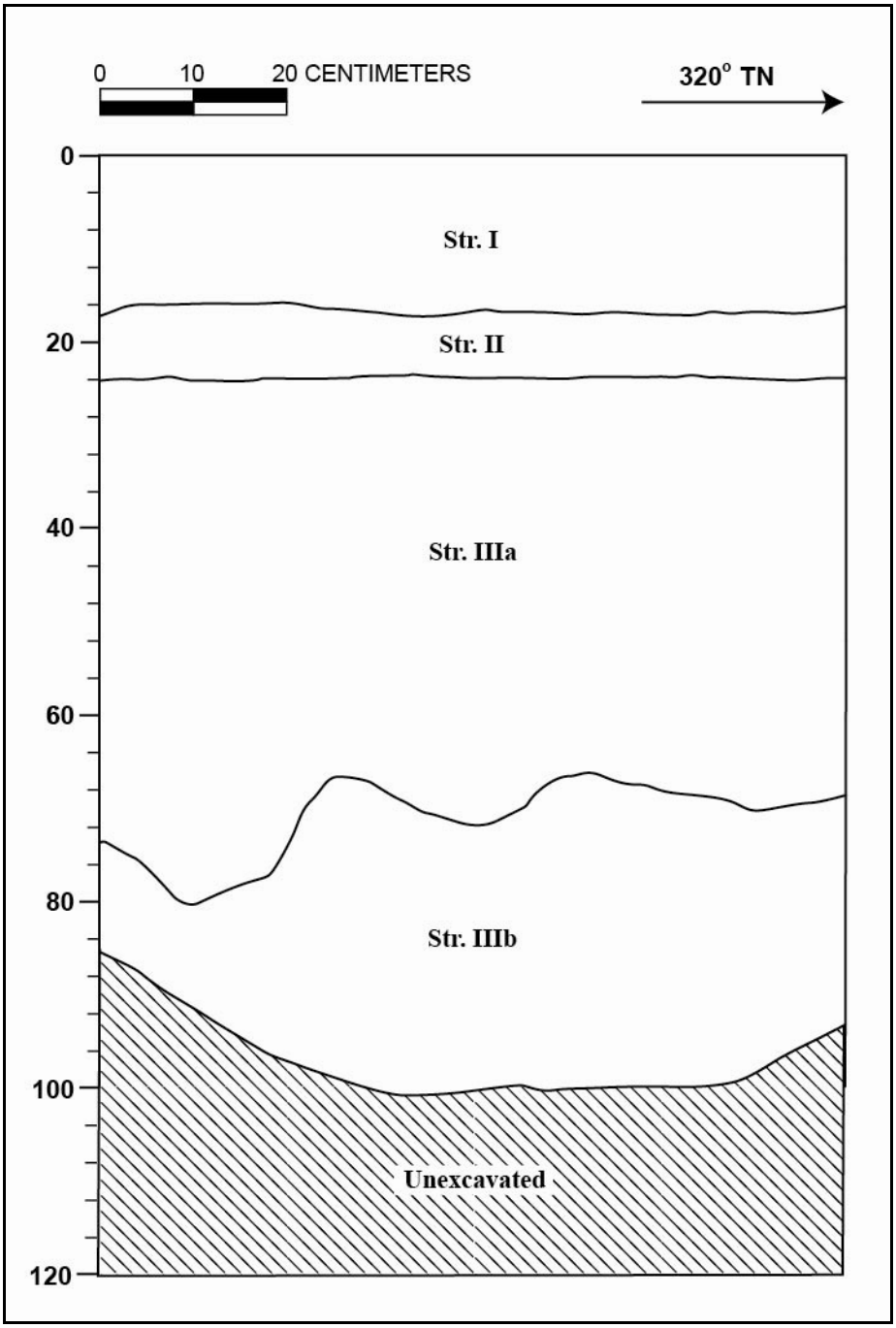

Figure 91. Shovel Test 19 profile, northeast wall of excavation

Table 34. Stratigraphy Observed at Shovel Test 19

Stratum	Depth (cmbs)	Description of Sediments
I	0-17	Grass and topsoil; 10YR 3/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
II	17-24	Natural; 10YR 6/4, light yellowish brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; abrupt, smooth lower boundary; few fine roots; possibly deposited by high surf.
IIIa	24-80	Buried A horizon; 10YR 3/1, very dark gray; sandy loam; moderate, medium granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, wavy lower boundary; few fine roots; charcoal, basalt flakes, and shell midden present; cultural layer, incorporated into SIHP # -1800.
IIIb	60-100 (BOE)	Natural jaucas sand; 10YR 7/3, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.30 Shovel Test 20

Shovel Test 20 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.96 m deep. The stratigraphy of Shovel Test 20 consisted of grass over sandy loam (Stratum I) overlying a loamy sand buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 92, Figure 93, and Table 35). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1800, pre-Contact cultural layers and burials originally identified by Rosendahl and Kai (1990).

Figure 92. Photograph of Shovel Test 20, southwest wall of excavation

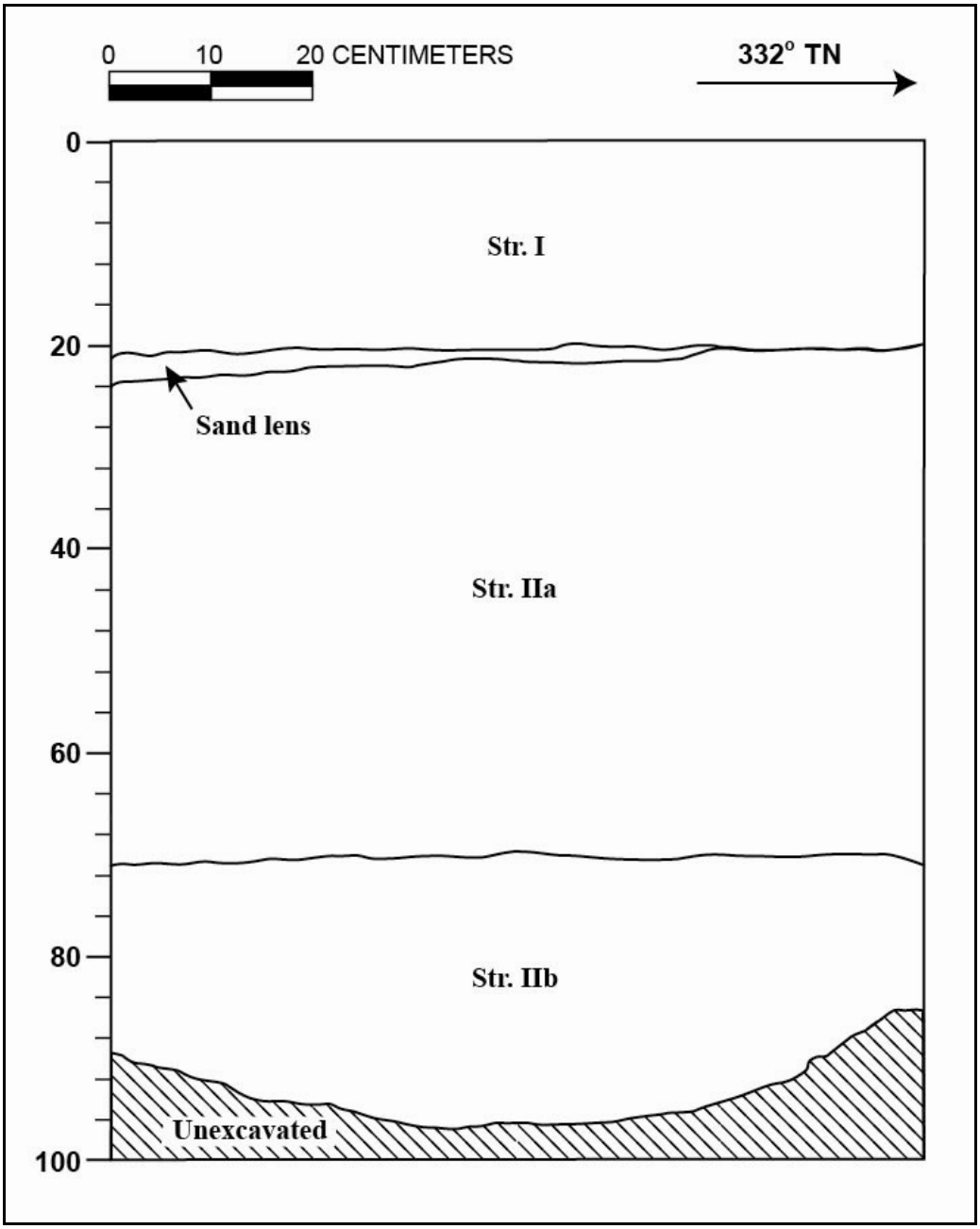

Figure 93. Shovel Test 20 profile, southwest wall of excavation

Table 35. Stratigraphy Observed at Shovel Test 20

Stratum	Depth (cmbs)	Description of Sediments
I	0-20	Grass and topsoil; 10YR 4/2, dark grayish brown; sandy loam; weak, medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
IIa	20-70	Buried A horizon; 10YR 5/2, grayish brown; loamy sand; weak, medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; diffuse, smooth lower boundary; charcoal present; thin sand lens at top of layer; cultural layer, incorporated into SIHP # -1800.
IIb	70-96 (BOE)	Natural jaucas sand; 10YR 7/3, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.31 Shovel Test 21

Shovel Test 21 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 1.10 m deep. The stratigraphy of Shovel Test 21 consisted of grass over sandy loam (Stratum Ia) overlying clay loam fill (Stratum Ib) overlying a loamy sand buried A horizon (Stratum IIa) overlying natural sand that has possibly been deposited by high surf (Stratum IIb) overlying a second loamy sand buried A horizon (Stratum IIIa) overlying natural sand (Stratum IIIb) (Figure 94, Figure 95, and Table 36). The buried A horizons (Strata IIa and IIIa) are incorporated into SIHP # -1800, pre-Contact cultural layers and burials originally identified by Rosendahl and Kai (1990).

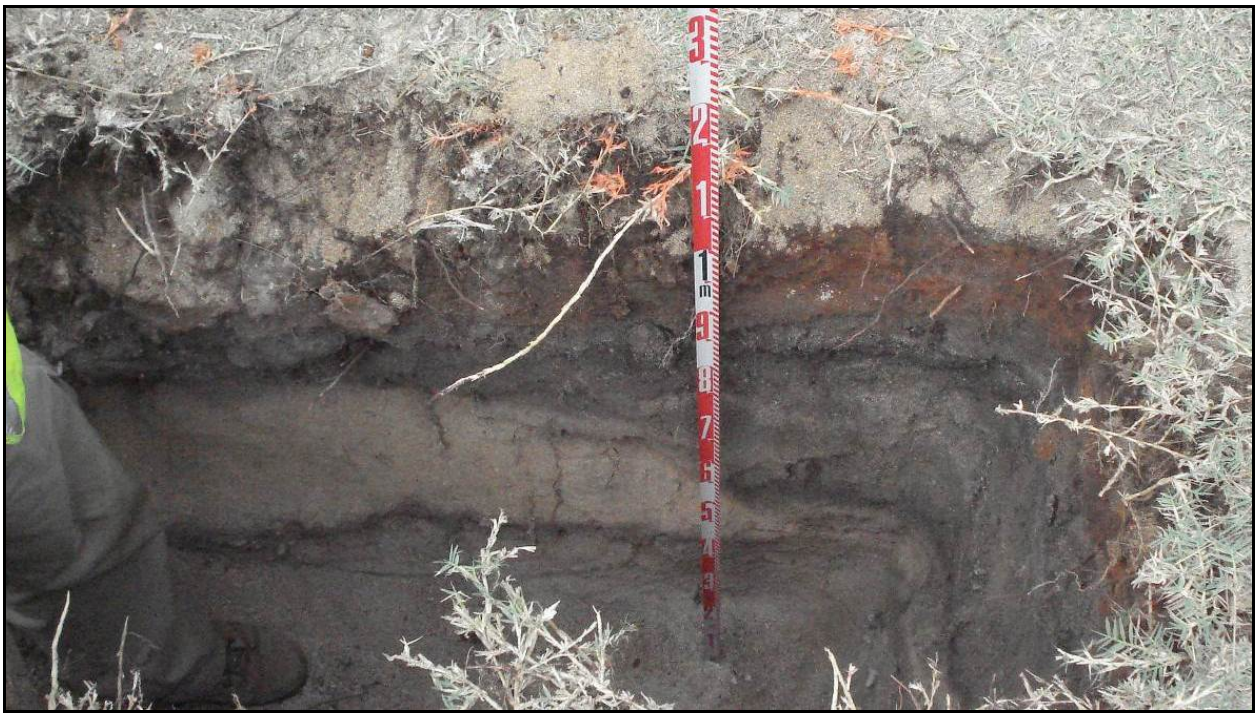

Figure 94. Photograph of Shovel Test 21, southwest wall of excavation

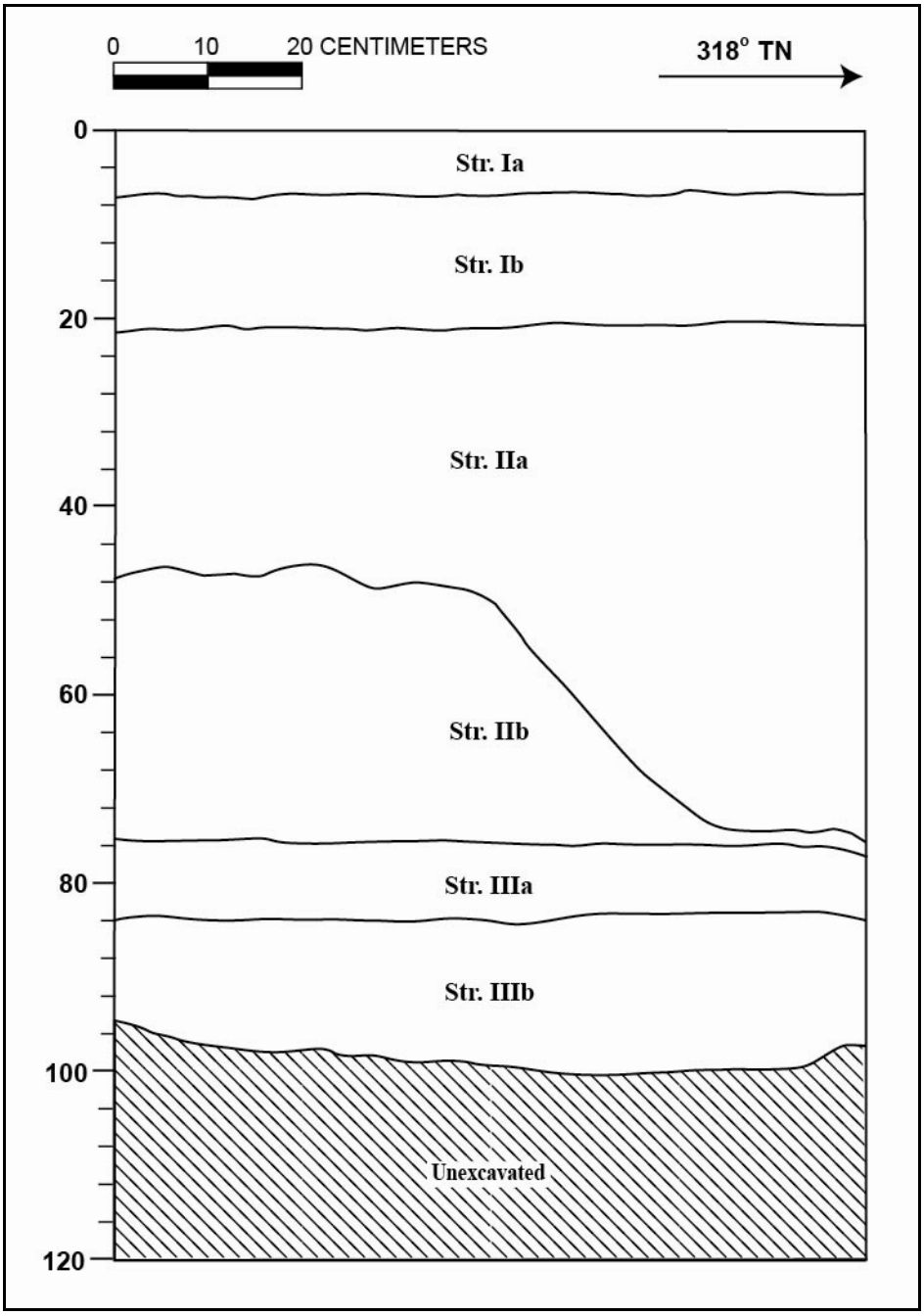

Figure 95. Shovel Test 21 profile, southwest wall of excavation

Table 36. Stratigraphy Observed at Shovel Test 21

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-7	Grass and topsoil; 10YR 3/3, dark brown; sandy loam; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots.
Ib	7-21	Fill; 5YR 4/4, reddish brown; clay loam; moderate, medium, crumb structure; dry, hard consistency; plastic; terrestrial origin; very abrupt, smooth lower boundary; few fine to medium roots.
IIa	21-75	Buried A horizon; 10YR 4/2, dark grayish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IIb	48-76	Natural; 10YR 6/4, light yellowish brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; clear, smooth lower boundary; few fine roots; possibly deposited by high surf.
IIIa	76-84	Buried A horizon; 10YR 5/2, grayish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IIIb	84-110 (BOE)	Natural jaucas sand; 10YR 7/3, very pale brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.32 Shovel Test 22

Shovel Test 22 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.95 m deep. The stratigraphy of Shovel Test 22 consisted of grass over loamy sand (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 96, Figure 97, and Table 37). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1800, pre-Contact cultural layers and burials originally identified by Rosendahl and Kai (1990).

Figure 96. Photograph of Shovel Test 22, southeast wall of excavation

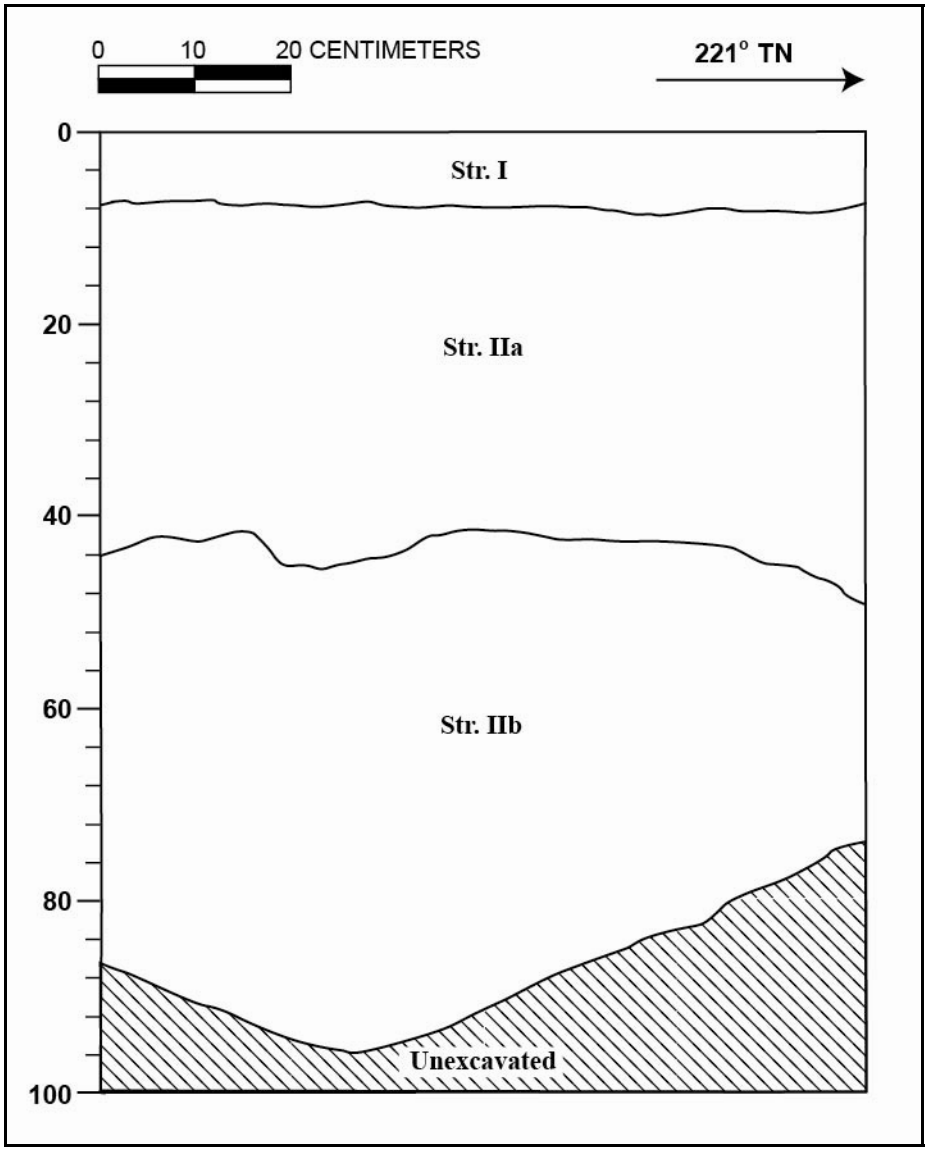

Figure 97. Shovel Test 22 profile, southeast wall of excavation

Table 37. Stratigraphy Observed at Shovel Test 22

Stratum	Depth (cmbs)	Description of Sediments
I	0-20	Grass and topsoil; 10YR 4/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots.
IIa	13-66	Buried A horizon; 10YR 3/2, very dark grayish brown; sandy loam; weak, medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, wavy lower boundary; few fine roots; charcoal, basalt flakes, and shell midden present; cultural layer, incorporated into SIHP # -1800.
IIb	100-118 (BOE)	Natural jaucas sand; 10YR 7/4, very pale brown; fine- to medium grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.33 Shovel Test 23

Shovel Test 23 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.76 m deep. The stratigraphy of Shovel Test 23 consisted of grass over loamy sand (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 98, Figure 99, and Table 38). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

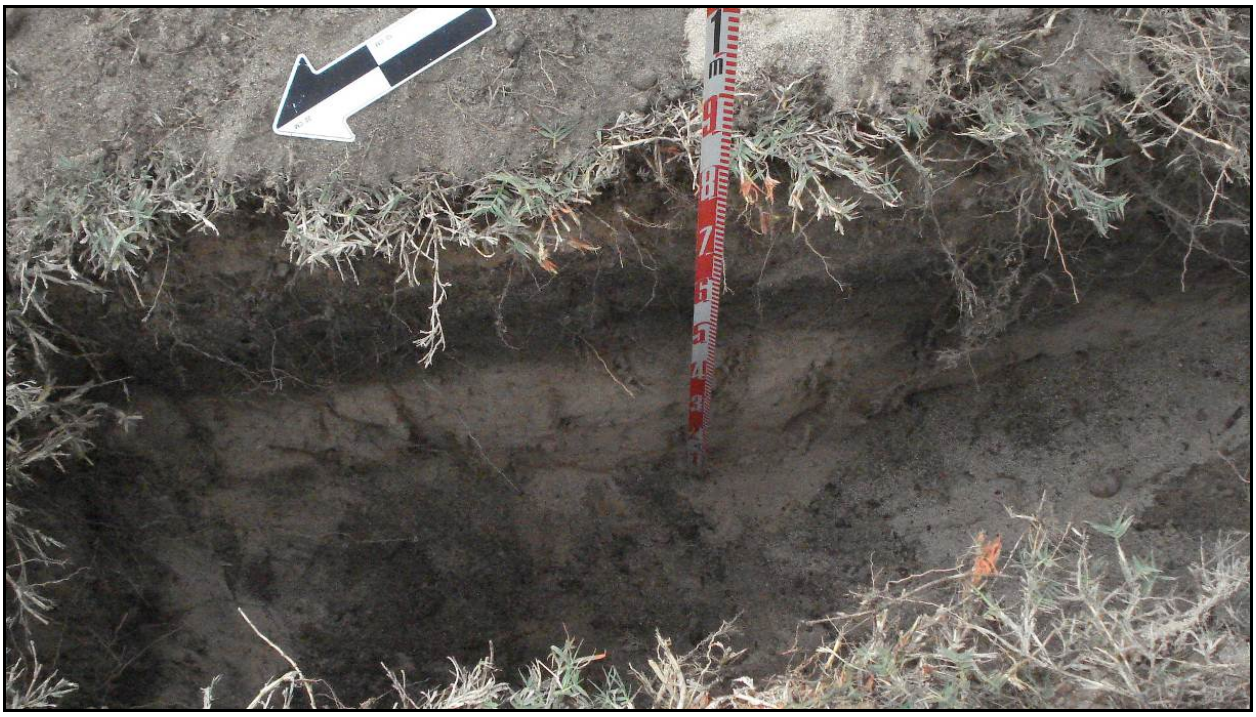

Figure 98. Photograph of Shovel Test 23, southeast wall of excavation

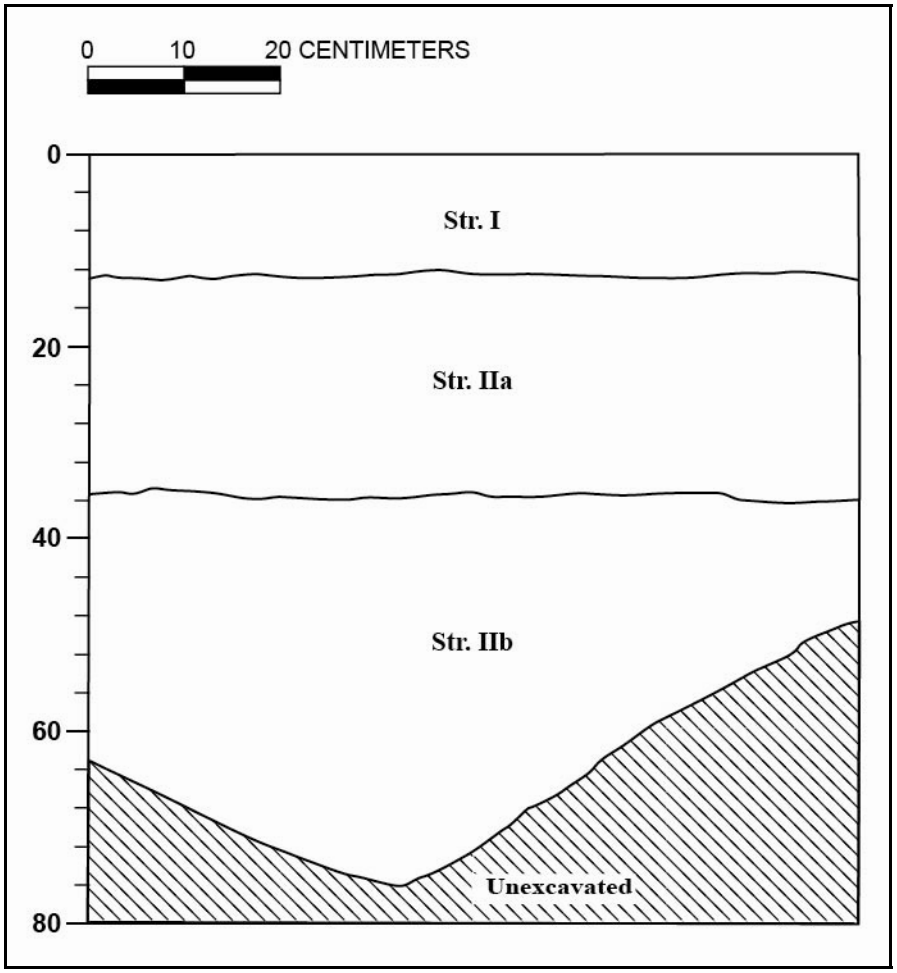

Figure 99. Shovel Test 23 profile, southeast wall of excavation

Table 38. Stratigraphy Observed at Shovel Test 23

Stratum	Depth (cmbs)	Description of Sediments
I	0-12	Grass and topsoil; 10YR 4/, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; diffuse, smooth lower boundary; common fine roots.
IIa	12-35	Buried A horizon; 10YR 5/2, grayish brown; sandy loam; weak, fine granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots; charcoal and shell midden present; cultural layer, incorporated into SIHP # -1801.
IIb	35-76 (BOE)	Natural jaucas sand; 10YR 7/4, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.34 Shovel Test 24

Shovel Test 24 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.96 m deep. The stratigraphy of Shovel Test 24 consisted of grass over loamy sand (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 100, Figure 101, and Table 39). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 100. Photograph of Shovel Test 24, west wall of excavation

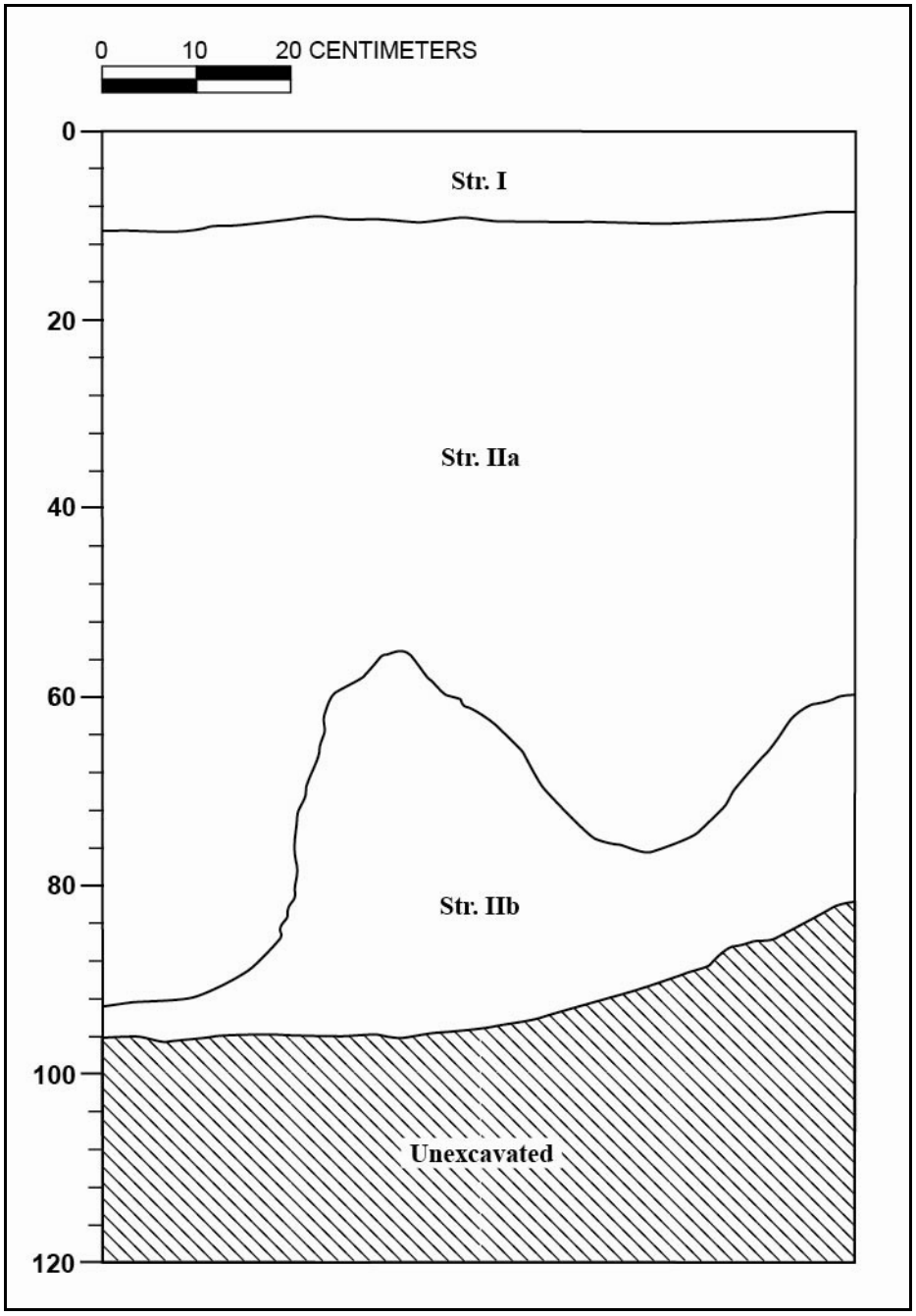

Figure 101. Shovel Test 24 profile, west wall of excavation

Table 39. Stratigraphy Observed at Shovel Test 24

Stratum	Depth (cmbs)	Description of Sediments
I	0-10	Grass and topsoil; 10YR 4/6, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
IIa	10-93	Buried A horizon; 10YR 3/2, very dark grayish brown; sandy loam; weak, fine to medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, wavy lower boundary; many fine roots; charcoal, fire-cracked rock, and shell midden present; cultural layer, incorporated into SIHP # -1801.
IIb	56-96 (BOE)	Natural jaucas sand; 10YR 7/4, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.35 Shovel Test 25

Shovel Test 25 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 1.04 m deep. The stratigraphy of Shovel Test 25 consisted of grass over loamy sand (Stratum Ia) overlying loamy sand that is a re-deposited mix of a Pre-Contact cultural layer and sand (Stratum Ib) overlying clay loam fill (Stratum Ic) overlying natural sand (Stratum II) (Figure 102, Figure 103, and Table 40). Stratum Ib is a disturbed and re-deposited pre-Contact cultural layer and is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 102. Photograph of Shovel Test 25, east wall of excavation

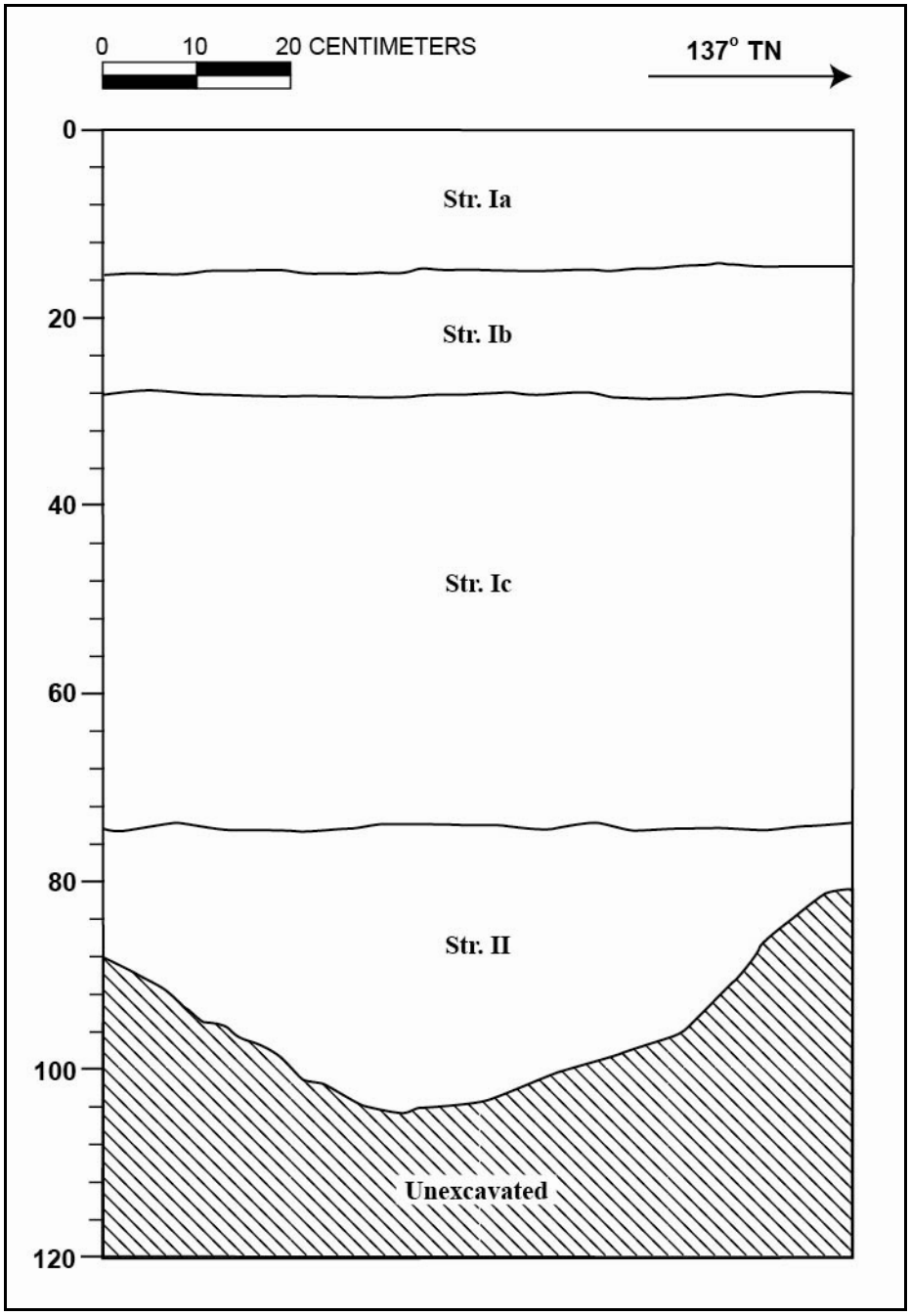

Figure 103. Shovel Test 25 profile, east wall of excavation

Table 40. Stratigraphy Observed at Shovel Test 25

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-15	Grass and topsoil; 10YR 4/6, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
Ib	15-28	Re-deposited/mixed natural; 10YR 4/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots; charcoal, shell midden, and plastic trash present; re-deposited mix of a Pre-Contact cultural layer and sand, incorporated into SIHP # -1801.
Ic	28-74	Fill; 5YR 4/6, yellowish red; clay loam; strong, coarse, blocky structure; dry, hard consistency; plastic; terrestrial origin; very abrupt, smooth lower boundary.
II	74-104 (BOE)	Natural; 10YR 7/4, very pale brown; fine-to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.36 Shovel Test 26

Shovel Test 26 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 1.09 m deep. The stratigraphy of Shovel Test 26 consisted of grass over loamy sand (Stratum I) overlying a loamy sand buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 104, Figure 105, and Table 41). A modern trench was observed on the north edge of the profile wall, starting below the topsoil layer. The buried A horizon (Stratum IIa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 104. Photograph of Shovel Test 26, east wall of excavation

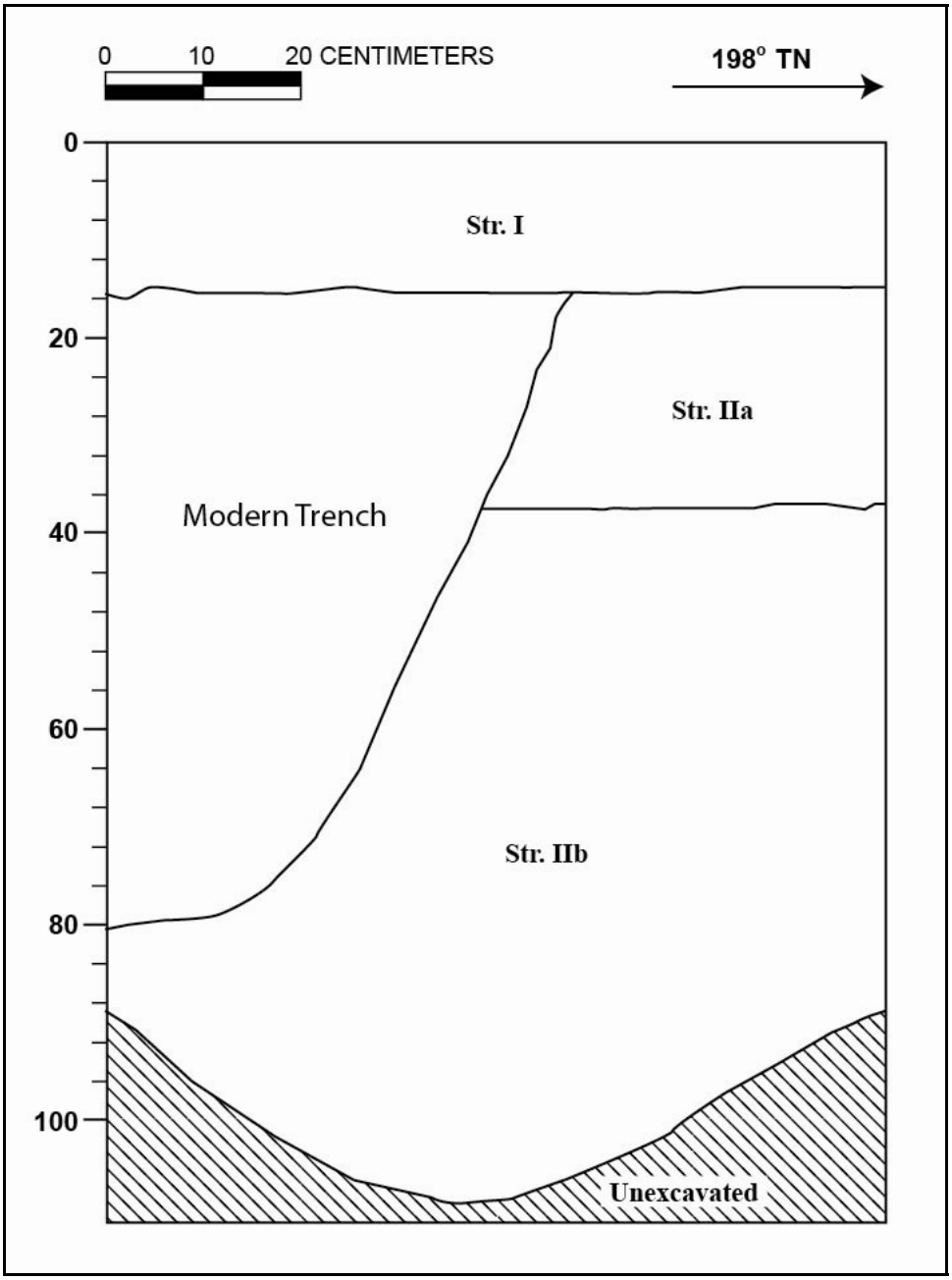

Figure 105. Shovel Test 26 profile, east wall of excavation

Table 41. Stratigraphy Observed at Shovel Test 26

Stratum	Depth (cmbs)	Description of Sediments
I	0-15	Grass and topsoil; 10YR 4/6, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
IIa	15-37	Buried A horizon; 10YR 5/2, grayish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots; charcoal present; cultural layer, part of SIHP # -1801.
IIb	37-109 (BOE)	Natural jaucas sand; 10YR 7/4, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.37 Shovel Test 27

Shovel Test 27 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.72 m deep. The stratigraphy of Shovel Test 27 consisted of grass over sandy loam (Stratum I) overlying loamy sand (a mix of an old A horizon and natural sand) (Stratum II) overlying a sandy loam buried A horizon, the top of which has been graded off (Stratum IIIa) overlying natural sand (Stratum IIIb) (Figure 106, Figure 107, and Table 42). The buried A horizon (Stratum IIIa) is incorporated into SIHP # -1801, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 106. Photograph of Shovel Test 27, southeast wall of excavation

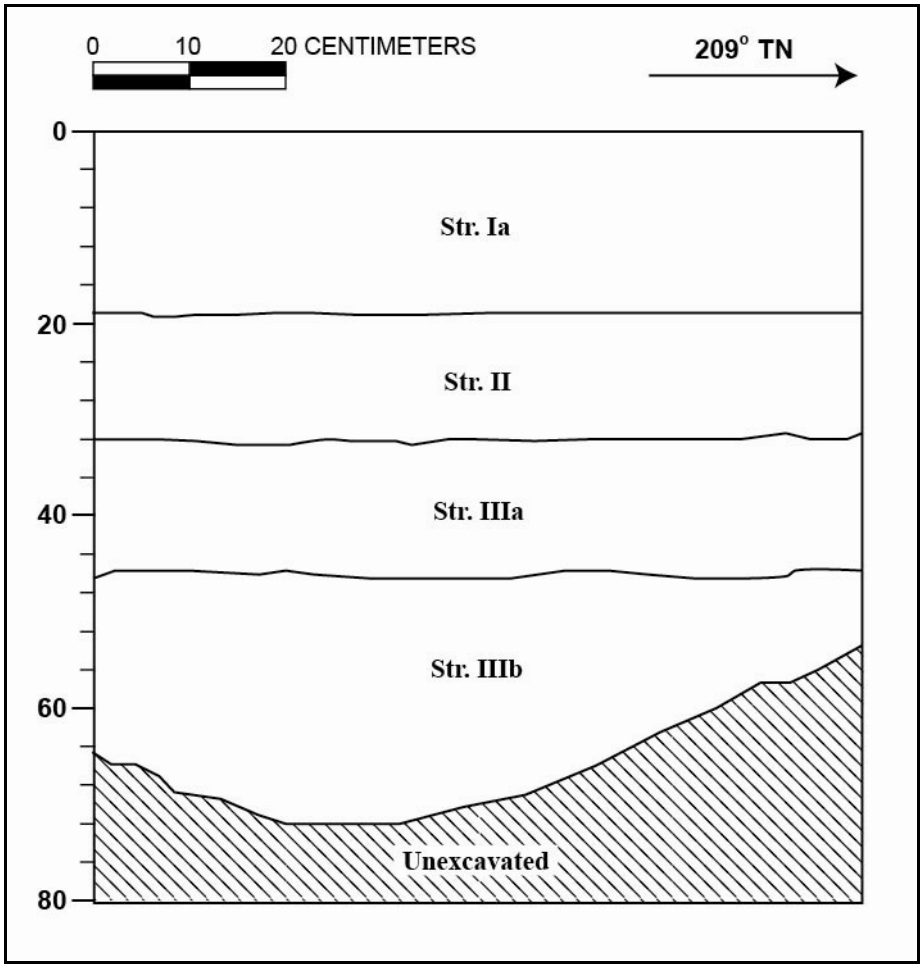

Figure 107. Shovel Test 27 profile, southeast wall of excavation

Table 42. Stratigraphy Observed at Shovel Test 27

Stratum	Depth (cmbs)	Description of Sediments
I	0-19	Grass and topsoil; 10YR 4/6, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
II	19-33	Disturbed and mixed; 10YR 4/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots; charcoal present; mix of a Pre-Contact cultural layer and natural sand.
IIIa	33-46	Buried A horizon; 10YR 5/2, grayish brown; sandy loam; moderate, medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -1801.
IIIb	46-72 (BOE)	Natural jaucas sand; 10YR 7/4, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.38 Shovel Test 28

Shovel Test 28 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.60 m deep. The stratigraphy of Shovel Test 28 consisted of grass over loamy sand (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 108, Figure 109, and Table 43). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1800, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 108. Photograph of Shovel Test 28, southeast wall of excavation

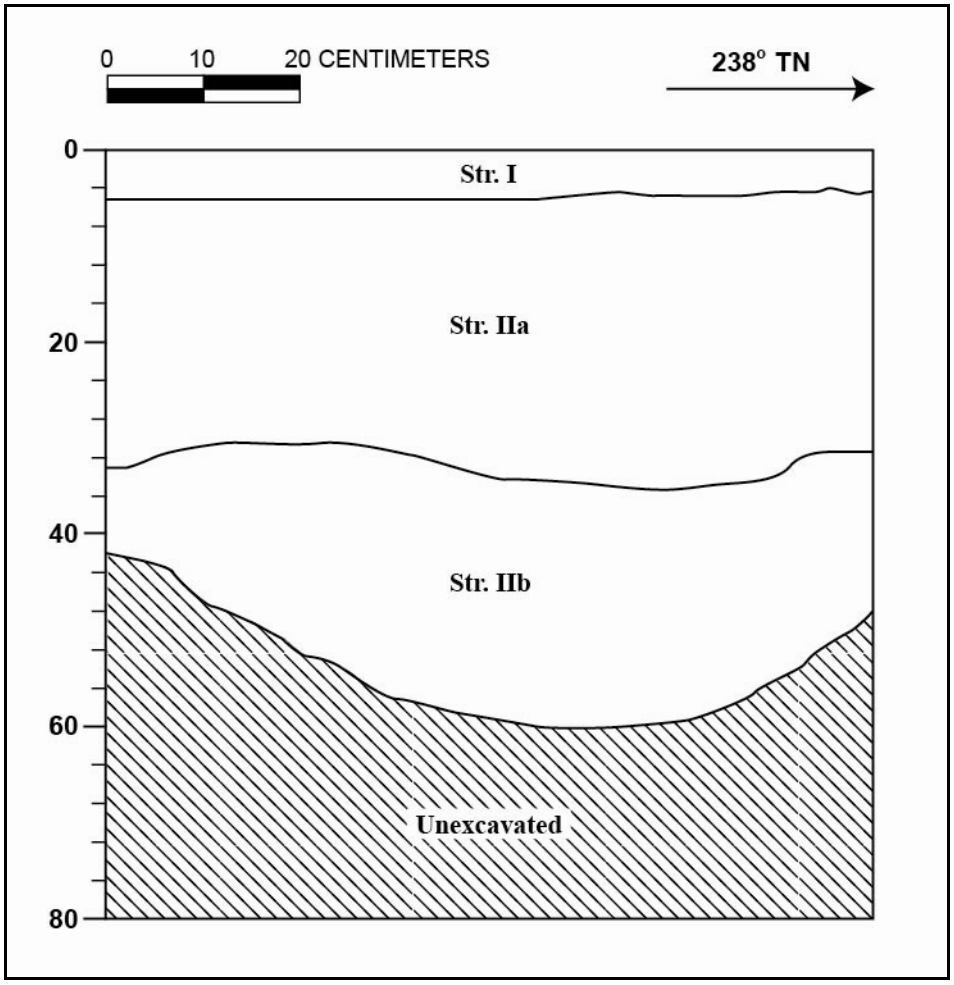

Figure 109. Shovel Test 28 profile, southeast wall of excavation

Table 43. Stratigraphy Observed at Shovel Test 28

Stratum	Depth (cmbs)	Description of Sediments
I	0-5	Grass and topsoil; 10YR 4/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
IIa	5-34	Buried A horizon; 10YR 5/2, grayish brown; sandy loam; weak, medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IIb	30-60 (BOE)	Natural jaucas sand; 10YR 7/4, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.39 Shovel Test 29

Shovel Test 29 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.74 m deep. The stratigraphy of Shovel Test 29 consisted of grass over loamy sand (Stratum I) overlying loamy sand (a mix of A horizon and natural sand) (Stratum II) overlying a sandy loam buried A horizon, the top of which appears to have been graded off (Stratum IIIa) overlying loamy sand (a mix of an old A horizon and natural sand) (Stratum IIIb) overlying a sandy loam buried A horizon (Stratum IVa) overlying natural sand (Stratum IVb) (Figure 110, Figure 111, and Table 44). The buried A horizons (Strata IIIa and IVa) are incorporated into SIHP # -1800, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 110. Photograph of Shovel Test 29, west wall of excavation

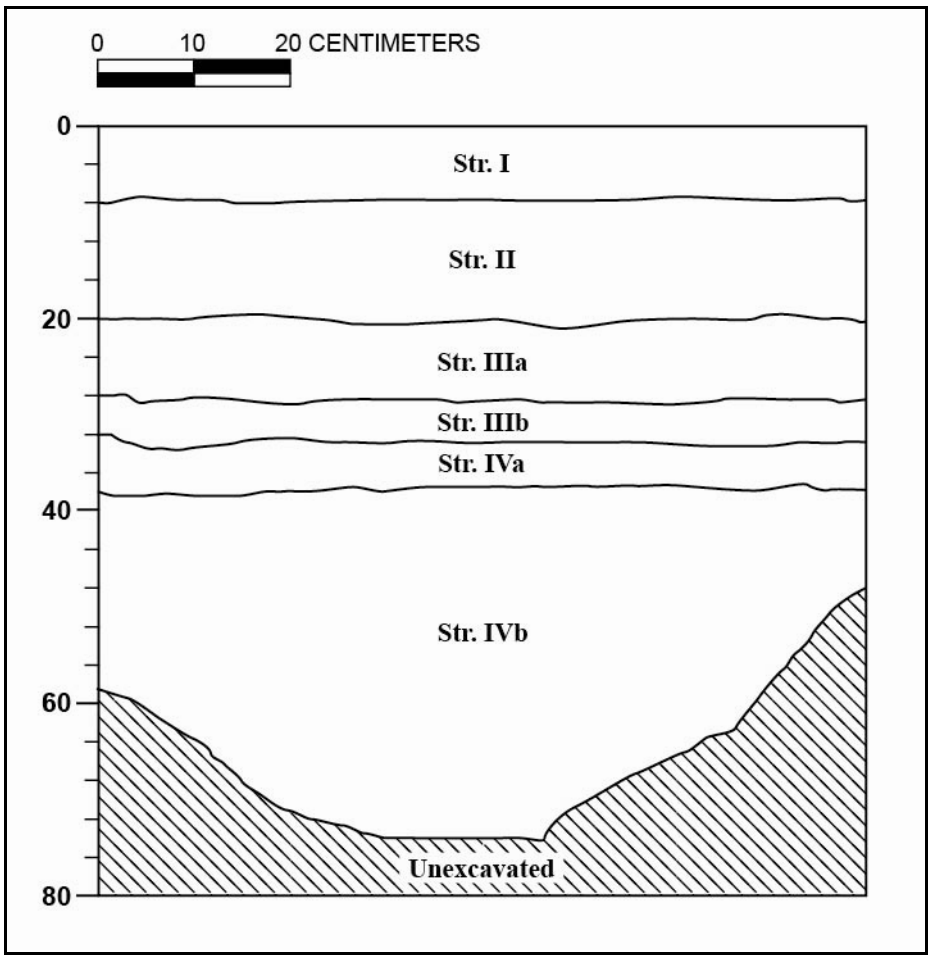

Figure 111. Shovel Test 29 profile, west wall of excavation

Table 44. Stratigraphy Observed at Shovel Test 29

Stratum	Depth (cmbs)	Description of Sediments
I	0-7	Grass and topsoil; 10YR 4/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
II	7-20	Mixed fill; 10YR 4/3, dark brown; loamy sand; single-grain; dry, weakly coherent consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots; mix of A horizon and natural sand.
IIIa	20-28	Buried A horizon; 10YR 5/2, grayish brown; sandy loam; weak, medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IIIb	28-32	Mixed; 10YR 4/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots; mix of an old A horizon and natural sand.
IVa	32-38	Buried A horizon; 10YR 5/2, grayish brown; sandy loam; weak, fine to medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IVb	38-74 (BOE)	Natural jaucas sand; 10YR 7/4, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.40 Shovel Test 30

Shovel Test 30 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 1.08 m deep. The stratigraphy of Shovel Test 30 consisted of organic matter over loamy sand (Stratum I) overlying loamy sand that has likely been wind-deposited (Stratum II) overlying a sandy loam buried A horizon (Stratum IIIa) overlying sand that has likely been deposited by high surf (Stratum IIIb) overlying a sandy loam buried A horizon (Stratum IVa) overlying natural sand (Stratum IVb) (Figure 112, Figure 113, and Table 45). The buried A horizons (Strata IIIa and IVa) are incorporated into SIHP # -1800, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 112. Photograph of Shovel Test 30, southeast wall of excavation

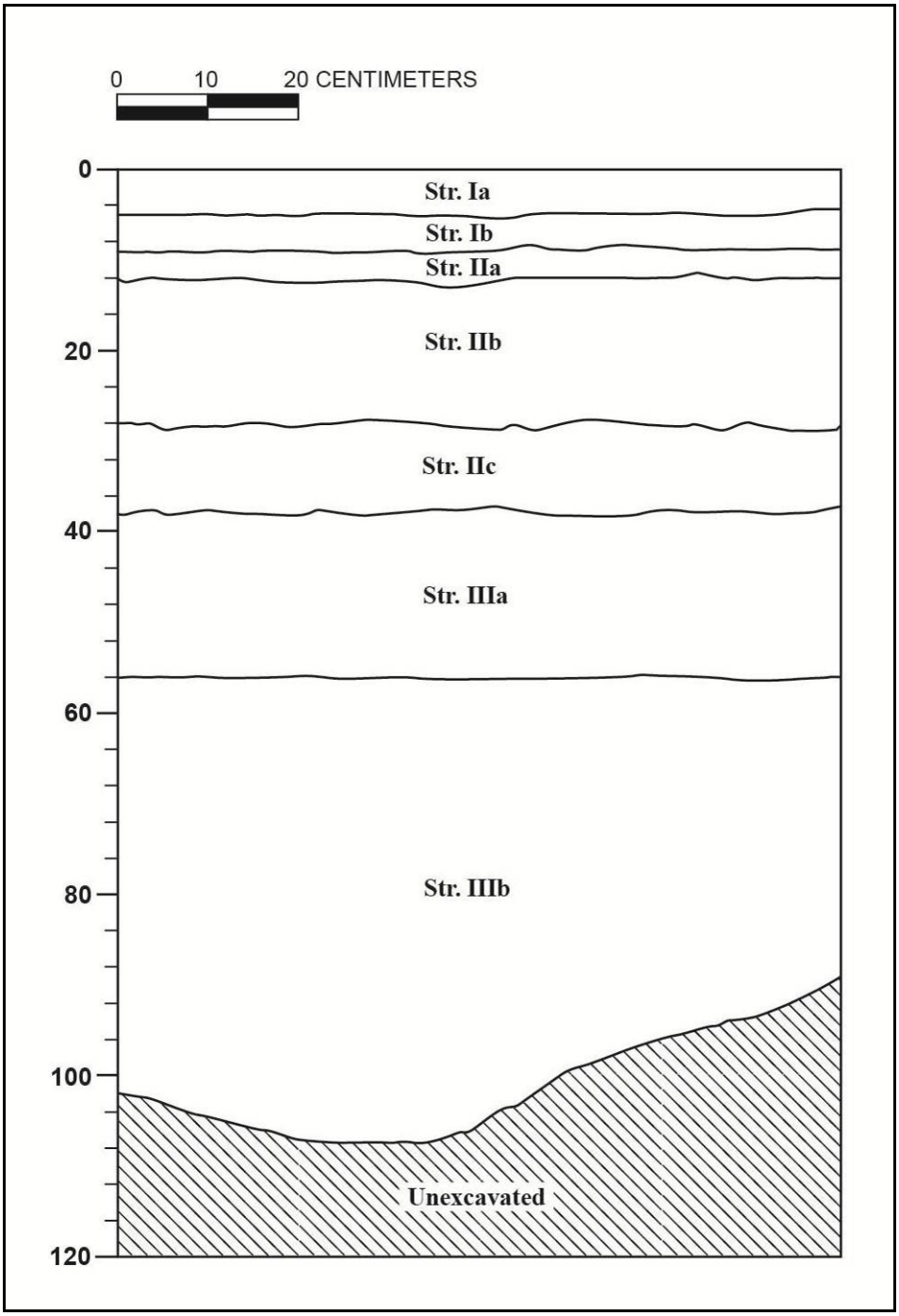

Figure 113. Shovel Test 30 profile, southeast wall of excavation

Table 45. Stratigraphy Observed at Shovel Test 30

Stratum	Depth (cmbs)	Description of Sediments
I	0-7	Organic matter and topsoil; 10YR 2/2, very dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine to medium roots.
II	7-20	Natural; 10YR 4/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots; possibly wind-deposited.
IIIa	20-28	Buried A horizon; 10YR 5/2, grayish brown; sandy loam; weak, fine to medium, granular structure; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common medium roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IIIb	28-32	Natural; 10YR 5/4, yellowish brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; abrupt, smooth lower boundary; few fine roots; possibly deposited by high surf.
IVa	32-38	Buried A horizon; 10YR 4/2, dark grayish brown; sandy loam; weak, fine to medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; diffuse, smooth lower boundary; few medium roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IVb	38-74 (BOE)	Natural jaucas sand; 10YR 8/6, yellow; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.41 Shovel Test 31

Shovel Test 31 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.82 m deep. The stratigraphy of Shovel Test 31 consisted of grass over loamy sand (Stratum I) overlying a loamy sand buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 114, Figure 115, and Table 46). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1800, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 114. Photograph of Shovel Test 31, northeast wall of excavation

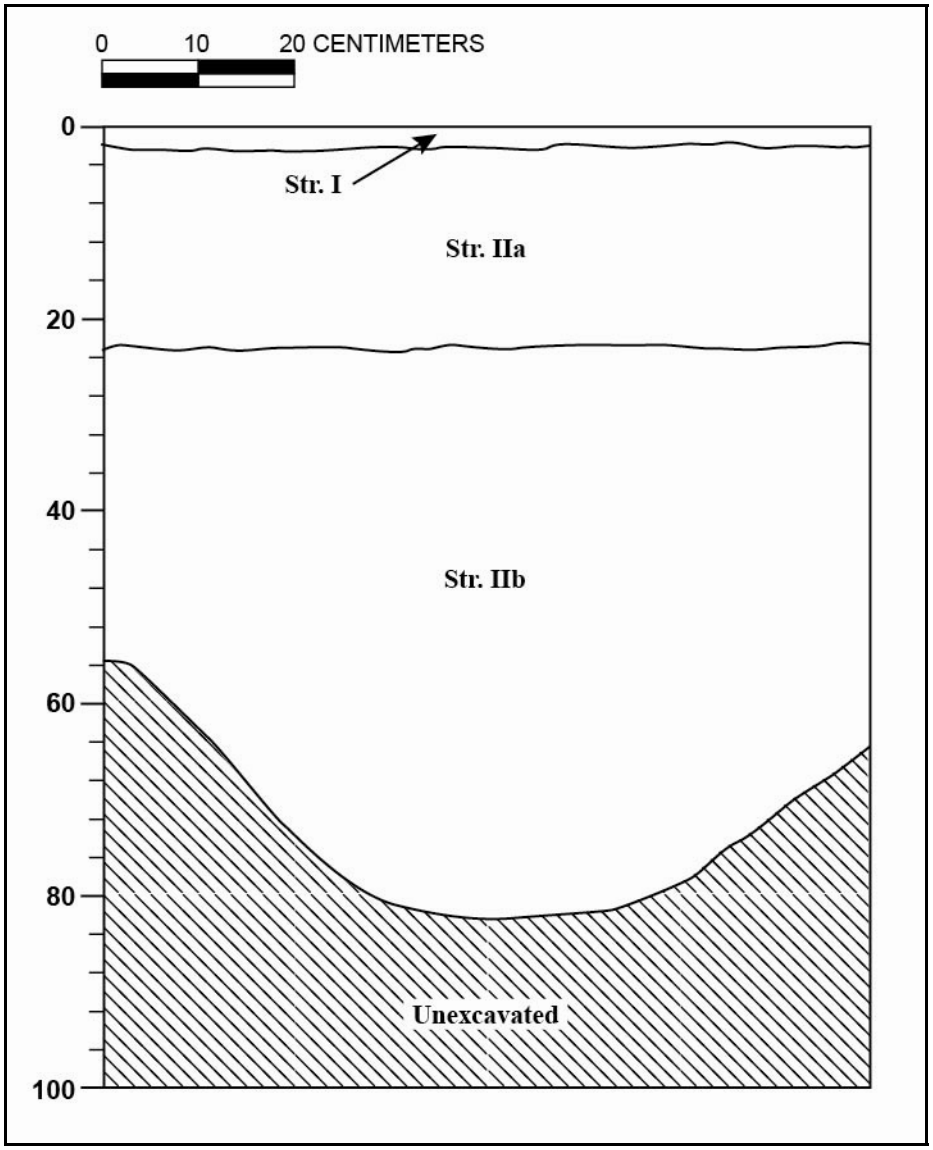

Figure 115. Shovel Test 31 profile, northeast wall of excavation

Table 46. Stratigraphy Observed at Shovel Test 31

Stratum	Depth (cmbs)	Description of Sediments
I	0-2	Grass and topsoil; 10YR 5/4, yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
IIa	2-23	Buried A horizon; 10YR 5/2, grayish brown; loamy sand; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IIb	23-82 (BOE)	Natural jaucas sand; 10YR 7/4, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.42 Shovel Test 32

Shovel Test 32 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 1.07 m deep. The stratigraphy of Shovel Test 32 consisted of grass over loamy sand (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 116, Figure 117, and Table 47). The buried A horizon (Stratum IIa) is incorporated into SIHP # -1800, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 116. Photograph of Shovel Test 32, east wall of excavation

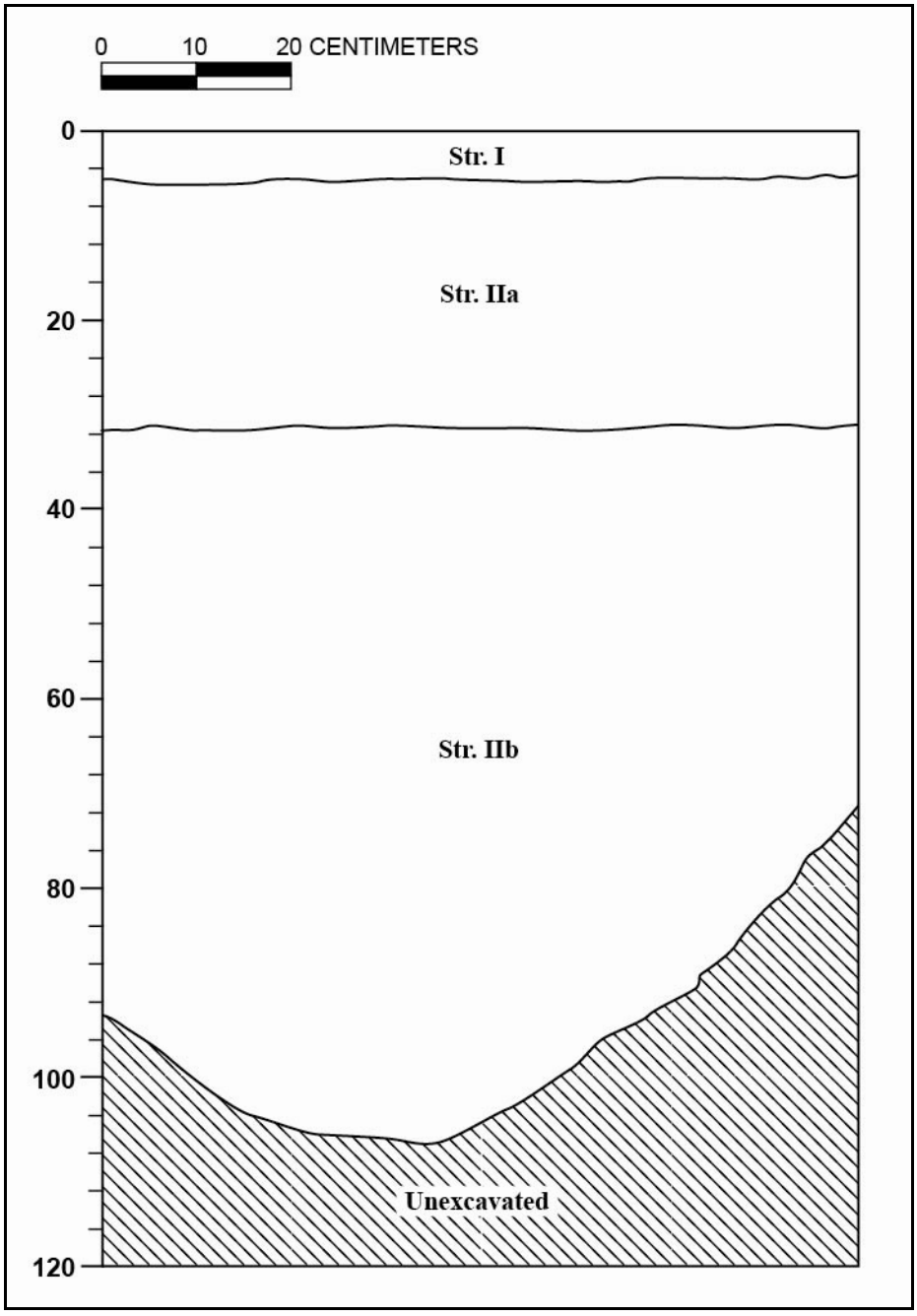

Figure 117. Shovel Test 32 profile, east wall of excavation

Table 47. Stratigraphy Observed at Shovel Test 32

Stratum	Depth (cmbs)	Description of Sediments
I	0-5	Grass and topsoil; 10YR 5/4, yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many medium roots.
IIa	5-31	Buried A horizon; 10YR 5/2, grayish brown; sandy loam; weak, fine, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
IIb	26-107 (BOE)	Natural jaucas sand; 10YR 7/4, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.43 Shovel Test 33

Shovel Test 33 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.91 m deep. The stratigraphy of Shovel Test 33 consisted of grass over loamy sand (Stratum I) overlying natural sand that has likely been wind-deposited (Stratum II) overlying mixed loamy sand fill (Stratum III) overlying disturbed and mixed loamy sand (Stratum IV) overlying a sandy loam buried A horizon (Stratum Va) overlying natural sand (Stratum Vb) (Figure 118, Figure 119, and Table 48). The buried A horizon (Stratum Va) is incorporated into SIHP # -1800, a pre-Contact cultural layer and burials originally identified by Rosendahl and Kai (1990).

Figure 118. Photograph of Shovel Test 33, northeast wall of excavation

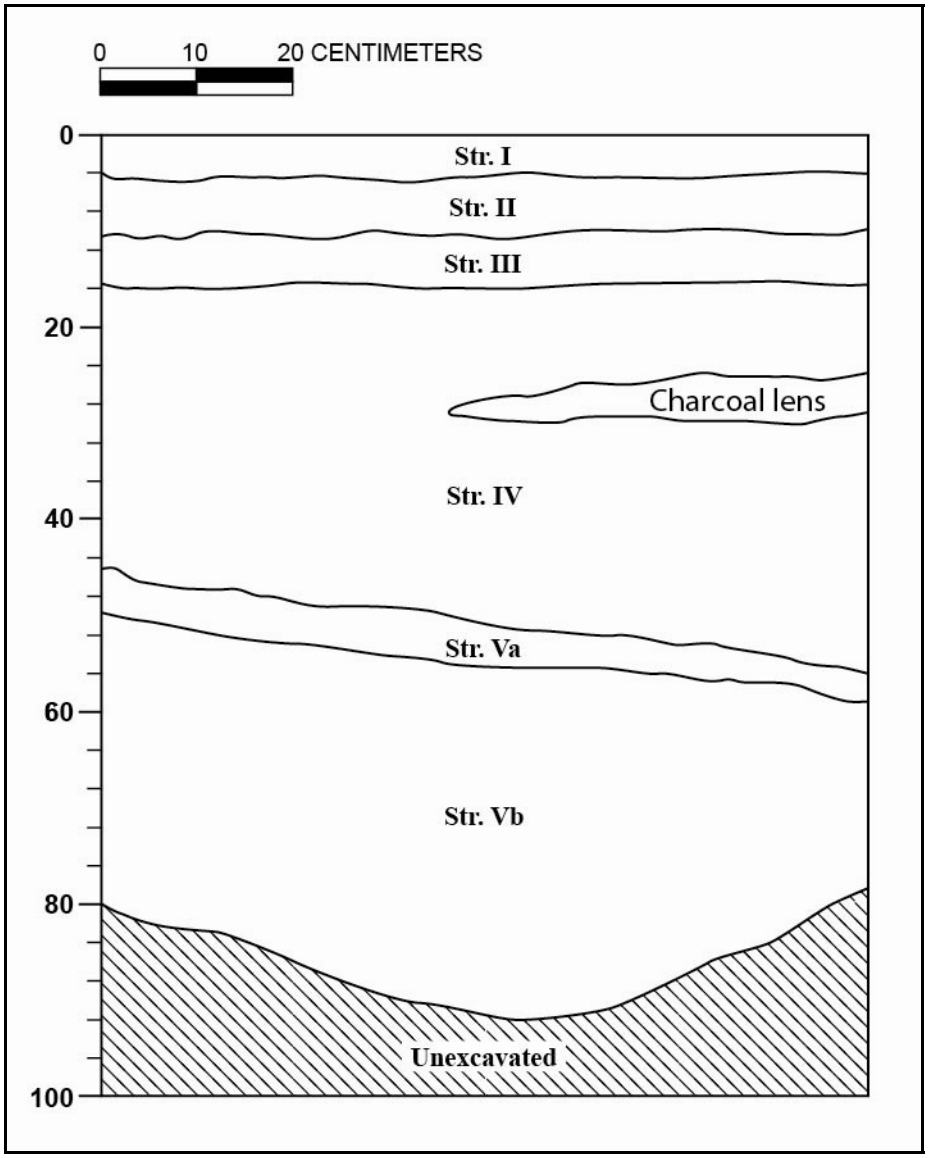

Figure 119. Shovel Test 33 profile, northeast wall of excavation

Table 48. Stratigraphy Observed at Shovel Test 33

Stratum	Depth (cmbs)	Description of Sediments
I	0-4	Organic matter and topsoil; 10YR 2/2, very dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
II	4-10	Natural; 10YR 5/6, yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots; possibly wind-deposited.
III	10-15	Mixed fill; 10YR 4/6, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary.
IV	15-52	Disturbed and mixed; 10YR 6/6, brownish yellow; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots; charcoal and two bricks present; ash lens (10YR 5/3, brown) present.
Va	34-59	Buried A horizon; 10YR 4/2, dark grayish brown; sandy loam; weak, fine to medium, granular structure; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -1800.
Vb	42-91 (BOE)	Natural jaucas sand; 10YR 6/3, pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.44 Shovel Test 34

Shovel Test 34 was located along the eastern edge of the project area along the ocean. The profile wall measured 0.46 m long and 0.94 m deep. The stratigraphy of Shovel Test 34 consisted of grass over loamy sand (Stratum I) overlying natural sand that has likely been wind-deposited (Stratum II) overlying a loamy sand buried A horizon (Stratum IIIa) overlying natural sand (Stratum IIIb) (Figure 120, Figure 121, and Table 49).

Figure 120. Photograph of Shovel Test 34, southeast wall of excavation

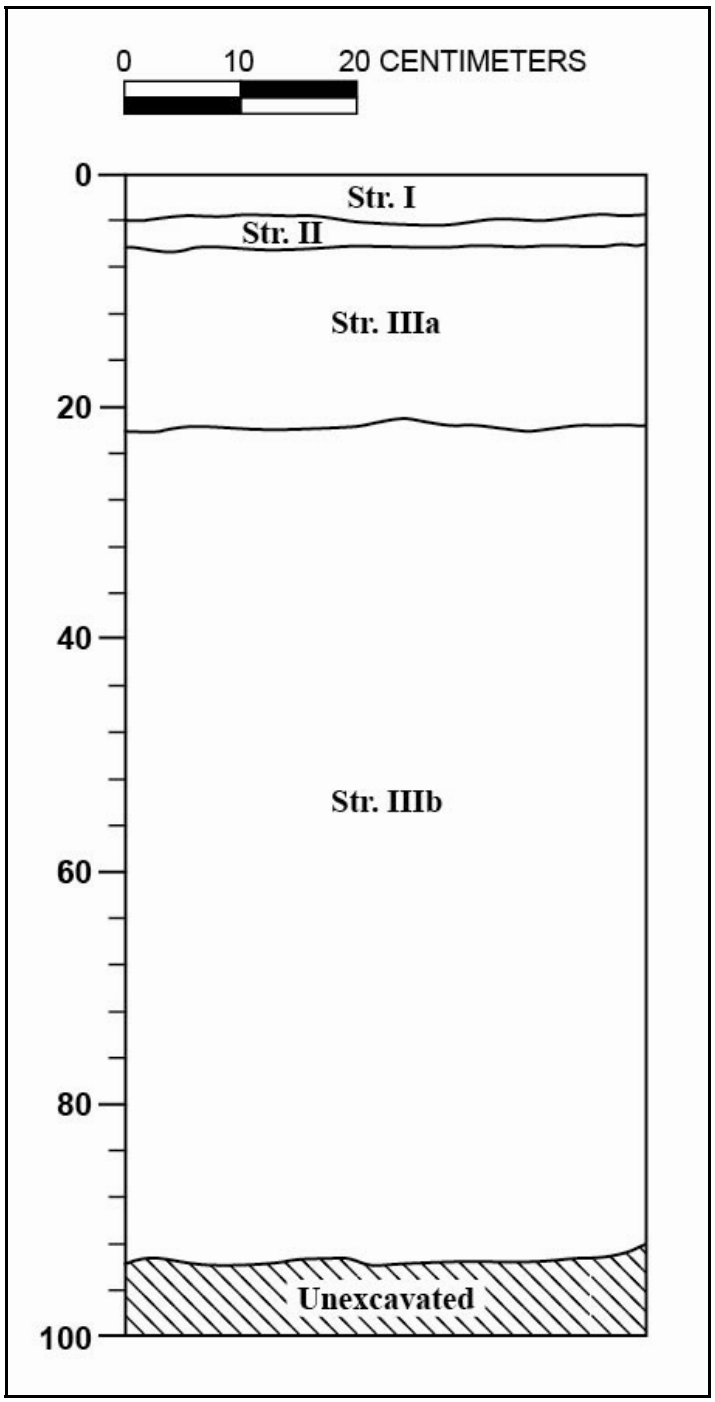

Figure 121. Shovel Test 34 profile, southeast wall of excavation

Table 49. Stratigraphy Observed at Shovel Test 34

Stratum	Depth (cmbs)	Description of Sediments
I	0-4	Organic matter and topsoil; 10YR 4/4, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
II	4-7	Natural; 10YR 5/6, yellowish brown; sand; single-grain; dry, loose consistency; non-plastic; marine origin; clear, smooth lower boundary; few fine roots; possibly wind-deposited.
IIIa	7-22	Buried A horizon; 10YR 4/4, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots.
IIIb	22-94 (BOE)	Natural jaucas sand; 10YR 5/6, yellowish brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.45 Shovel Test 35

Shovel Test 35 was located along the southeastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 1.06 m deep. The stratigraphy of Shovel Test 35 consisted of grass over loamy sand (Stratum Ia) overlying loamy sand landscaping fill (Stratum Ib) overlying three layers of loamy sand fill (Strata Ic-Ie) overlying natural sand (Stratum II) (Figure 122, Figure 123, and Table 50).

Figure 122. Photograph of Shovel Test 35, northeast wall of excavation

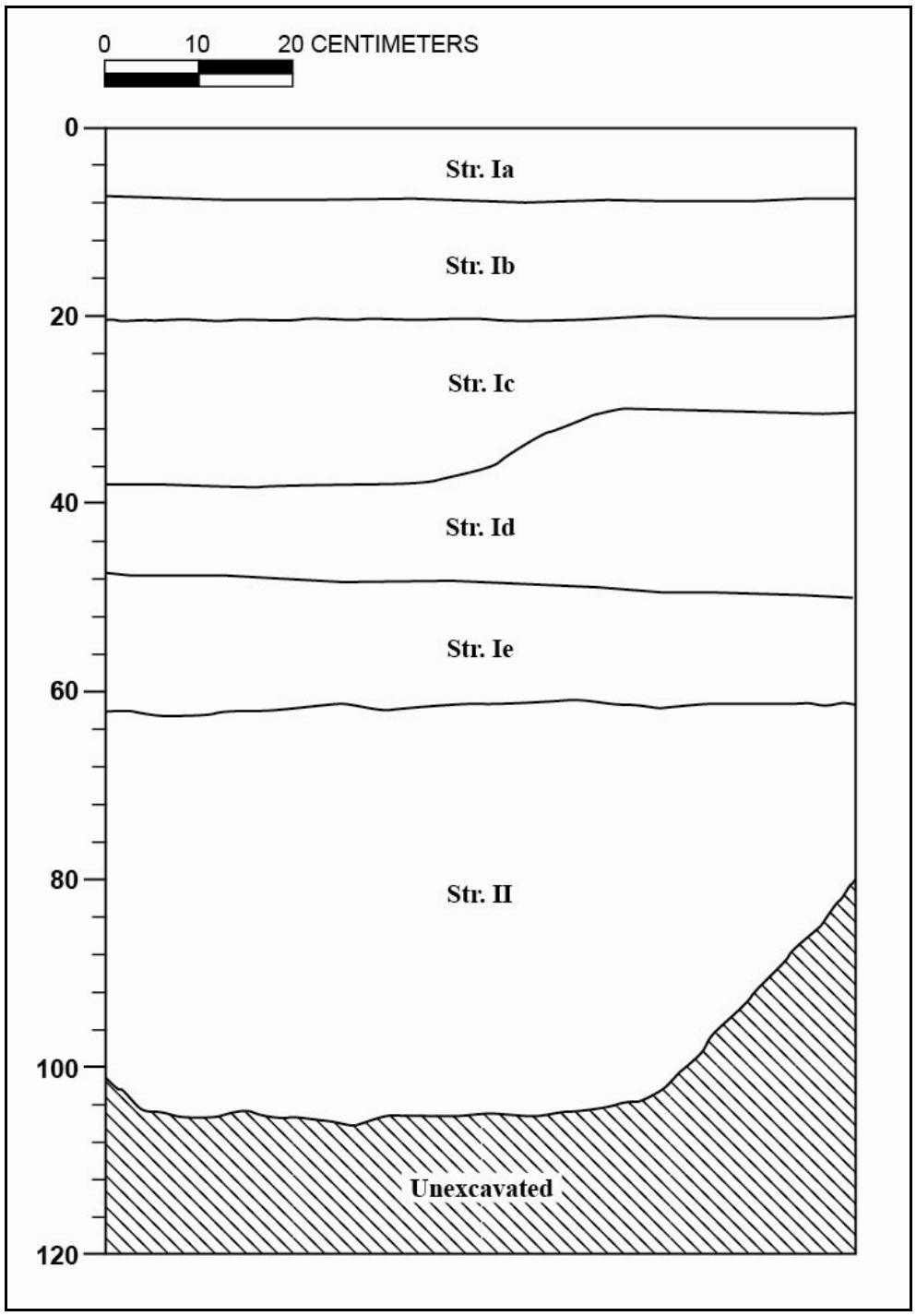

Figure 123. Shovel Test 35 profile, northeast wall of excavation

Table 50. Stratigraphy Observed at Shovel Test 35

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-7	Grass and topsoil; 10YR 3/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
Ib	7-20	Landscaping fill; 10YR 4/3, brown; sandy loam; weak, fine, granular structure; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots.
Ic	20-38	Mixed fill; 10YR 3/4, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots.
Id	30-50	Mixed fill; 10YR 6/4, light yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots.
Ie	48-62	Mixed fill; 10YR 3/4, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; few fine roots.
II	61-106 (BOE)	Natural jaucas sand; 10YR 4/6, dark yellowish brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.46 Shovel Test 36

Shovel Test 36 was located along the southeastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.93 m deep. The stratigraphy of Shovel Test 36 consisted of grass over loamy sand (Stratum Ia) overlying loamy sand landscaping fill (Stratum Ib) overlying a loamy sand buried A horizon, the top of which appears to have been graded off (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 124, Figure 125, and Table 51). The buried A horizon (Stratum IIa) is incorporated into SIHP # -791, a pre-Contact cultural layer and burials originally identified by Perzinski et al. (2001).

Figure 124. Photograph of Shovel Test 36, east wall of excavation

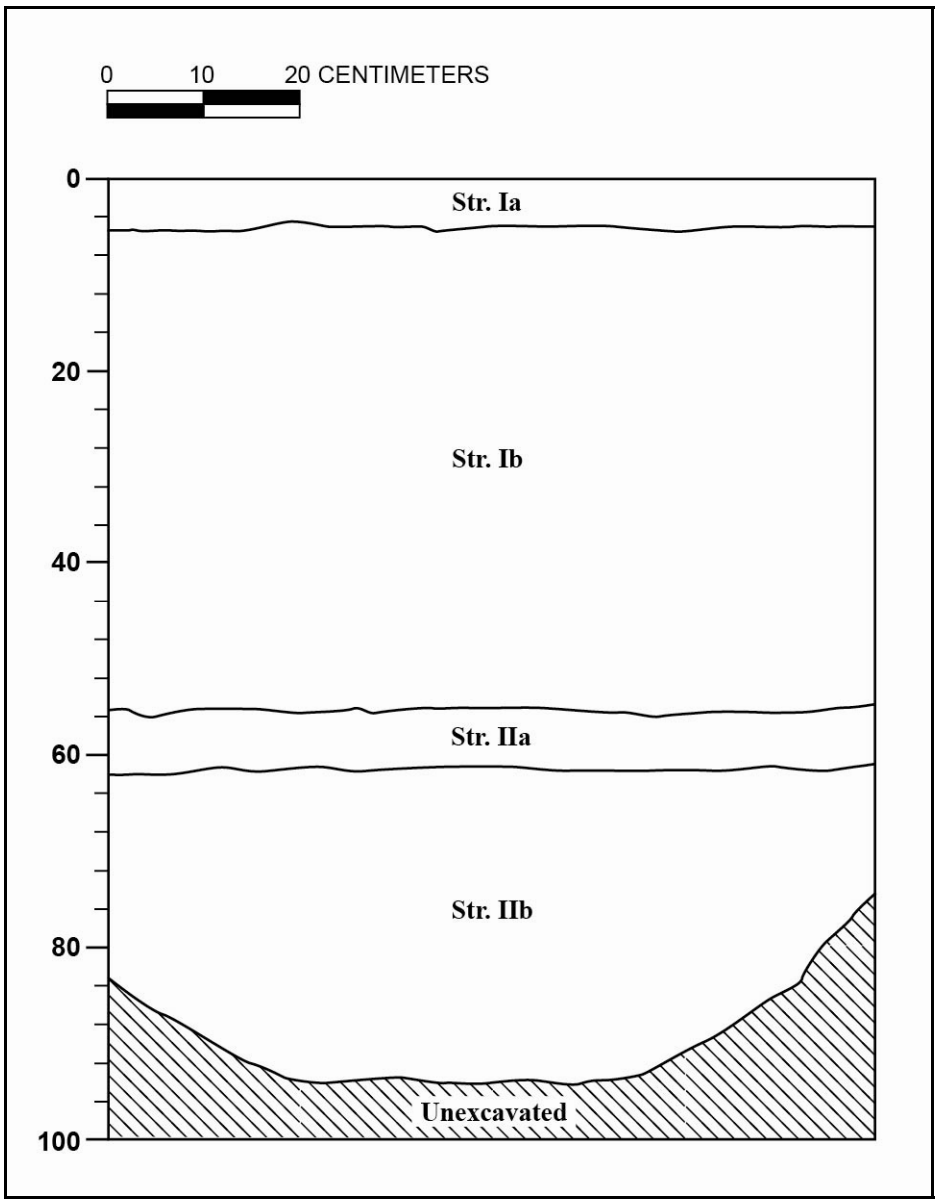

Figure 125. Shovel Test 36 profile, east wall of excavation

Table 51. Stratigraphy Observed at Shovel Test 36

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-5	Grass and topsoil; 10YR 3/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
Ib	5-55	Landscaping fill; 10YR 3/2, very dark grayish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots.
IIa	55-61	Buried A horizon; 10YR 2/2, very dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -791.
IIb	61-93 (BOE)	Natural jaucas sand; 10YR 5/6, yellowish brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.47 Shovel Test 37

Shovel Test 37 was located along the southeastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.56 m deep. The stratigraphy of Shovel Test 37 consisted of grass over loamy sand (Stratum Ia) overlying loamy sand landscaping fill (Stratum Ib) overlying natural sand (Stratum II) (Figure 126, Figure 127, and Table 52).

Figure 126. Photograph of Shovel Test 37, southeast wall of excavation

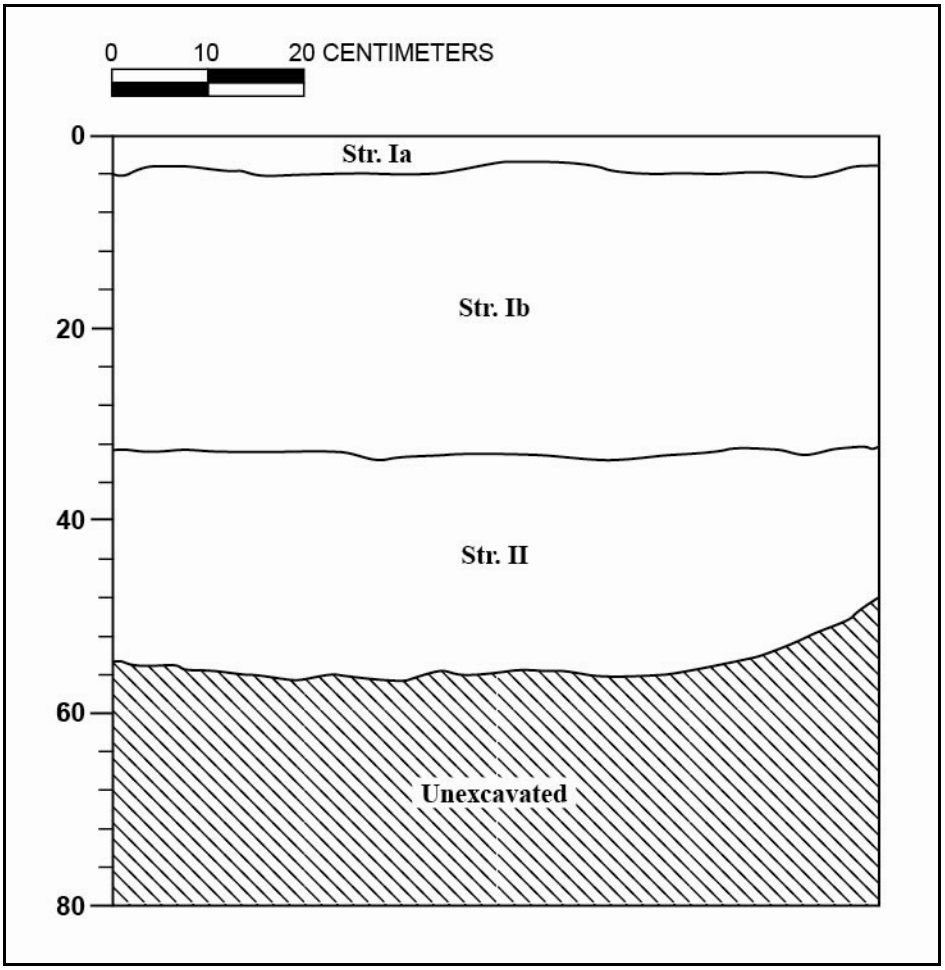

Figure 127. Shovel Test 37 profile, southeast wall of excavation

Table 52. Stratigraphy Observed at Shovel Test 37

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-4	Grass and topsoil; 10YR 3/4, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
Ib	4-33	Landscaping fill; 10YR 3/6, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; many fine to coarse roots.
II	33-56 (BOE)	Natural jaucas sand; 10YR 4/6, dark yellowish brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few fine roots.

4.2.48 Shovel Test 38

Shovel Test 38 was located along the southeastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.86 m deep. The stratigraphy of Shovel Test 38 consisted of grass over loamy sand (Stratum Ia) overlying loamy sand landscaping fill (Stratum Ib) overlying natural sand (Stratum II) (Figure 128, Figure 129, and Table 53).

Figure 128. Photograph of Shovel Test 38, east wall of excavation

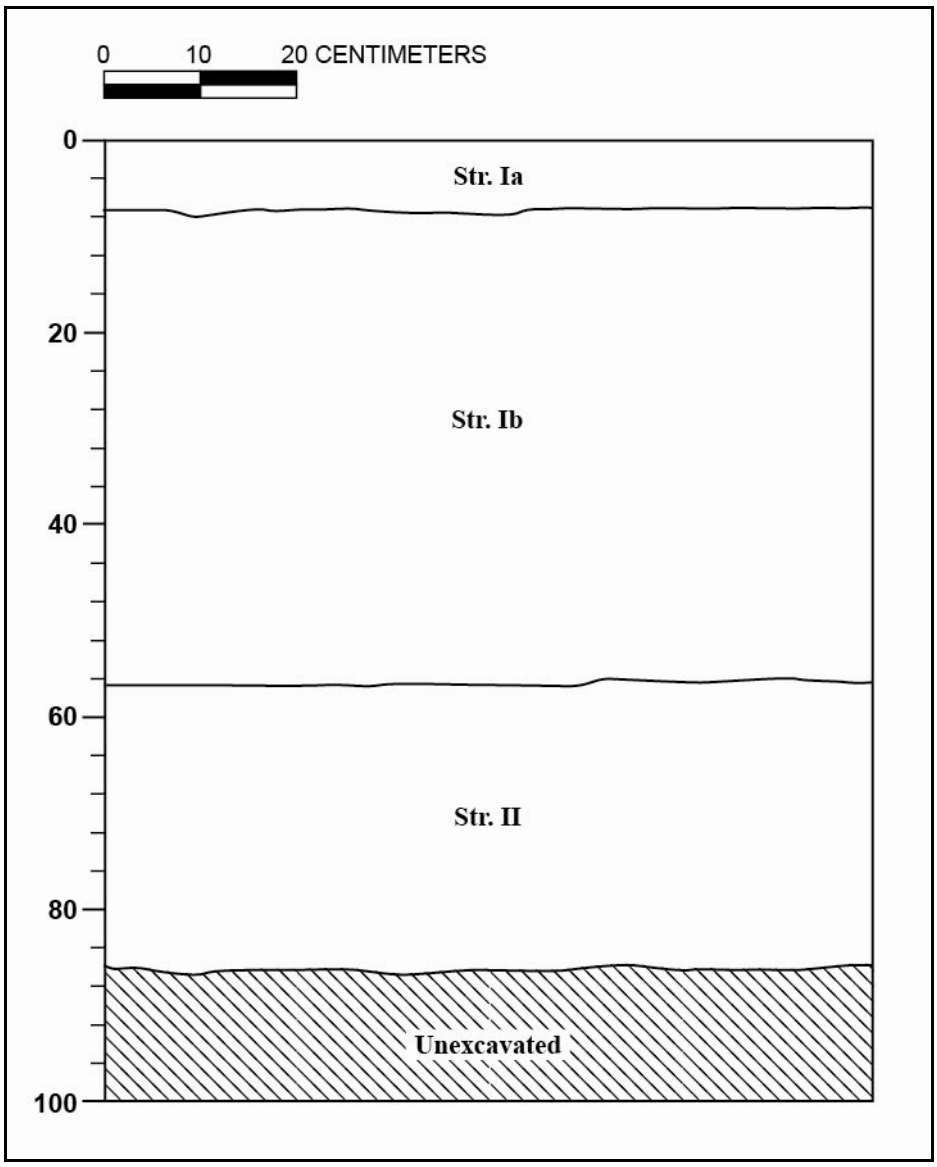

Figure 129. Shovel Test 38 profile, east wall of excavation

Table 53. Stratigraphy Observed at Shovel Test 38

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-7	Grass and topsoil; 10YR 2/2, very dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine to coarse roots.
Ib	7-56	Landscaping fill; 10YR 3/4, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine to coarse roots.
II	56-86 (BOE)	Natural jaucas sand; 10YR 5/4, yellowish brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few coarse roots.

4.2.49 Shovel Test 39

Shovel Test 39 was located along the southeastern edge of the project area along the ocean. The profile wall measured 0.80 m long and 0.78 m deep. The stratigraphy of Shovel Test 39 consisted of grass over sandy loam (Stratum Ia) overlying loamy sand landscaping fill (Stratum Ib) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 130, Figure 131, and Table 54). The buried A horizon (Stratum IIa) is incorporated into SIHP # -791, a pre-Contact cultural layer and burials originally identified by Perzinski et al. (2001).

Figure 130. Photograph of Shovel Test 39, northwest wall of excavation

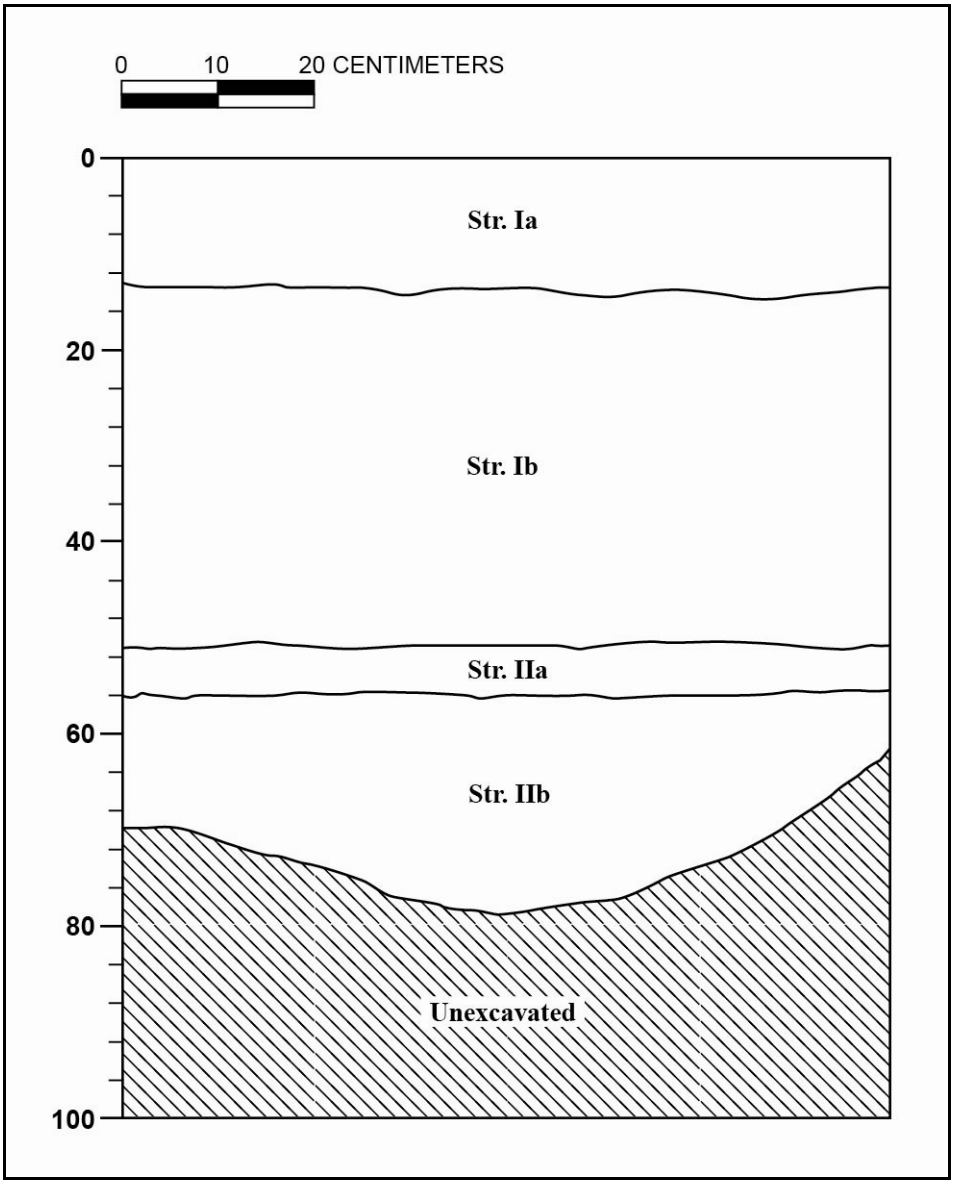

Figure 131. Shovel Test 39 profile, northwest wall of excavation

Table 54. Stratigraphy Observed at Shovel Test 39

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-13	Grass and topsoil; 10YR 3/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
Ib	13-51	Landscaping fill; 10YR 5/4, yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; abrupt, smooth lower boundary; common fine roots.
IIa	51-56	Buried A horizon; 10YR 3/2, very dark grayish brown; sandy loam; weak, fine granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; charcoal and shell midden present; cultural layer, incorporated into SIHP # -791.
IIb	56-78 (BOE)	Natural jaucas sand; 10YR 5/6, yellowish brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.50 Shovel Test 40

Shovel Test 40 was located at the south corner of the project area along the ocean. The profile wall measured 0.80 m long and 0.82 m deep. The stratigraphy of Shovel Test 40 consisted of grass over sandy loam (Stratum Ia) overlying sandy loam landscaping fill (Stratum Ib) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 132, Figure 133, and Table 55). The buried A horizon (Stratum IIa) is incorporated into SIHP # -791, a pre-Contact cultural layer and burials originally identified by Perzinski et al. (2001).

Figure 132. Photograph of Shovel Test 40, west wall of excavation

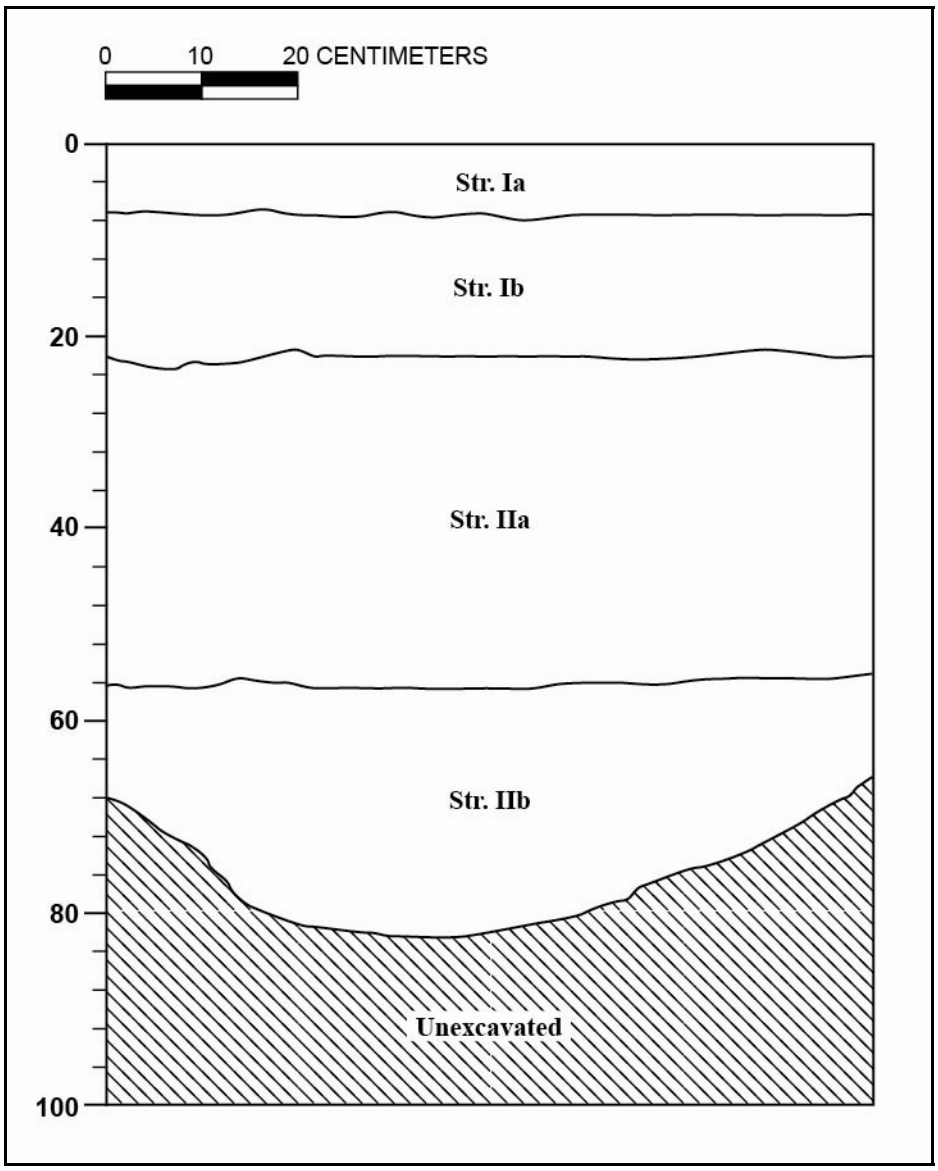

Figure 133. Shovel Test 40 profile, west wall of excavation

Table 55. Stratigraphy Observed at Shovel Test 40

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-6	Grass and topsoil; 10YR 2/2, very dark brown; loamy sand; weak, fine granular structure; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
Ib	6-22	Landscaping fill; 10YR 3/3, dark brown; sandy loam; weak, fine granular structure; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots.
IIa	22-56	Buried A horizon; 10YR 3/2, very dark grayish brown; sandy loam; weak, fine granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -791.
IIb	56-82 (BOE)	Natural jaucas sand; 10YR 6/4, light yellowish brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.51 Shovel Test 41

Shovel Test 41 was located at the south corner of the project area along the ocean. The profile wall measured 0.80 m long and 0.68 m deep. The stratigraphy of Shovel Test 41 consisted of grass over sandy loam (Stratum Ia) overlying loamy sand landscaping fill (Stratum Ib) overlying a natural sand (Stratum II) (Figure 134, Figure 135, and Table 56).

Figure 134. Photograph of Shovel Test 41, southeast wall of excavation

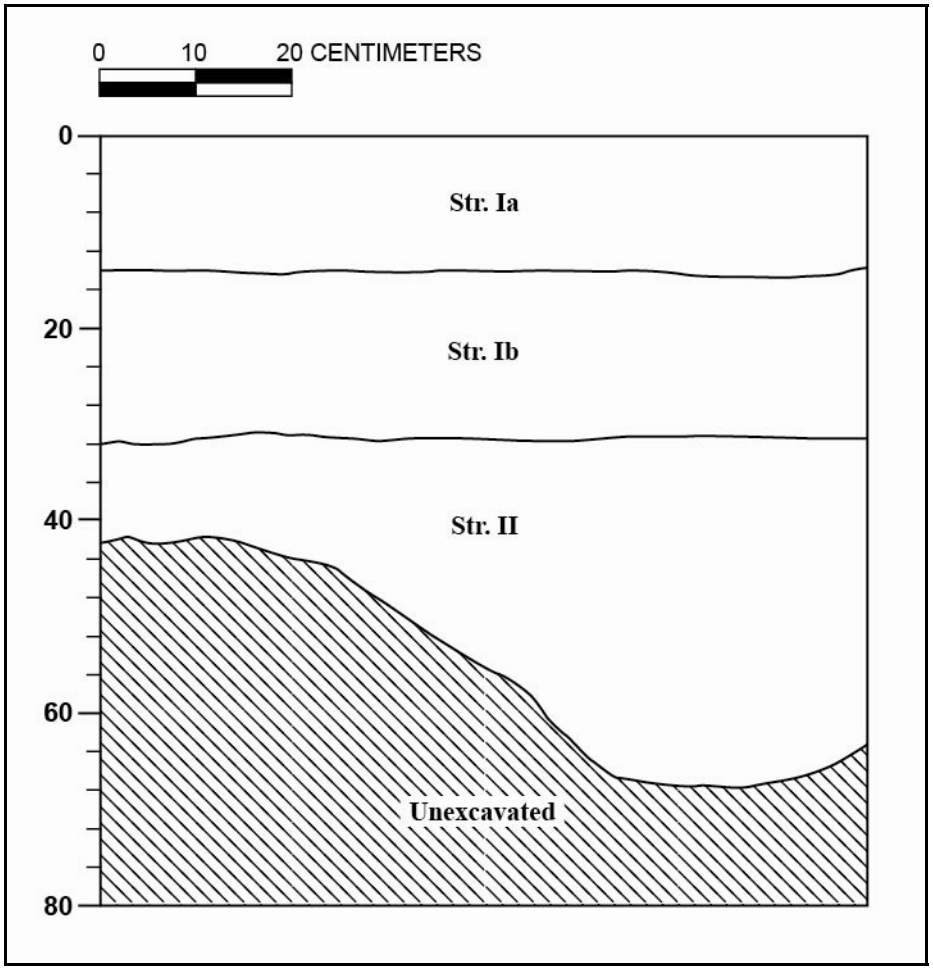

Figure 135. Shovel Test 41 profile, southeast wall of excavation

Table 56. Stratigraphy Observed at Shovel Test 41

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-14	Grass and topsoil; 10YR 2/2, very dark brown; loamy sand; weak, fine granular structure; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
Ib	14-32	Landscaping fill; 10YR 3/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots.
II	32-68 (BOE)	Natural jaucas sand; 10YR 5/6, yellowish brown; medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.52 Shovel Test 42

Shovel Test 42 was located at the south corner of the project area along the ocean. The profile wall measured 0.80 m long and 0.72 m deep. The stratigraphy of Shovel Test 42 consisted of organic matter over sandy loam (Stratum I) overlying natural sand (Stratum II) (Figure 136, Figure 137, and Table 57).

Figure 136. Photograph of Shovel Test 42, southeast wall of excavation

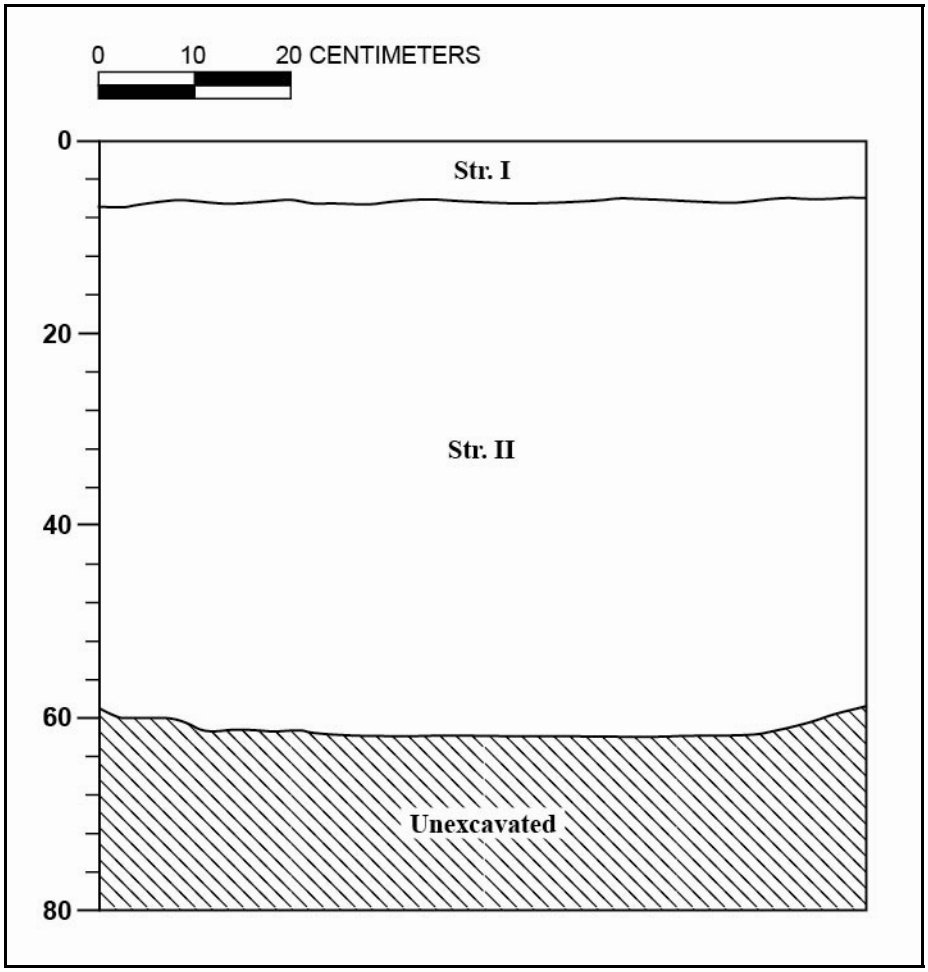

Figure 137. Shovel Test 42 profile, southeast wall of excavation

Table 57. Stratigraphy Observed at Shovel Test 42

Stratum	Depth (cmbs)	Description of Sediments
I	0-6	Organic matter and topsoil; 10YR 3/2, very dark grayish brown; sandy loam; weak, fine granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
II	6-62 (BOE)	Natural jaucas sand; 10YR 5/4, yellowish brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; common medium to coarse roots.

4.2.53 Shovel Test 43

Shovel Test 43 was located at the northwest end of the project area. The profile wall measured 0.70 m long and 0.52 m deep. The stratigraphy of Shovel Test 43 consisted of grass over loamy sand (Stratum I) overlying loamy sand (a mix of an old A horizon and natural sand) (Stratum II) (Figure 138 and Table 58). CSH Burial 2 (SIHP # TBD) was located at the base of Stratum II adjacent to a modern utility trench in the west end of the trench. For a detailed description of the burial, see Section 4.4.2, below. The disturbed buried A horizon (Stratum II) is incorporated into SIHP # -791, a pre-Contact cultural layer and burials originally identified by Perzinski et al. (2001). A photograph of the trench was not taken due to the presence of the burial.

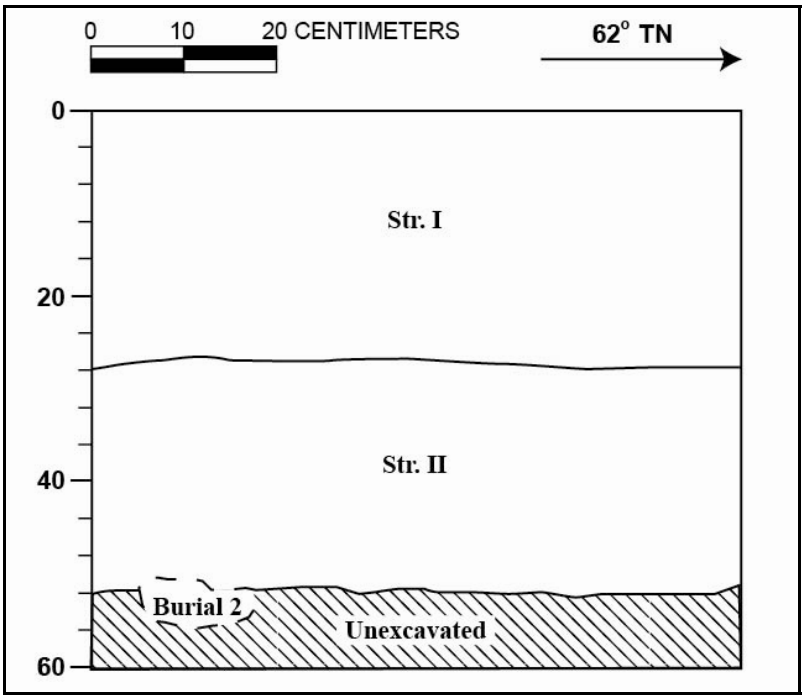

Figure 138. Shovel Test 43 profile, northeast wall of excavation

Table 58. Stratigraphy Observed at Shovel Test 43

Stratum	Depth (cmbs)	Description of Sediments
I	0-27	Grass and utility trench fill; 10YR 3/4, dark yellowish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
II	27-52 (BOE)	Disturbed/mixed old A horizon and sand; 10YR 4/2, dark grayish brown; fine- to medium-grain loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; lower boundary not visible; common fine roots; contained CSH Burial 2 (SIHP # TBD) and basalt flakes; cultural layer, incorporated into SIHP # -791.

4.2.54 Shovel Test 44

Shovel Test 44 was located at the northwest end of the project area. The profile wall measured 0.80 m long and 0.56 m deep. The stratigraphy of Shovel Test 44 consisted of grass over loamy sand (Stratum Ia) overlying sandy loam grading fill with crushed coral inclusions (Stratum Ib) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 139, Figure 140, and Table 59). The buried A horizon (Stratum IIa) is incorporated into SIHP # -791, a pre-Contact cultural layer and burials originally identified by Perzinski et al. (2001).

Figure 139. Photograph of Shovel Test 44, north wall of excavation

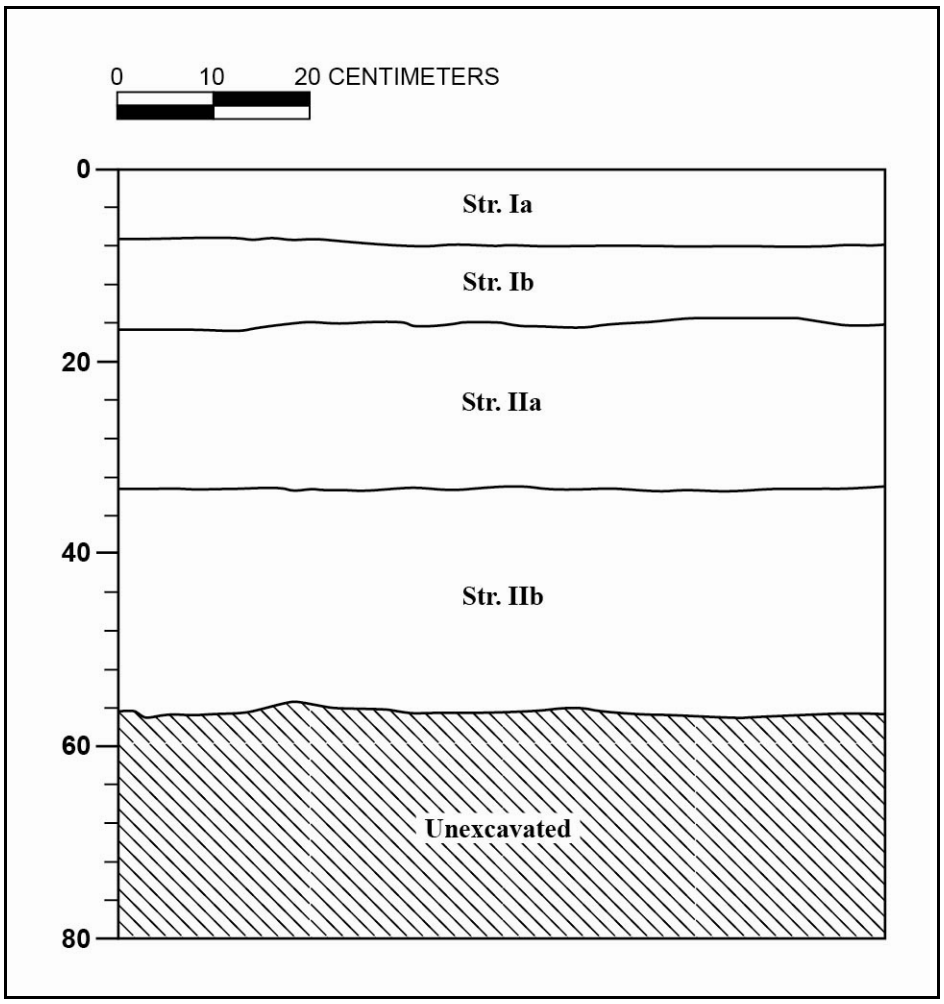

Figure 140. Shovel Test 44 profile, north wall of excavation

Table 59. Stratigraphy Observed at Shovel Test 44

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-7	Grass and topsoil; 10YR 3/2, very dark grayish brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
Ib	7-16	Grading fill; 10YR 3/3, dark brown; loamy sand with crushed coral inclusions; weak, medium, crumb structure; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine roots.
IIa	16-32	Buried A horizon; 10YR 3/1, very dark gray; sandy loam; weak, fine granular structure; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; few fine roots; charcoal, shell midden, and coral present; cultural layer, incorporated into SIHP # -791.
IIb	32-56 (BOE)	Natural jaucas sand; 10YR 6/3, pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.55 Shovel Test 45

Shovel Test 45 was located at the northwest end of the project area. The profile wall measured 0.80 m long and 0.94 m deep. The stratigraphy of Shovel Test 45 consisted of grass over loamy sand (Stratum Ia) overlying disturbed sand fill (Stratum Ib) overlying a loamy sand buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 141, Figure 142, and Table 60). The buried A horizon (Stratum IIa) is incorporated into SIHP # -791, a pre-Contact cultural layer and burials originally identified by Perzinski et al. (2001).

Figure 141. Photograph of Shovel Test 45, south wall of excavation

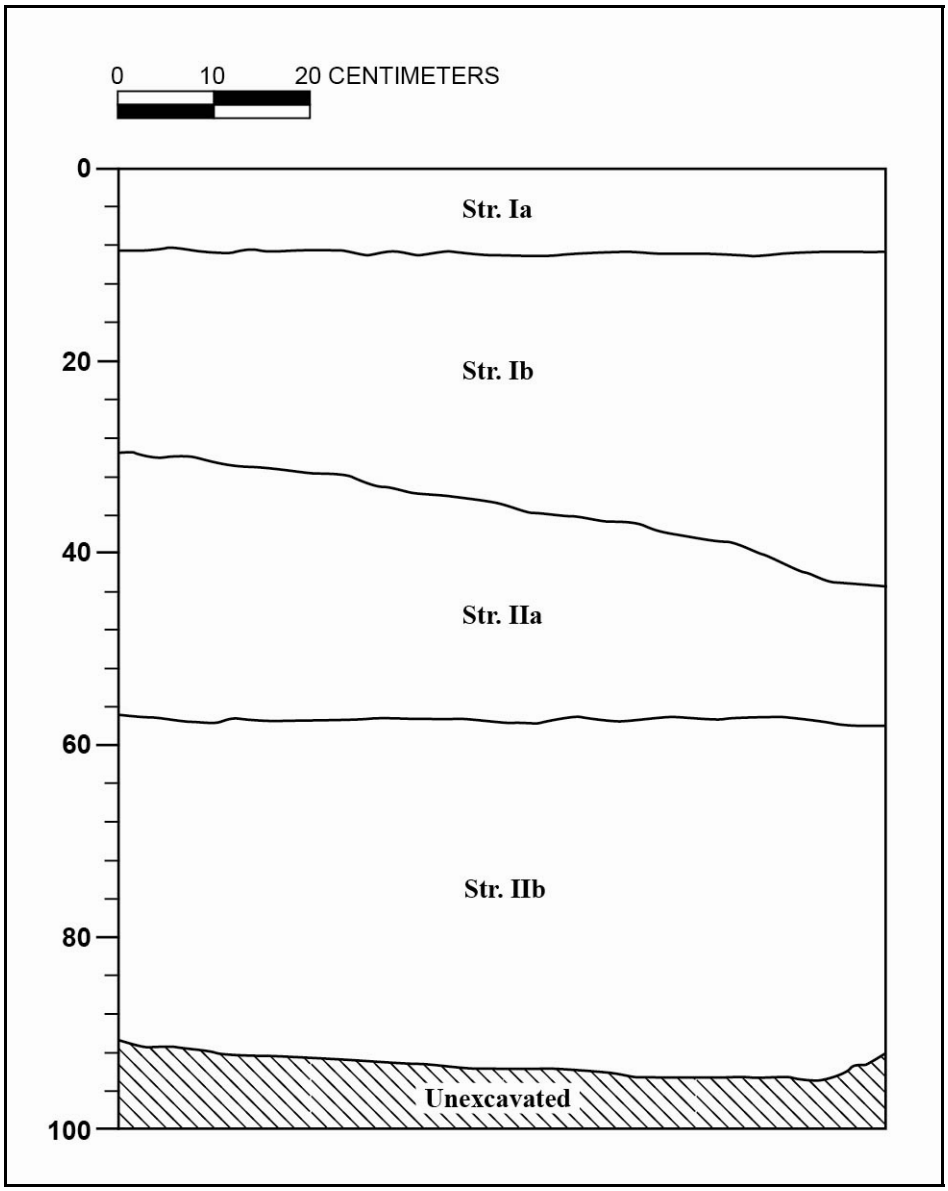

Figure 142. Shovel Test 45 profile, south wall of excavation

Table 60. Stratigraphy Observed at Shovel Test 45

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-9	Grass and topsoil; 10YR 3/3, dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine roots.
Ib	9-43	Fill; 10YR 5/3, brown; fine-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; clear, smooth lower boundary; common fine roots.
IIa	30-58	Buried A horizon; 10YR 3/1, very dark gray; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; diffuse, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -791.
IIb	57-94 (BOE)	Natural jaucas sand; 10YR 6/3, pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible.

4.2.56 Shovel Test 46

Shovel Test 46 was located at the south corner of the project area. The shovel test had a diameter of 0.50 m and was 0.60 m deep. The stratigraphy of Shovel Test 46 consisted of grass over sandy loam (Stratum Ia) overlying a thin layer of cement washout (Stratum Ib) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 143, Figure 144, and Table 61). The buried A horizon (Stratum IIa) is incorporated into SIHP # -791, a pre-Contact cultural layer and burials originally identified by Perzinski et al. (2001).

Figure 143. Photograph of Shovel Test 46, view northeast

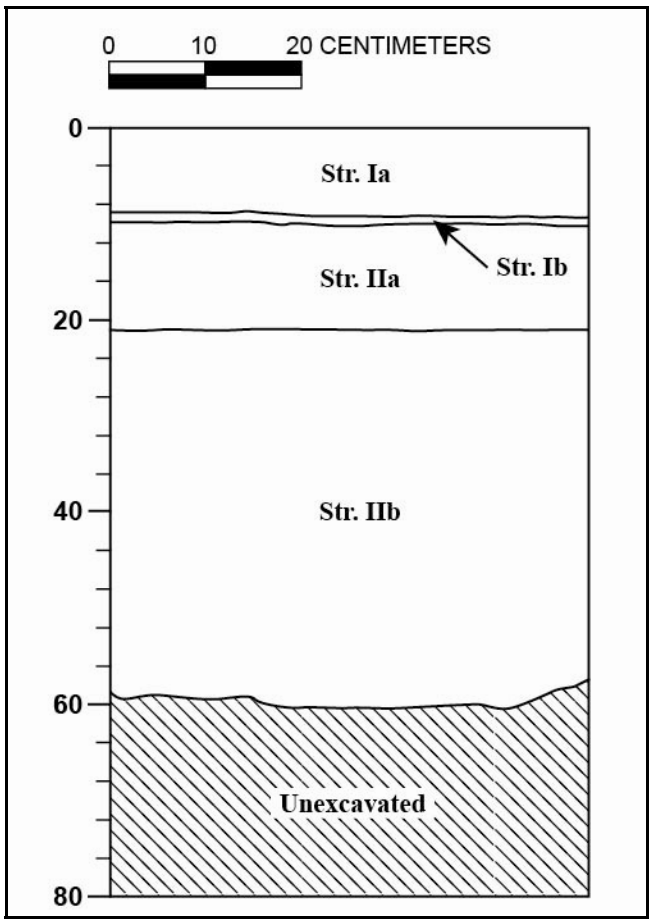

Figure 144. Shovel Test 46 profile

Table 61. Stratigraphy Observed at Shovel Test 46

Stratum	Depth (cmbs)	Description of Sediments
Ia	0-9	Grass and topsoil; 10YR 3/3, dark brown; sandy loam; weak, fine to medium, granular structure; dry, loose consistency; non-plastic; mixed origin; very abrupt, smooth lower boundary; few fine to medium roots.
Ib	9-10	Cement washout
IIa	10-21	Disturbed buried A horizon; 10YR 3/1, very dark gray; sandy loam; weak, fine to medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; common medium to coarse roots; charcoal present; cultural layer, incorporated into SIHP # -791.
IIb	21-60 (BOE)	Natural jaucas sand; 10YR 7/4, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few medium to coarse roots.

4.2.57 Shovel Test 47

Shovel Test 47 was located at the south corner of the project area. The shovel test had a diameter of 0.30 m and was 0.62 m deep. The stratigraphy of Shovel Test 47 consisted of organic matter over sandy loam (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 145, Figure 146, and Table 62).

Figure 145. Photograph of Shovel Test 47, view west

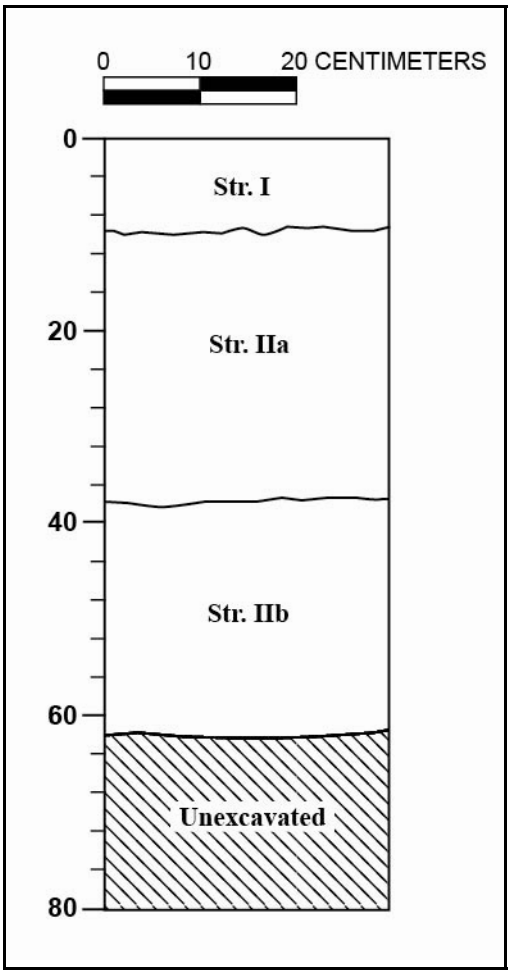

Figure 146. Shovel Test 47 profile

Table 62. Stratigraphy Observed at Shovel Test 47

Stratum	Depth (cmbs)	Description of Sediments
I	0-10	Grass and topsoil; 10YR 3/3, dark brown; sandy loam; weak, medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine to coarse roots.
IIa	10-38	Buried A horizon; 10YR 3/3, dark brown; sandy loam; weak, fine to medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; many fine to coarse roots;
IIb	38-62 (BOE)	Natural jaucas sand; 10YR 6/6, brownish yellow; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few medium to coarse roots.

4.2.58 Shovel Test 48

Shovel Test 48 was located at the northwest end of the project area. The shovel test had a diameter of 0.40 m and was 0.50 m deep. The stratigraphy of Shovel Test 48 consisted of grass over sandy loam (Stratum I) overlying a sandy loam buried A horizon (Stratum IIa) overlying natural sand (Stratum IIb) (Figure 147, Figure 148, and Table 63). The buried A horizon (Stratum IIa) is incorporated into SIHP # -791, a pre-Contact cultural layer and burials originally identified by Perzinski et al. (2001).

Figure 147. Photograph of Shovel Test 48, view north

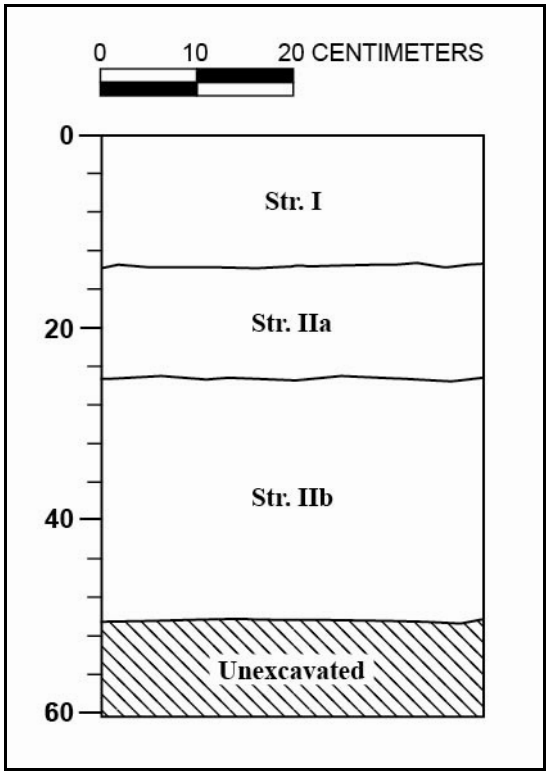

Figure 148. Shovel Test 48 profile

Table 63. Stratigraphy Observed at Shovel Test 48

Stratum	Depth (cmbs)	Description of Sediments
I	0-13	Grass and topsoil; 10YR 4/3, brown; sandy loam; weak, fine to medium, granular structure; dry, weakly coherent consistency; non-plastic; mixed origin; clear, smooth lower boundary; common fine to coarse roots.
IIa	13-25	Buried A horizon; 10YR 2/2, very dark brown; loamy sand; single-grain; dry, loose consistency; non-plastic; mixed origin; diffuse, smooth lower boundary; few fine roots; charcoal present; cultural layer, incorporated into SIHP # -791.
IIb	25-50 (BOE)	Natural jaucas sand; 10YR 8/2, very pale brown; fine- to medium-grain sand; single-grain; dry, loose consistency; non-plastic; marine origin; lower boundary not visible; few very fine to medium roots.

4.3 Site Descriptions

Two new historic properties (burials) were documented within the project area during this AIS. Additionally, one, and sometimes two, pre-Contact cultural layers were observed in most test units excavated within the project area. These cultural layers were incorporated into existing SIHP designations that were present in or near the project area. The historic properties are summarized in Table 64, descriptions are given below, and their locations are depicted on Figure 149.

Table 64. Table of Historic Properties Identified within the Current Project Area

SIHP #	Description
TBD	CSH Burial 1 (human interment)
TBD	CSH Burial 2 (human interment)
50-30-08-791	Subsurface cultural layer (activity area) and associated burials (human interment)
50-30-08-1800	Subsurface cultural layers (activity areas) and associated burials (human interment)
50-30-08-1801	Subsurface cultural layer (activity area) and associated burials (human interment)

4.3.1 CSH Burial 1 (SIHP # TBD)

CSH Burial 1 (SIHP # TBD) is a primary human burial that was observed within Trench 2 near the north end of the project area (Table 65). The burial was encountered within a burial pit at a depth of 113 cmbs. The burial appears to be flexed, with the head towards the west. This burial is likely pre-Contact to early post-Contact in age. The individual appears to have been a juvenile at time of death, based on observed unfused epiphyses. A complete analysis of the burial was not undertaken. This site is significant according to Criteria D and E of the Hawai‘i Register of Historic Places.

Table 65. CSH Burial 1 (SIHP # TBD) description

Formal Type	Inhumation
Functional Interpretation	Human Burial
No. of Features	1
Age:	Pre-Contact/Early Post-Contact
Current Dimensions	Approximately 70-x-55 cm
Location	Trench 2 near the north end of the project area
Tax Map Key	[4] 4-3-007:026
Land Jurisdiction	State of Hawai‘i, County of Kaua‘i

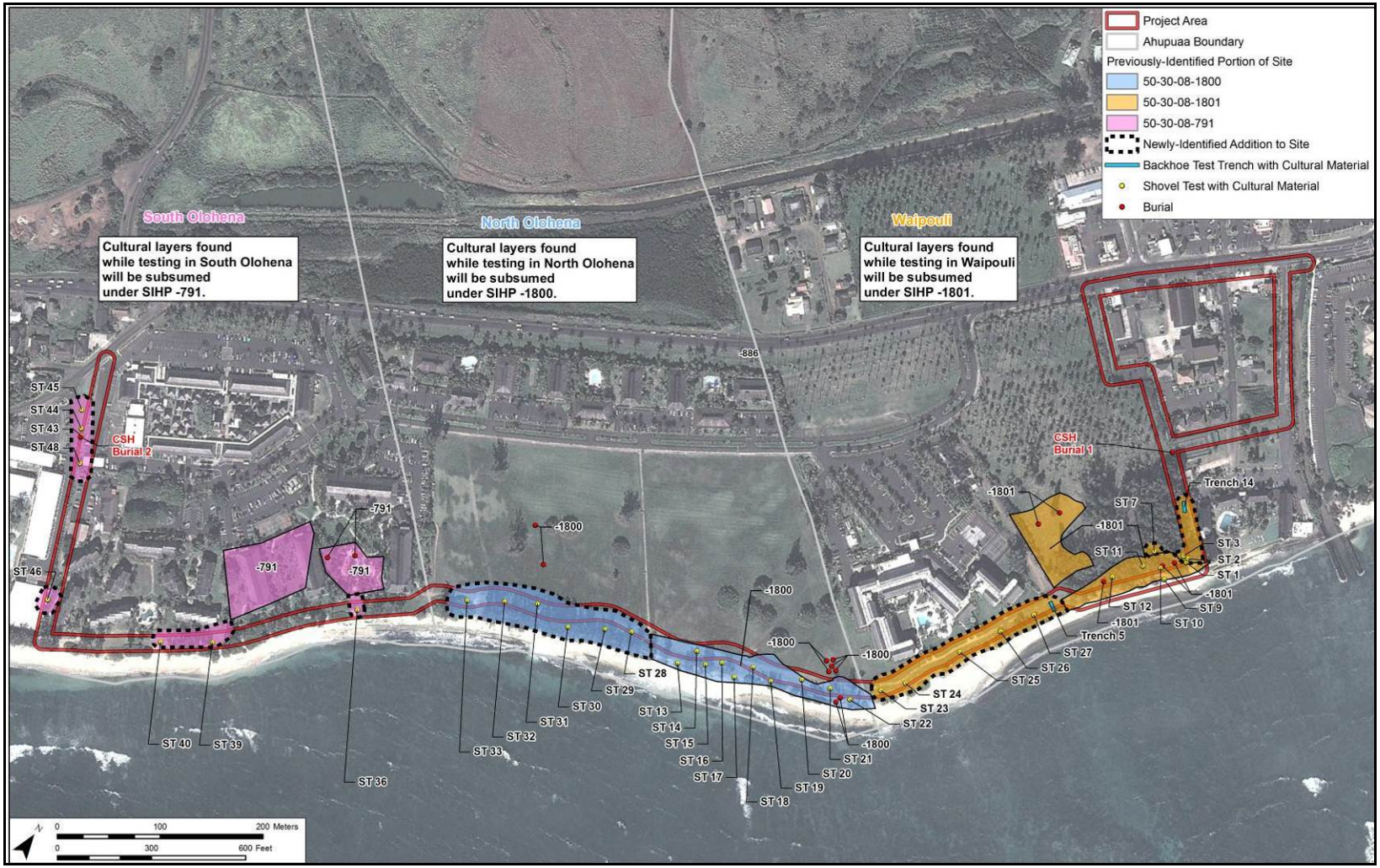

Figure 149. Locations of new historic properties and newly-identified portions of historic properties within the project area (base map: 1996 U.S. Geological Survey 7.5-minute topographic map, Kapa‘a quadrangle)

4.3.1 CSH Burial 2 (SIHP # TBD)

CSH Burial 2 (SIHP # TBD) is a previously disturbed human burial that was observed within Shovel Test 43 in the southwest corner of the project area (Table 66). The burial was located adjacent to an old utility line; the installation of the utility line appears to have disturbed the burial. A partial, disturbed burial pit was also observed. The burial was encountered at a depth of 50 cmbs. The positioning of the body is unknown due to the previous and the fact that once the burial was identified as humen is was not further uncovered or examined. The individual appears to have been an adult at time of death. Basalt flakes were observed in the vicinity of the burial, but not directly associated with it. This burial is likely pre-Contact to early post-Contact in age. This site is significant according to Criteria D and E of the Hawai‘i Register of Historic Places.

Table 66. CSH Burial 2 (SIHP # TBD) description

Formal Type	Inhumation
Functional Interpretation	Human burial
No. of Features	1
Age:	Pre-Contact/Early Post-Contact
Current Dimensions	Approximately 18-x-4 cm
Location	Shovel Test 43 near the west end of the project area
Tax Map Key	[4] 4-3-002:012
Land Jurisdiction	State of Hawai‘i, County of Kaua‘i

4.3.2 SIHP # 50-30-08-791

SIHP # 50-30-08-791 was originally designated by Perzinski et al. (2001) to refer to “a cultural layer in the northeastern portion of the Kaua‘i Coast Resort property” in South Olohena Ahupua‘a (Perzinski et al. 2001:36). Subsequently, all identified cultural layers within test units excavated in South Olohena Ahupua‘a during the current project have been subsumed under this SIHP designation.

According to Perzinski and colleagues, the cultural layer contained charcoal, shell midden, and fish bone, as well as several traditional Hawaiian artifacts (2001:36-38). Additionally, two human burials, believed to be pre-Contact, were observed within SIHP # -791. One burial consisted of an isolated humerus portion, while the other burial was a complete, primary burial (Perzinski et al. 2001:36-38). Radiocarbon dating of a charcoal sample returned a date range of A.D. 1275 to 1645.

During the current investigation, cultural layers were observed in eight test units (Shovel Tests 36, 39-40, 43-46, 48) within South Olohena Ahupua‘a. The cultural layer began from 10-55 cmbs and ended from 21-61 cmbs. The cultural layer contained variable amounts of charcoal, shell midden, basalt flakes, and coral. Additionally, one primary human burial was observed at the base of the cultural layer (see Section 4.3.2, above). This site is significant according to Criteria D and E of the Hawai‘i Register of Historic Places.

Table 67. SIHP # 50-30-08-791 description

Formal Type	Cultural layer
Functional Interpretation	Activity area
No. of Features	1
Age:	Pre-Contact
Current Dimensions	Roughly 327-x-160 m
Location	South Olohena Ahupua‘a, along the coast
Tax Map Key	[4] 4-3-001
Land Jurisdiction	State of Hawai‘i, County of Kaua‘i

4.3.1 SIHP # 50-30-08-1800

SIHP # 50-30-08-1800 was originally designated by Rosendahl and Kai (1990) to refer to "two subsurface cultural deposits (upper and lower) present at the shoreline" within their Development Site 4 project area parcel in North Olohena Ahupua‘a (Rosendahl and Kai 1990:8). Subsequently, all identified cultural layers within test units excavated in North Olohena Ahupua‘a during the current project have been subsumed under this SIHP designation.

According to Rosendahl and Kai, their deposits contained variable amounts of charcoal, ash, fire-cracked rock, shell midden, and fish bone, and the lower deposit contained a number of traditional Hawaiian artifacts (1990:8). Additionally, three primary human burials, believed to be pre-Contact, were observed within SIHP # -1800, and left in place (Rosendahl and Kai 1990:12). Radiocarbon dating of several charcoal samples returned a date range of A.D. 1270 to 1954; however, "the dates should be viewed with some caution, as the chronological sequence they present is not congruent with the stratigraphic sequence of the layers from which the samples were derived" (Rosendahl and Kai 1990:13).

During the current investigation, cultural layers were observed in 16 test units within North Olohena Ahupua‘a. Eleven test units (Shovel Tests 13-14, 16, 18-20, 22, 28, 31-33) contained one cultural layer, while five test units (Shovel Tests 15, 17, 21, 29-30) contained two cultural layers. In test units with only one cultural layer, the stratum began from 2-47 cmbs and ended from 23-128 cmbs. In test units with two cultural layers, the upper stratum began from 9-20 cmbs and ended from 28-75 cmbs, while the lower stratum began from 32-76 cmbs and ended from 38-84 cmbs. The cultural layers contained variable amounts of charcoal, shell midden, fire-cracked rock, and basalt flakes. One traditional Hawaiian artifact, a coral file, was identified. This site is significant according to Criteria D and E of the Hawai‘i Register of Historic Places.

Table 68. SIHP # 50-30-08-1800 description

Formal Type	Cultural layer
Functional Interpretation	Activity area
No. of Features	1
Age:	Pre-Contact
Current Dimensions	Roughly 405-x-62 m
Location	North Olohena Ahupua‘a, along the coast
Tax Map Key	[4] 4-3-002
Land Jurisdiction	State of Hawai‘i, County of Kaua‘i

4.3.1 SIHP # 50-30-08-1801

SIHP # 50-30-08-1801 was originally designated by Rosendahl and Kai (1990) to refer to "one (possibly two) subsurface cultural deposit(s)" within their Development Site 6 project area parcel in Waipouli Ahupua‘a (Rosendahl and Kai 1990:8). Subsequently, all identified cultural layers within test units excavated in Waipouli Ahupua‘a during the current project have been subsumed under this SIHP designation.

According to Rosendahl and Kai, the deposit(s) contained variable amounts of charcoal, fire-cracked rock, shell midden, and fish and mammal bone, as well as a number of traditional Hawaiian artifacts (1990:8). Additionally, five primary human burials, believed to be pre-Contact, were observed within SIHP # -1801, and left in place (Rosendahl and Kai 1990:12). Radiocarbon dating of several charcoal samples returned a date range of A.D. 1430 to 1955; however, "the dates should be viewed with some caution, as the chronological sequence they present is not congruent with the stratigraphic sequence of the layers from which the samples were derived" (Rosendahl and Kai 1990:13).

A subsequent data recovery project of SIHP # -1801 by Toenjes et al. (1991) indicated the presence of shell midden and numerous traditional Hawaiian artifacts, including basalt flakes and adze fragments, hematite flakes, volcanic glass, coral and urchin spine tools, fishhooks and modified bone and shell, and several bone awls or picks (Toenjes et al. 1991:i). Radiocarbon dating of several charcoal samples returned a date range of A.D. 1420 to 1950.

During the current investigation, a cultural layer was observed in 18 test units (Test Trenches 5, 14 and Shovel Tests 1-3, 7, 9-12, 23-27) within Waipouli Ahupua‘a. The cultural layer began from 0-33 cmbs and ended from 28-70 cmbs. The cultural layer contained variable amounts of charcoal, shell midden, fire-cracked rock, and coral cobbles. This site is significant according to Criteria D and E of the Hawai‘i Register of Historic Places.

Table 69. SIHP # 50-30-08-1801 description

Formal Type	Cultural layer
Functional Interpretation	Activity area
No. of Features	1
Age:	Pre-Contact
Current Dimensions	Roughly 350-x-135 m
Location	Waipouli Ahupua‘a, along the coast
Tax Map Key	[4] 4-3-007
Land Jurisdiction	State of Hawai‘i, County of Kaua‘i

Section 5 Results of Laboratory Analysis

One isolated find was observed during the current AIS and was collected and transported to the CSH laboratory in Waimānalo, O‘ahu for detailed analysis. This item will remain temporarily curated at the CSH storage facility in Waimānalo until a permanent facility is determined in consultation with the landowner. The find is described below.

A single artifact, a coral file, was observed during fieldwork activities for the current project (Figure 150). The coral file was found within Stratum IIa (cultural layer, part of SIHP # -1801) of Shovel Test 14 (see Figure 149 for location). The file has maximum dimensions of 60 mm long, 29 mm wide, and 13 mm thick, and it has a mass of 19.1 grams. The long edges of the file have been filed. This artifact has characteristics which indicate traditional Hawaiian manufacture.

Figure 150. Photograph of coral file found within Stratum IIa (cultural layer, part of SIHP # 50-30-08-1801) of Shovel Test 14

Section 6 Summary and Interpretation

In compliance with and to fulfill applicable Hawai‘i State historic preservation legislation, CSH conducted an archaeological inventory survey for Phases C and D of the Lydgate-Kapa‘a Bike and Pedestrian Path Project, located in South Olohena, North Olohena, and Waipouli Ahupua‘a, on the island of Kaua‘i. The fieldwork component of the AIS was conducted between July 25 and August 6, 2012 and on September 11, 2012. The subsurface testing program included the excavation of 58 test units (48 small shovel tests and 10 larger test trenches).

The project area’s subsurface deposits are fairly undisturbed. In most cases, only landscaping and grading fill has disturbed, partially removed, or been placed on top of the natural sandy loam or sand sediments, much of which has been related to resort development along the coast. Buried, pre-Contact A horizons were evident in many of the test units. In general, the observed and documented stratigraphy consisted of the following sequence: 1) grass, organic matter, or asphalt; 2) various fill layers, such as landscaping and grading fill; 3) a sandy, buried A horizon; and 4) natural jaucas sand. In some instances, layers of wind-deposited or high surf-deposited natural sand were observed.

The majority of documented buried A horizons encountered within the project area contained cultural material. This included charcoal, shell midden, fire-cracked rock, basalt flakes, coral, and one human burial. This cultural layer was designated into three separate SIHP numbers based on pre-existing historic properties and location: SIHP #s 50-30-08-791, 50-30-08-1800, and 50-30-08-1801. Due to the lack of discrete features appropriate samples for carbon dating were not recovered.

Two new historic properties were documented within the project area during the current AIS investigation (SIHP #s TBD), both believed to be traditional Hawaiian burials.

The findings of the current study are consistent with findings reported in previous archaeological investigations: intact, subsurface cultural layers and a high frequency of burials. These suggest a long occupation spanning several centuries, with evidence of a range of activities. The observed cultural layers and human burials suggest extensive use of the coastline in this area, beginning approximately A.D. 1400–1500.

Section 7 Significance Assessments

Two new historic properties were identified within the current project area. Additionally, cultural layers observed during the current AIS were incorporated into three pre-existing SIHP designations. Table 70 lists all historic properties encountered within the project area along with their significance assessment and mitigation recommendation. To be considered eligible for listing on the Hawai‘i Register of Historic Places, a historic property must possess one or more of the following: integrity of location, design, setting, materials, workmanship, feeling, and/or association, and meet one or more of the following broad cultural/historic significance criteria:

A Historic property reflects major trends or events in the history of the state or nation.

B Historic property is associated with the lives of persons significant in our past.

C Historic property is an excellent example of a site type.

D Historic property has yielded or may be likely to yield information important in prehistory or history.

E Historic property has cultural significance to an ethnic group, including, but not limited to, religious structures, burials, and traditional cultural properties.

Table 70. Description of Historic Properties Encountered within the Current Project Area

SIHP #	Description	Significance Assessment	Mitigation Recommendation
TBD	CSH Burial 1 (human interment)	Significant according to Criteria D and E	Preparation of a burial treatment plan and an archaeological monitoring program for the vicinity
TBD	CSH Burial 2 (human interment)	Significant according to Criteria D and E	Preparation of a burial treatment plan and an archaeological monitoring program for the vicinity
50-30-08-791	Subsurface cultural layer (activity area) and associated burials (human interment)	Significant according to Criteria D and E	No further site-specific work but an archaeological monitoring program for the vicinity
50-30-08-1800	Subsurface cultural layers (activity areas) and associated burials (human interment)	Significant according to Criteria D and E	No further site-specific work but an archaeological monitoring program for the vicinity
50-30-08-1801	Subsurface cultural layer (activity area) and associated burials (human interment)	Significant according to Criteria D and E	No further site-specific work but an archaeological monitoring program for the vicinity

Section 8 Project Effect and Mitigation Recommendations

8.1 Project Effect

CSH's project-specific effect recommendation is "effect, with proposed mitigation commitments" (in accordance with HAR 13-284-7). The recommended mitigation measures will reduce the project's effect on significant historic properties that were identified within the project area and be pro-active in addressing possible community concerns.

8.2 Mitigation Recommendations

This archaeological inventory survey represents a good-faith effort to identify and document the historic properties within the project area. Due to inherent limitations of any sampling strategy, it is possible that additional historic properties, potentially including additional human skeletal remains and non-burial archaeological deposits, may be encountered during project-related development. In order to mitigate any potential damage to known documented or yet unidentified historic properties, it is recommended that project construction proceed under an archaeological monitoring program. This monitoring program will facilitate the identification and proper treatment of any additional burials that might be discovered during project construction, and will gather additional information regarding the project's non-burial archaeological deposits, should any be discovered.

CSH recommends that the two burials identified during the AIS (SIHP #s TBD) be treated in according to the provisions of a burial treatment plan prepared in compliance with HAR 13-300-33. The multi-use path should also be situated to avoid, as much as possible, SIHP #s 50-30-08-791, 50-30-08-1800, and 50-30-08-1801 (cultural layers and associated burials identified by previous studies).

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Appendix D

Cultural Impact Assessment for Lydgate Park-Kapaʻa Bike and Pedestrian Path Phases C & D, CMAQ-0700(49), South Olohena, North Olohena and Waipouli Ahupuaʻa, Kawaihau District, Kauaʻi Island, TMK: [4] 4-3-001, 002, and 007: Various

Prepared by Kuhio Vogeler, Margaret Magat, and Hallett H. Hammatt
[Cultural Surveys Hawaii, Inc.], January 2012

Cultural Impact Assessment
for Lydgate Park-Kapaa Bike & Pedestrian Path Phases C&D, CMAQ-0700(49),
South Olohena, North Olohena and Waipouli Ahupua‘a
Kawaihau District, Kaua‘i Island
TMK: [4] 4-3-001, 002, and 007:various

Prepared for
Kimura International, Inc.

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Prefatory Remarks on Language and Style

A Note about Hawaiian and other non-English Words:

Cultural Surveys Hawai_i (CSH) recognizes that the Hawaiian language is an official language of the State of Hawai_i, it is important to daily life, and using it is essential to conveying a sense of place and identity. In this report, CSH uses italics to identify and highlight all foreign (i.e., non-English and non-Hawaiian) words. Italics are only used for Hawaiian words when citing from a previous document that italicized them. CSH parenthetically translates or defines in the text the non-English words at first mention, and the commonly-used non-English words and their translations are also listed in the *Glossary* (Appendix A) for reference. However, translations of Hawaiian and other non-English words for plants and animals mentioned by community participants are referenced separately (see explanation below).

A Note about Plant and Animal Names:

When community participants mention specific plants and animals by Hawaiian, other non-English, or common names, CSH provides their possible scientific names (Genus and species) in the *Common and Scientific Names of Plants and Animals Mentioned by Community Participants* (Appendix B). CSH derives these possible names from authoritative sources, but since the community participants only name the organisms and do not taxonomically identify them, CSH cannot positively ascertain their scientific identifications. CSH does not attempt in this report to verify the possible scientific names of plants and animals in previously published documents; however, citations of previously published works that include both common and scientific names of plants and animals appear as in the original texts.

Abbreviations

APE	Area of Potential Effect
CIA	Cultural Impact Assessment
CSH	Cultural Surveys Hawai_i
DPW, PW	State of Hawai_i, Public Works Division
DOH/OEQC	Department of Health/Office of Environmental Quality Control
FEA	Final Environmental Assessment
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GPS	Global Positioning System
HAR	Hawai_i Administrative Rules
HRS	Hawai_i Revised Statutes
KNIBC	Kaua_i/Ni_ihau Island Burial Council
LCA	Land Commission Award
OHA	Office of Hawaiian Affairs
RM	Registered Map
SDEA	Supplemental Draft Environmental Assessment
SHPD	State Historic Preservation Division
SIHP	State Inventory Historic Property
TCP	Traditional Cultural Property
TMK	Tax Map Key
U.S.	United States

Management Summary

Reference	Cultural Impact Assessment for Lydgate Park–Kapa_a Bike and Pedestrian Path, Phases C and D, CMAQ-0700(49), South Olohena, North Olohena and Waipouli Ahupua_a, Kawaihau District, Kaua_i Island, TMK: [4] 4-3-001, 002, and 007:various (Vogeler, Magat and Hammatt 2012)
Date	January 2012
Project Number	Cultural Surveys Hawai_i (CSH) Job Code: WAIPOULI 4
Project Location	The Proposed project is on the makai side (ocean side) of Kūhiō Highway, extending from Papaloa Road to Waipouli Beach Resort.
Land Jurisdiction	State of Hawai_i, County of Kaua_i
Agencies	State of Hawai_i Department of Land and Natural Resources/State Historic Preservation Division (DLNR/SHPD); State Office of Environmental Quality Control (OEQC); U.S. Department of Transportation, Federal Highway Administration
Project Description	The proposed Project area extends from Papaloa Road, between Kauai Sands Hotel and the Aston Islander on the Beach, north through the County's beach reserve and along the coastal bench makai of the undeveloped parcels and Courtyard Kauai Coconut Beach (formerly Kauai Coconut Beach Resort). The Project area continues just mauka (inland) of Mokihana of Kaua_i and the Bullshed Restaurant (currently a parking lot) and along the southern bank of Uhelekawawa Canal (currently a landscaped strip) to Kūhiō Highway. The Project area crosses Uhelekawawa Canal as a cantilevered attachment to the existing highway bridge or an independent single span bridge, where it would connect to the existing multi-use path at Waipouli Beach Resort
Project Acreage	Approximately 8.6 acres
Area of Potential Effect (APE) and Survey Acreage	For the purposes of this Cultural Impact Assessment (CIA), the APE is defined as the specific area of the Lydgate Park–Kapa_a Bike and Pedestrian Path Phases C&D, CMAQ-0700(49). While this report is focused on the Project APE, this study area includes the entire South Olohena, North Olohena and Waipouli Ahupua_a

Document Purpose	The Project requires compliance with the State of Hawai_i environmental review process (Hawai_i Revised Statutes [HRS] Chapter 343), which requires consideration of a proposed Project's effect on cultural practices and resources. At the request of Kimura International, Inc., CSH conducted this CIA. Through document research and ongoing cultural consultation efforts, this report provides information pertinent to the assessment of the proposed Project's impacts to cultural practices and resources (per the *Office of Environmental Quality Control's Guidelines for Assessing Cultural Impacts*) which may include Traditional Cultural Properties (TCP) of ongoing cultural significance that may be eligible for inclusion on the State Register of Historic Places, in accordance with Hawai_i State Historic Preservation Statute (Chapter 6E) guidelines for significance criteria (HAR §13-275) under Criterion E. The document is intended to support the Project's environmental review and may also serve to support the Project's historic preservation review under HRS Chapter 6E-42 and Hawai_i Administrative Rules (HAR) Chapter 13-275
Community Consultation	Throughout the course of this assessment, an effort was made to contact and consult with Hawaiian cultural organizations, government agencies, and individuals who might have knowledge of and/or concerns about traditional cultural practices specifically related to the Project area. This effort was made by letter, email, telephone and in-person contact. The initial outreach effort was started in November 2010 and ended on December 2012
Results of Background Research	Background research for this Project yielded the following results: 1. Although Waipouli and Olohena (north and south) hold significance individually, it is their proximity to Wailua Ahupua_a, which helps to define their importance. Because Wailua was the religious and political center of Kaua_i, mo_olelo (story, history) abound related to the area. Using illustrative place names of Waipouli, Wichman introduces the notion of a Mokuna-hele**,** or ~~t~~raveling district" (Wichman 1998:82). While the scope of this CIA is focused primarily on Olohena (North and South) and Waipouli, Wailua is of such significance that many of the mo_olelo pertaining to the wahi pana (legendary place) of Wailua are included herein, such as the story of Kaumuali_i, the legend of Kawelo, and the story of Māui. 2. The place names of the area also refer to water resources. Waipouli means the ~~d~~ark water" (Pukui, Elbert, and Mookini 1974; Wichman: 1998; Thrum 1922). The boundary between Waipouli and Kapa_a is **Ka-lua-pā-lepo**, ~~p~~it for dirty dishes;"

between Waipouli and Olohena is **Kaunana-wa‘a**, ~~–m~~ooring place for canoes" (bold in original; Wichman 1998:82). Waipouli is also noted for Mākaha-o-Kūpānihi, ~~–a~~ deep pool set aside for the ali_i (chief) to bathe in" (Wichman 1998:83). Farther down the coast is Wailua.

The most popular and literal meaning of the place name Wailua is ~~–t~~wo waters," perhaps referring to the two main forks (north and south) that flow together to form the Wailua River. However; as Lyle Dickey forcefully clarifies (1917:15), ~~–th~~is explanation never seems to occur to a native Hawaiian." Instead, Dickey and Kamakau refer to the chief, Wailua-nui-haono, as the source for the name (1917:14). Other meanings include ~~–w~~ater pit" referring to the pools at the bottom of several waterfalls along the river's course (Damon 1934:360). The social, religious, and political importance of Wailua, in part, appears to be related to the water resources of the river and nearby area.

3. Wailua (particularly coastal Wailua) was known as a pu_uhonua or place of refuge (Smith 1955:15). Pu_uhonua were places of peace and safety for transgressors and non-combatants in times of strife. _I_ī (1959: 138) specifically states that Holoholokū was a pu_uhonua, a place ~~–t~~o which one who had killed could run swiftly and be saved." Wichman (1998:70) asserts that the pu_uhonua was at Hikina-a-ka-lā while Dickey (1917:15) maintains that the pu_uhonua was actually at neighboring Hauola.
4. A portion of the mo_olelo of Kawelo relates to Waipouli, as well as North and South Olohena. In Green and Pukui‘s account, Kawelo‘s brother, Kamalama, distributes the lands in the ~~–p~~lain between Waipouli and Wailua which Ka-ma-la-ma had selected as s suitable place" for settlement.
5. Maps from the 1800s indicate that that a shoreline trail once crossed all four ahupua_a (land division, usually from the uplands to the sea). As early as 1833, a map by Ursula Emerson shows a coastal trail near the Project area (Figure 11; Emerson 1833:107). An 1878 Government Survey Map by C. S. Kittredge, shows that this trail just mauka of the Project area has perhaps become a road (Figure 12). By 1910, the course of this trail appears to have become a road, the contours of which closely match the current Kūhiō Highway (Figure 13).
6. Kukui Heiau lies very close to the Project area: ~~–K~~ukui, ~~–c~~andlenut tree" or ~~–e~~nlightenment," was a huge walled heiau (shrine, temple) located on the headland of Lae-_ala-kukui,

	~~p~~oint of the scent of kukui" (Wichman 1998:83). Flores, in his *Historical Research of the Coco Palms Property* (2000), describes a connection between Kukui Heiau and Hikinaakalā Heiau in Wailua: ~~A~~lthough this site is in the *ahupua'a* of Olohena, it provides an alignment with Hikinaakalā in delineating the confines of this safeguarded bay" (Flores 2000:II-6). Kukui Heiau was placed on the National Register of Historic Places on May 18, 1987 (NRIS #8600027: National Register). 7. Archaeological research shows that burials are likely to be found in the sandy areas near the beach. Besides the burial ground at Coco Palms, previous archaeological studies (see Table 1) indicate that in the last 20 years at least 69 burials have been uncovered in the makai Wailua to Waipouli area. Five studies lie directly north of the Project area, on the Golding property (State Inventory Historic Property or SIHP # 50-30-08-1836): Folk et al. 1991, Hammatt 1992, Hammatt et al. 2000, Ida et al. 2000, McCurdy and Hammatt 2008 (Figure 16). Burials, artifacts, and features were found during these studies. According to Hammatt (1992) and McCurdy and Hammatt (2008), a total of 50 burials were unearthed at this site. Nearly four hundred artifacts (396) were recovered, and the site assigned SHIP # 50-30-08:1836 (Figure 10). In 1991, Cultural Surveys evaluated the site as ~~b~~being culturally significant (Criterion E) because of the association of humans [sic] burials in *makai* areas of the site" (Hammatt 1991b:52). The Rosendahl and Kai study (1990), directly under a portion of the Project area, also found a cultural layer and burials. In addition, the Perzinski et al. study (2001), further south, but still under the Project area, also found a cultural layer and burials. 8. R. Lane's 1929 map, traced from a M. D. Monsarrat map based upon an 1886 survey, charts the disposition of the ten Land Commission Awards (LCAs) of Waipouli (Figure 19). Eight of the awards included separate ā̲pana (parcels) for taro lo̲i (Irrigated terrace, especially for taro) and pāhale (house lots). Kula (pasture) and lo̲i associated with these awards were located within and adjacent to the extensive swamp. No one in the claims mentions sweet potatoes, although Handy and Handy (1972:424) suggested they would have been grown along the coastal plain. 9. The 1893 C. J. Willis Map (Figure 20), along with the Lane's 1929 LCA map of a portion of Olohena (Figure 19), and the LCAs on the 1996 US Geological Survey Map (Figure 17)

	together show North Olohena made up mostly of Kiaimoku's grant, and South Olohena of Grant 5264 to R. P. Spaulding for Lihue Plantation (419 Acres). The one LCA claimed and granted is inland on Konohiki Stream (LCA 3831; see Table 3 and Figure 17, Figure 19 and Figure 20). 10. By 1935, Handy (1940:67) found no kalo (taro) being cultivated. The terraces had been taken up by rice, sugar cane, sweet potato and pasture. However, Handy (1940) explains that, ~~"~~Waipouli, Olohena (North and South), and Wailua are ahupua_a with broad coastal plains bordering the sea, any part of which would be suitable for sweet potato plantings; presumably a great many used to be grown in this section. There are a few flourishing plantations in Wailua at the present time" (Handy:153). 11. After 1898, with the influx of American citizens to Hawai_i, according to Edward Joesting, in *Kaua'i: A Separate Kingdom*, real estate values rose and sugar plantation increased. By the mid-1900s, with greater interisland plane travel, development continued on Kaua_i. By the 1970s, there was ~~"a~~ Kaua_i-wide rule banning high-rise development" (Beacon:20). By the 1990s, ~~"th~~e backshore of Waipouli Beach is lined with long rows of tall ironwood trees. A shoreline pedestrian trail is used by strollers and joggers…. Although most of the Waipouli shoreline is developed or privately owned, six public rights of way provide access to the beach. They are all marked and easy to locate" (Clark 1990:9).
Results of Community Consultation	Kama_āina (Native-born, one born in a place) and kūpuna (elders) with knowledge of the proposed Project and study area participated in semi-structured interviews for this CIA in February 2011. CSH attempted to contact 41 individuals for this CIA report, of which 14 responded via email or phone, five provided written statements (two of which are OHA and SHPD responses), four participated in formal, individual interviews and ten participated in a group interview. As of this writing, the group interview has not been approved for this report. Thus, 17 people were interviewed for this report. A summary of the information gathered from the community consultation is presented below with a breakdown of specific cultural resources: 1. The Project area and environs, in particular the shoreline, has a long history of use by Kānaka Maoli (Native Hawaiians) and other kama_āina (Native-born) groups for a variety of past and present cultural activities and gathering practices. Several

participants discussed the spiritual nature of Wailua and its numerous wahi pana, sharing mo olelo about heiau, pōhaku (rock), iwi (bones), and the activities of spirit people. Community interviewees noted the importance of wai or water and abundance of marine resources such as tilapia, mullet, spiny lobster and a ama crab, traditional fishing methods and the preparation of chum, the need to respect iwi kūpuna (bones of ancestors) and other cultural resources, and the observance of correct protocol and attitude in beginning a project.

2. **Wahi Pana.** The responses regarding wahi pana and mo olelo relate primarily to Wailua Ahupua a. As Mr. Milton K. C. Ching explains: "In the old days, there were no boundaries. Although there were boundaries in maps that say this is Waipouli, this is Wailua, this is Kapa a, Hawaiians that lived here traversed back and forth for fishing and stuff. There wasn't really a boundary. They survived and lived." Thus, the wahi pana and mo olelo of the area draw few distinctions between Waipouli, Olohena (North and South), and Wailua Ahupua a. Both OHA and SHPD letters suggest that cumulative impacts of the Project on both known and unknown traditional practices and cultural resources should be addressed due to the spiritual nature and fragile character of the Project area.

For this Project, the specificity regarding phases C and D of this multi-use path does not seem to resonate with many of those consulted for this study. Some describe the cumulative impact of projects as an atmosphere of unresolved sadness, indicated specifically in OHA's letter. There are individual ahupua a and separate wahi pana, but some responses (OHA, SHPD, Mr. Diego-Josselin, Mr. Ako, Mr. Ching) draw connections between wahi pana, linking Waipouli, Olohena and Wailua into one larger context.

3. **Wai (Water, Liquid).** In one interview, Makaīwa and Papaloa are the off-shore resources specifically identified as impacted by the Lydgate Park–Kapa a Bike and Pedestrian Path, Phases C and D. Ms. Sophronia Noelani Diego-Josselin, in her reference to the *Declaration on the Rights of Indigenous Peoples*, further mentions the right of Indigenous Peoples "to maintain and strengthen … waters and coastal seas and other resources." SHPD, in its statement, discusses the need for access to water resources: "The department is mindful that traditional access in the project area to cultural places mauka for resources in the general ahupua a and/or to the ocean should be considered in your study that may impact the general community as well as cultural practitioners."

Mr. Ching, in his interview, describes Uhelekawawa Canal and the fish, like tilapia and mullet, in that shallow waterway. The Project would pass directly over this canal.

The importance of these water resources may be summarized in the Kawalo mo olelo, which is an account regarding the protection of fishermen and fishing. Smith explains the advice from the old man who saw Kawalo turn into a shark once he learned from passersby of their intent to go fishing: "He [the old man] said that from then on, never to tell anyone when they were going fishing. If anyone asked, they were to say they were going awana (also auana, auwana: wandering), or going wandering, but never to say they were going fishing" (Smith 1955:8). The advice is that fishing, and water resources, should be kept secret for fear that others may use that information. Though all may not be known of these water resources, the maintenance of these areas is important for the Project and for the community that lives near this Project.

4. **Historical and Cultural Properties.** The responses from OHA, SHPD, Ms. Diego-Josselin, as well as archaeological sites and studies in the area, all indicate that historic properties are a primary concern for this Project. Ms. Diego-Josselin summarized the cultural concerns regarding these sites in the following paragraph:

   > Native Hawaiian's religion and spirituality are rooted in the land or AINA. Sacred sites provide the physical foundation for mo'olelo or stories, that connect each new generation to their ancestors and weaves them into their culture and defines their identity. The protection of sacred sites, and defending the ability to conduct rituals and ceremonies at these sites in **privacy and without disruption**, are therefore vital to maintaining and passing from generation to generation the distinct identities, traditions, and histories of our people.

5. **Heiau.** The heiau closest to the Project area is Kukui Heiau. Ms. Diego-Josselin asserts that there has been a "[f]ailure to provide adequate Parking for those wishing to visit Kukui Heiau for traditional customary practices." Ms. Diego-Josselin also contends that Kukui Heiau should be included within the Wailua Complex of Heiau, echoing studies that show the alignment of heiau such as Kukui Heiau to others like Hikinaakalā in Wailua (Flores 2000:II-6).

Historically, there were more heiau in Wailua than in other ahupua a on Kaua i (Bennett 1931). This fact is significant for some community participants. Mr. Ching, during his interview, noted this genealogical, cultural and psychological link between the

people of Waipouli and Olohena and the heiau of Wailua.

Heiau offer a larger cultural and psychological link to for many people in this study and for communities of these ahupua a. These heiau, as the focal point of the Wailua through Waipouli community, help expand the context for discussion of cultural impacts.

6. **Ilina (Grave).** Ilina are the main concern of the community participants interviewed for this study. Ilina offer a substantive genealogical link to the ancestors and the land. At least five participants in this CIA specifically mention the possibility of finding burials within the Project area.

Noting that he does not agree with some decisions made by the Kaua i/Ni ihau Burial Council, Mr. Ching states his preference for preserving burials in place. Ms. Cheryl Lovell-Obatake recommends ~~S~~HPD and PW [Kaua i County, Public Works Division] require that the applicant have a certified archaeologist on site during any and all ground/underground disturbances; such as extracting of trees and relocating them. I am concerned about Native Hawaiian burials and funerary objects connected to Native Hawaiian burials."

Both Mr.Valentine Ako and Mrs. Beverly Muraoka caution that more iwi (bones) will be found in the current Project area. Mr. Ako believes that there will likely be graves found in the sandy areas of the Project area and Mrs. Muraoka relates the same concern. Both of them note the possibility of finding more iwi in Coco Palms. Mr. Ako emphasizes that iwi found in the ahupua a must stay in that ahupua a. If iwi are discovered, he recommends keeping them in place in the ahupua'a where they were found, preferably in an inconspicuous place and then holding a good burial service.

OHA similarly cautions about the discovery of bones along the beach. And SHPD is ~~c~~oncerned with any ground disturbance work which may uncover burials or burial sites in sandy areas such as this project."

7. ***Ala Hele* (Pathway, Route, Road).** Regarding the course of the multi-use path, there were varying opinions. Mr. Ako contends that the area by the Coconut Marketplace will need a stoplight there or an overpass, ~~b~~ecause traffic is so heavy, that there could be accidents." He believes the traffic should be on Papaloa Road before it goes down to Kauai Sands Hotel. Mr. Ching remains skeptical about the viability of the proposed multi-use path, noting lack of users in a previous path near the beach. Mrs. Sally Jo Manea has specific recommendations for

	the multi-use path, calling for buffers in areas where the cars and people are going to be sharing the same route. She calls for the path to be kept on the coast, as it would offer both ~~–p~~hysical and mental therapy" and be ~~–a~~ wonderful way to keep healthy!"
Recommendations	Based on the information gathered from archival documents, previous archaeological reports, and community consultation detailed in this CIA report, CSH recommends the following measures to mitigate potentially adverse impacts on cultural, historical, and natural resources, practices, and beliefs: 1. In light of statements made by several of the participants in this study including OHA, SHPD, Mr. Ako, Mr. Ching, and Ms. Diego-Josselin about the connections between wahi pana and the ahupua_a of Waipouli, Olohena and Wailua, CSH recommends that discussions of the Lydgate Park–Kapa_a Bike and Pedestrian Path, Phases C and D, CMAQ-0700(49) include the larger context of the many projects within the Wailua area and the consideration of the cumulative impacts of the overall Project. 2. Makaīwa and Papaloa are the off-shore resources specifically identified as impacted by the Lydgate Park–Kapa_a Bike and Pedestrian Path, Phases C and D, CMAQ-0700(49) Project. In addition, SHPD and other participants discussed the need to protect access to cultural resources in the ahupua_a a including water and marine resources in the ocean. Therefore, CSH recommends that the Project continue to provide access to these vital water resources. 3. As there continues to be Native Hawaiians and other kāma_āina residents who are culturally active in the area, CSH recommends that ongoing cultural practices for plant gathering, fishing, surfing and ceremonial reasons, including visits to the Project area and vicinity, continue to be recognized, protected and accommodated. 4. Keeping in mind that the closest heiau to the Project area is Kukui Heiau which is listed on the National Register of Historic Places, CSH recommends that Kukui Heiau continue to be protected and preserved. 5. Besides the burial ground at Coco Palms, previous archaeological studies (see Table 1) indicate that in the last 20 years, at least 69 burials have been uncovered in the Wailua to Waipouli makai areas. Most of these burials have been found in sand. Archaeological research and participant interviews suggest that burials may be found along the route of the Project area. CSH recommends that cultural and archaeological monitors be present during any ground disturbance. CSH also recommends that kūpuna

	are consulted prior to ground disturbance so that a comprehensive agreement is established regarding burials in the vicinity of the Project area. 6. Due to community consultation results where participants like Mrs. Manea suggested the use of buffers if the multi-use path will be located by the highway and will be shared by both cars and people, CSH recommends that in the event that such a route is considered, buffers should protect those on the path from cars on the road. 7. Based on community consultation results where participants like Mrs. Muraoka urges for the observance of correct protocol to be followed, CSH recommends that community members with longstanding connections to the area should be consulted regarding the Project and the preservation, restoration and interpretation of the cultural resources of the area.

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Section 1 Introduction

1.1 Project Background

At the request of Kimura International, Inc., Cultural Surveys Hawai‗i (CSH) is conducting a Cultural Impact Assessment (CIA) for Lydgate Park–Kapa‗a Bike and Pedestrian Path, Phases C and D, CMAQ-0700(49), South Olohena, North Olohena and Waipouli Ahupua‗a, Kawaihau District, Kaua‗i Island, TMKs ([4] 4-3-001, 002, and 007:various). The County of Kaua‗i will construct, own and maintain the multi-use path. The project will be funded in part by the U.S. Department of Transportation, Federal Highway Administration. The Project area is depicted in Figure 1 (aerial photograph), Figure 2 (U.S. Geographical Survey) and Figure 3 (TMK map of Project area). All phases of the multi-use path are depicted in Figure 4.

This CIA will be used for a Supplemental Environmental Assessment. The EA will focus on a preferred alternative that extends from Papaloa Road, between Kauai Sands Hotel and Aston Islander on the Beach, then north through the County's beach reserve and along the coastal bench makai of the undeveloped parcels and Courtyard Kauai Coconut Beach (formerly Kauai Coconut Beach Resort). The preferred alternative continues just mauka of Mokihana of Kaua‗i and the Bullshed Restaurant (currently a parking lot) and along the southern bank of Uhelekawawa Canal (currently a landscaped strip) to Kūhiō Highway. The preferred alignment crosses Uhelekawawa Canal as a cantilevered attachment to the existing highway bridge or an independent single span bridge, where it will connect to the existing multi-use path at Waipouli Beach Resort. On the northern end of the Project area, the EA will also assess use of an existing beach access located south of Kapa‗a Missionary Church, as well as a stretch adjacent to and makai of Kūhiō Highway between the beach access and Uhelekawawa Canal (approximately 580 feet).

1.2 Document Purpose

The Project requires compliance with the State of Hawai‗i environmental review process (Hawai‗i Revised Statutes [HRS] Chapter 343), and thus, the Project must consider the proposed Project's effect on cultural practices. CSH is conducting this CIA at the request of Kimura International, Inc. Through document research and ongoing cultural consultation efforts, this CIA provides information pertinent to the assessment of the proposed Project's impacts to cultural practices and resources (per the *Office of Environmental Quality Control's Guidelines for Assessing Cultural Impacts*). This information may include assessment of Traditional Cultural Properties (TCP) of ongoing cultural significance that may be eligible for inclusion on the State Register of Historic Places, in accordance with Hawai‗i State Historic Preservation Statute (Chapter 6E) guidelines for significance criteria (HAR §13–275–6) under Criterion E, which states to be significant an historic property shall:

> Have an important value to the Native Hawaiian people or to another ethnic group of the state 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 accounts—these associations being important to the group's history and cultural identity.

The document is intended to support the Project's environmental review and may also serve to support the Project's historic preservation review under HRS Chapter 6E and Hawai_i Administrative Rules Chapter 13–275.

1.3 Scope of Work

The scope of work for this CIA includes:

1. Examination of cultural and historical resources, including Land Commission documents, historic maps, and previous research reports, with the specific purpose of identifying traditional Hawaiian activities including gathering of plant, animal, and other resources or agricultural pursuits as may be indicated in the historic record.
2. Review of previous archaeological work at and near the subject parcels that may be relevant to reconstructions of traditional land use activities; and to the identification and description of cultural resources, practices, and beliefs associated with the parcels.
3. Consultation and interviews with knowledgeable parties regarding cultural and natural resources and practices at or near the parcels; present and past uses of the parcels; and/or other practices, uses, or traditions associated with the parcels and environs.
4. Preparation of a report that summarizes the results of these research activities and provides recommendations based on findings.

1.4 Environmental Setting

The proposed Project area lies on the east side of Kaua_i. The southern end of the Project is situated within the South Olohena Ahupua_a, and the cul-de-sac at the northern end lies within the Waipouli Ahupua_a. Thus, the Project area traverses three ahupua_a: Waipouli, North Olohena, and South Olohena. Because the southern end of the Project lies near Wailua Ahupua_a, an area rich in cultural sites and history, this CIA will include information related to the makai portion of Wailua Ahupua_a.

These four ahupua_a are located within the central area of the Līhu_e basin and are exposed to the prevailing northeast trade winds with 40 to 50 inches of rainfall annually at the seashore and 75 to 100 inches in the upland mountainous area. The shoreline of both Olohena Ahupua_a and Waipouli Ahupua_a is shallow topsoil above lava bedrock and there is shallow reef along the shore (Figure 5).

Figure 1 Aerial photograph of project Area (Google Earth 2010)

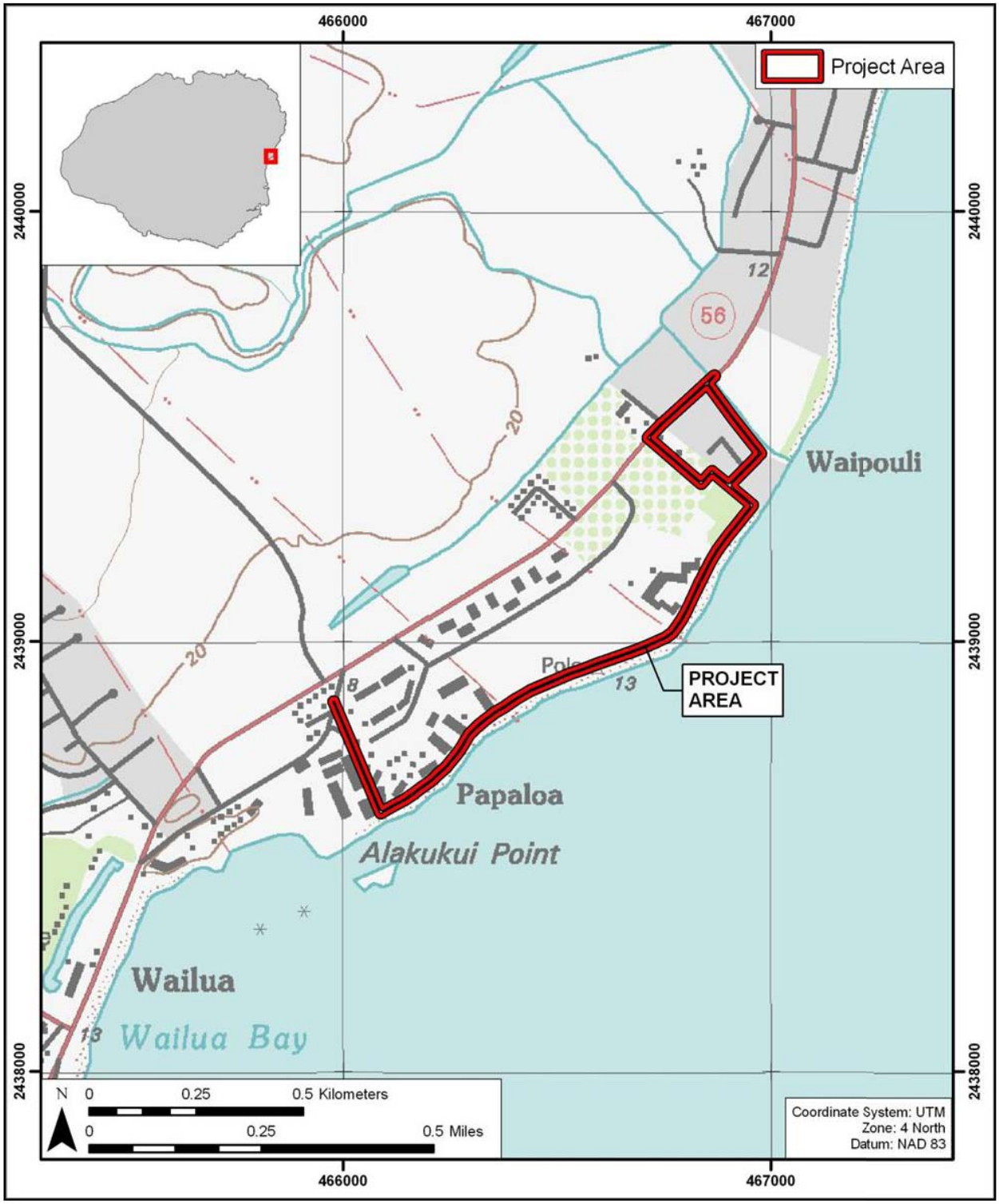

Figure 2. U.S. Geological Survey 7.5-minute topographical map (1996 Kapa_a Quadrangle) showing project area

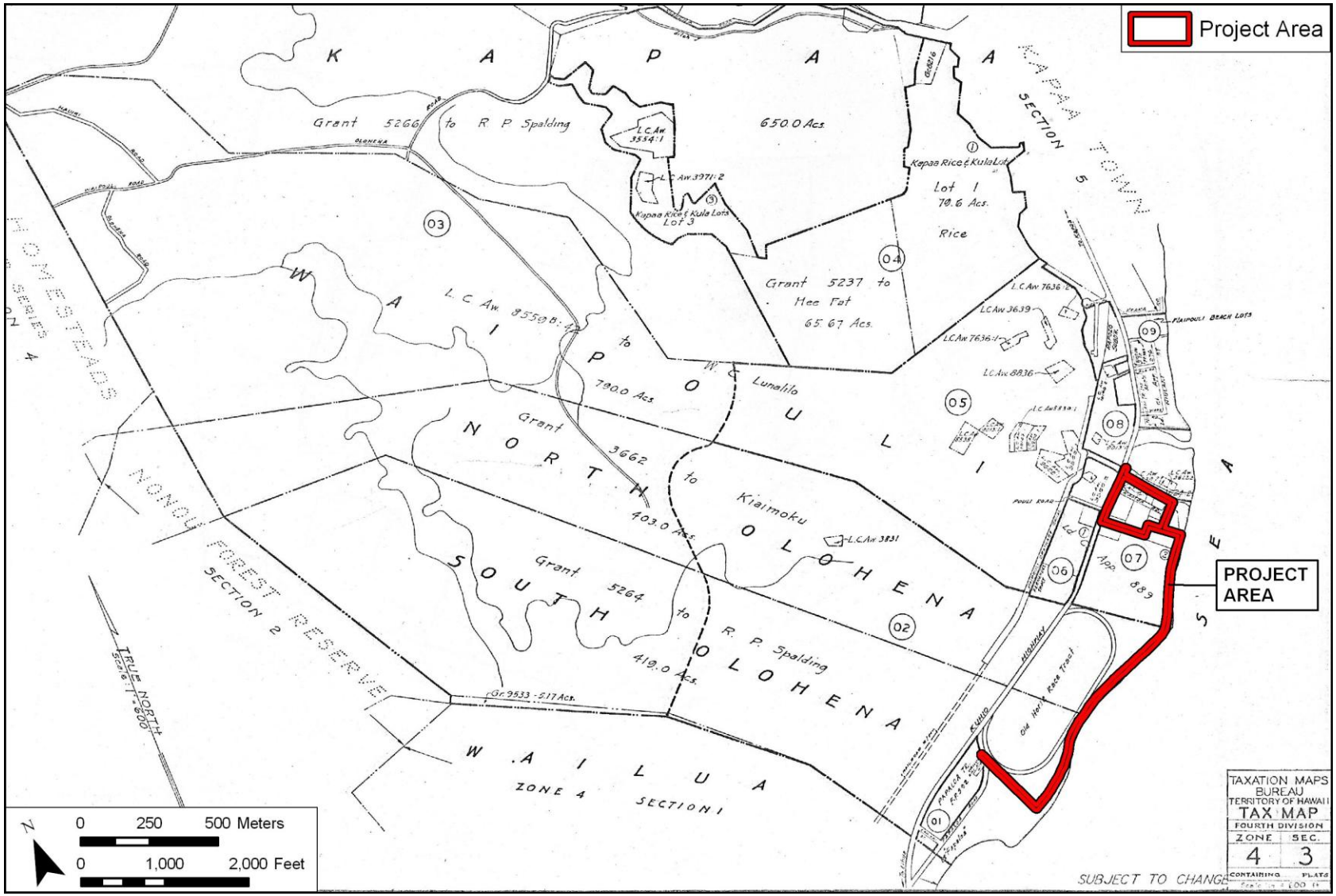

Figure 3. Tax Map [4]4-3-001, 002 and 007, including other properties in Waipouli and Olohena Ahupua_a

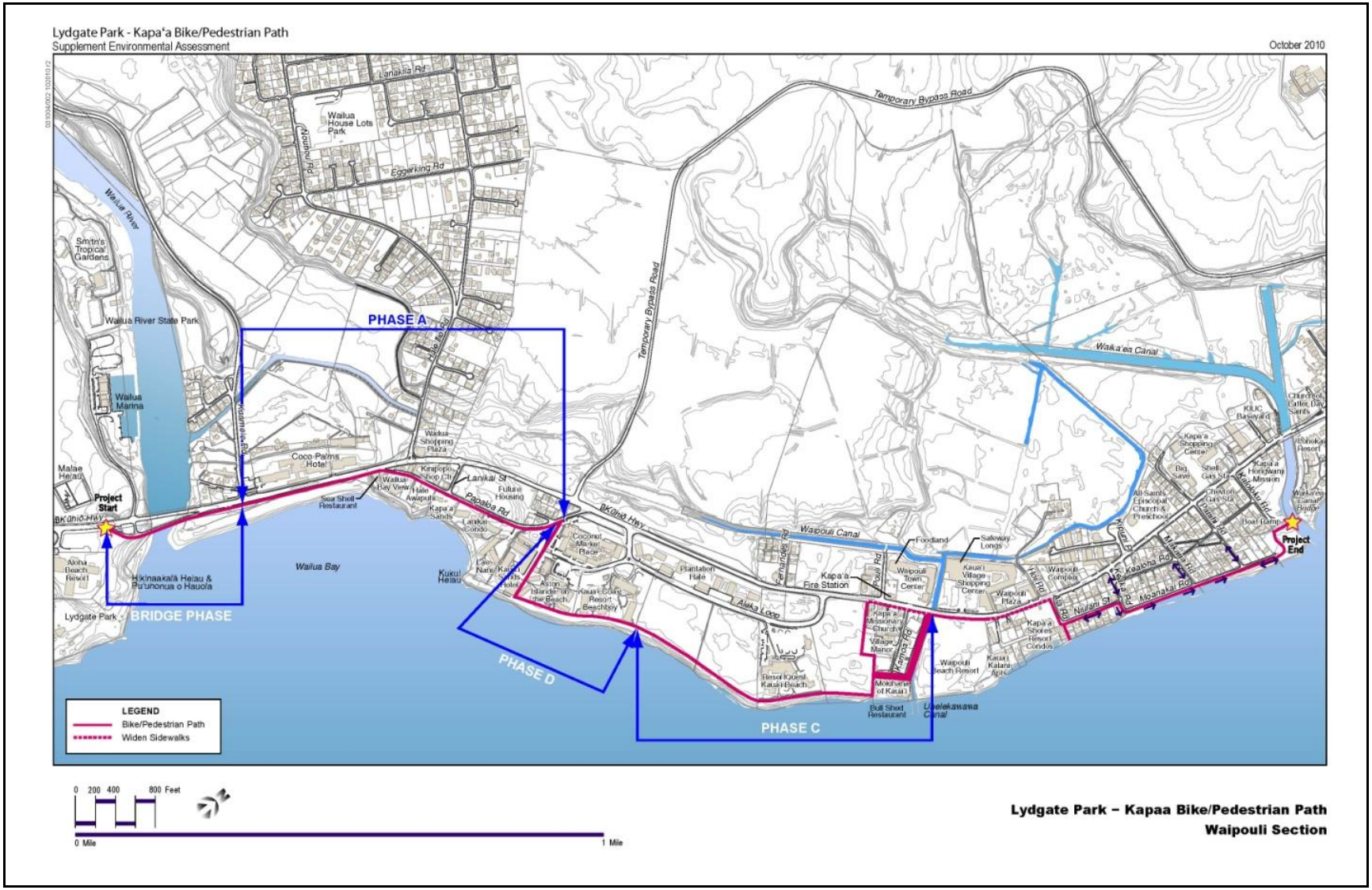

Figure 4. All Phases of Lydgate Park–Kapa_a Multi-Use Path (Map courtesy of Kimura International)

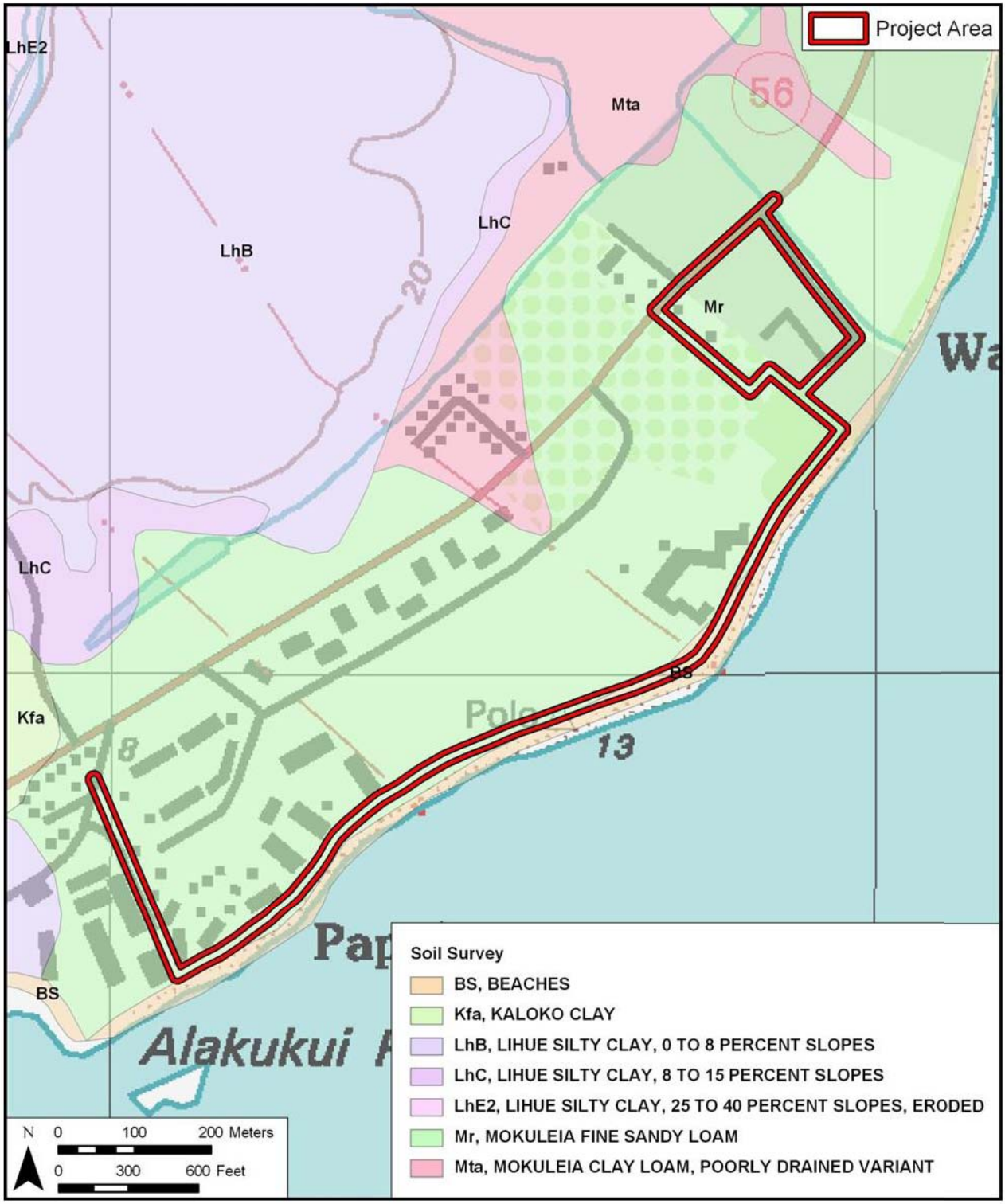

Figure 5. Soil information over U.S. Geological Survey topographic map (soil information from Foote et al. 1972)

Section 2 Methods

2.1 Archival Research

Historical documents, maps and existing archaeological information pertaining to South Olohena, North Olohena and Waipouli Ahupua_a, Kawaihau Moku and the Project area vicinity were researched at the CSH library and other archives including the University of Hawai_i at Mānoa's Hamilton Library, the State Historic Preservation Division (SHPD) library, the Hawai_i State Archives, the State Land Survey Division, and the archives of the Bishop Museum. Previous archaeological reports for the area were reviewed, as were historic maps and photographs and primary and secondary historical sources. Information on Land Commission Awards (LCAs) was accessed through Waihona _Aina Corporation's Māhele Data Base (www.waihona.com), as well as a selection of CSH library references.

The definitive source for Hawaiian place names is Pukui et al.'s (1974) *Place Names of Hawai'i*, but additional place name translations and interpretations were also gleaned from Soehren's "Hawaiian Place Names" database on the internet (http//www.ulukau.org), historical maps, Land Commission documents available at the Hawai_i State Archives or on the internet at http://waihona.com, and from other place name texts such as Clark (2002), Wichman (1998), and Thrum (1922).

For cultural studies, research for the Traditional Background section centered on Hawaiian activities including: religious and ceremonial knowledge and practices; traditional subsistence land use and settlement patterns; gathering practices and agricultural pursuits; as well as Hawaiian place names and mo_olelo, mele (songs), oli (chants), _ōlelo no_eau (proverbs) and more. For the Historic Background section, research focused on land transformation, development and population changes, beginning in the early post–European Contact era to the present day (see Scope of Work above).

2.2 Community Consultation

2.2.1 Sampling and Recruitment

A combination of qualitative methods, including purposive, snowball, and expert (or judgment) sampling, were used to identify and invite potential participants to the study. These methods are used for intensive case studies, such as CIAs, to recruit people that are hard to identify, or are members of elite groups (Bernard 2006:190). Our purpose is not to establish a representative or random sample. It is to "identify specific groups of people who either possess characteristics or live in circumstances relevant to the social phenomenon being studied…. This approach to sampling allows the researcher deliberately to include a wide range of types of informants and also to select key informants with access to important sources of knowledge" (Mays and Pope 1995:110).

We began with purposive sampling informed by referrals from known specialists and relevant agencies. For example, we contacted the SHPD, Office of Hawaiian Affairs, Kaua_i Island Burial Council (KNIBC), and community and cultural organizations, such as Mālama Kaua_i, Ka_ie_ie Foundation, Hui Ho_okipa o Kaua_i and various Hawaiian Civic Clubs on Kaua_i for their brief response/review of the Project and to identify potentially knowledgeable individuals with

cultural expertise and/or knowledge of the Project area and vicinity, as well as, other appropriate community representatives and members. Based on their in-depth knowledge and experiences, these key respondents then referred CSH to additional potential participants who were added to the pool of invited participants. This is snowball sampling, a chain referral method that entails asking a few key individuals (including agency and organization representatives) to provide their comments and referrals to other locally recognized experts or stakeholders who would be likely candidates for the study (Bernard 2006:192). CSH also employs expert or judgment sampling, which involves assembling a group of people with recognized experience and expertise in a specific area (Bernard 2006:189–191). CSH maintains a database that draws on over two decades of established relationships with community consultants: cultural practitioners and specialists, community representatives and cultural and lineal descendants. The names of new potential contacts were also provided by colleagues at CSH and from the researchers' familiarity with people who live in or around the study area. Researchers often attend public forums (e.g., Neighborhood Board, Burial Council and Civic Club meetings) in (or near) the study area to scope for participants. Please refer to Table 4, Section 6, for a complete list of individuals and organizations contacted for this CIA.

CSH focuses on obtaining in-depth information with a high level of validity from a targeted group of relevant stakeholders and local experts. Our qualitative methods do not aim to survey an entire population or subgroup. A depth of understanding about complex issues cannot be gained through comprehensive surveying. Our qualitative methodologies do not include quantitative (statistical) analyses, yet they are recognized as rigorous and thorough. Bernard (2006:25) describes the qualitative methods as ~~"~~a kind of measurement, an integral part of the complex whole that comprises scientific research." Depending on the size and complexity of the Project, CSH reports include in-depth contributions from about one-third of all participating respondents. Typically this means three to twelve interviews.

2.2.1 Informed Consent Protocol

An informed consent process was conducted as follows: (1) before beginning the interview the CSH researcher explained to the participant how the consent process works, the Project purpose, the intent of the study and how his/her information will be used; (2) the researcher gave him/her a copy of the Authorization and Release Form to read and sign (Appendix A); (3) if the person agreed to participate by way of signing the consent form *or* by providing oral consent, the researcher started the interview; (4) the interviewee received a copy of the Authorization and Release Form for his/her records, while the original is stored at CSH; (5) after the interview was summarized at CSH (and possibly transcribed in full), the study participant was afforded an opportunity to review the interview notes (or transcription) and summary and to make any corrections, deletions or additions to the substance of their testimony/oral history interview; this was accomplished primarily via phone, post or email follow-up and secondarily by in-person visits; (6) participants received the final approved interview, photographs and the audio-recording and/or transcripts their interview if it was recorded. They were also given information on how to view the Draft CIA Report on the OEQC website and offered a hardcopy of the report once the report is a public document.

If an interviewee agreed to participate on the condition that his/her name be withheld, procedures were taken to protect his/her confidentiality (see Protection of Sensitive Information below).

2.2.2 Interview Techniques

To assist in discussion of natural and cultural resources and cultural practices specific to the study area, CSH initiated semi–structured interviews (as described by Bernard 2006), asking questions from the following broad categories: gathering practices and mauka and makai resources, burials, trails, historic properties and wahi pana. The interview protocol is tailored to the specific natural and cultural features of the landscape in the study area identified through archival research and community consultation. These interviews and oral histories supplement and provide depth to consultations from government agencies and community organizations that may provide brief responses, reviews and/or referrals gathered via phone, email and occasionally face-to-face commentary.

2.2.2.1 In-depth Interviews and Oral Histories

Interviews were conducted initially at a place of the study participant‘s choosing (usually at the participant‘s home or at a public meeting place) and/or—whenever feasible—during site visits to the Project area. Generally, CSH‘s preference is to interview a participant individually or in small groups (two–four); occasionally participants are interviewed in focus groups (six–eight). Following the consent protocol outlined above, interviews may be recorded on tape or a digital audio device and in handwritten notes, and the participant photographed. The interview typically lasts one to four hours, and records the –who, what, when and where" of the interview. In addition to questions outlined above, the interviewee is asked to provide biographical information (e.g., connection to the study area, genealogy, professional and volunteer affiliations, etc.).

2.2.2.2 Field Interviews

Field interviews are conducted with individuals or in focus groups comprised of kūpuna and kama_āina who have a similar experience or background (e.g., the members of an area club, elders, fishermen, hula dancers) who are physically able and interested in visiting the Project area. In some cases, field visits are preceded by an off-site interview to gather basic biographical, affiliation and other information about the participant. Initially, CSH researchers try to visit the Project area to become familiar with the land and recognized (or potential) cultural places and historic properties in preparation for field interviews. All field activities are performed in a manner so as to minimize impact to the natural and cultural environment in the Project area. Where appropriate, Hawaiian protocol may be used before going on to the study area and may include the offering of ho_okupu (offering, gift), pule (prayer) and oli. All participants on field visits are asked to respect the integrity of natural and cultural features of the landscape and not remove any cultural artifacts or other resources from the area.

Building on open-ended and semi-structured approaches, field interviews included the structured methods enumerated in the above section. In some cases, participants may create a community resource map by surveying the Project area with the researcher/s in order to identify significant cultural and natural features of the landscape. If the participant was comfortable sharing the location of resources, they were geo-referenced using GPS and included on the

cultural resource map. If the participant preferred to keep the location private or only to identify its general location, the specific location was *not* recorded.

2.2.3 Protect Sensitive Information

It is sometimes the case that participants in cultural studies agree to contribute their comments or be interviewed for a study on the condition that their names are withheld from the report. Their reasons for doing so vary from concern about protecting the identity of resource collectors and/or revealing the precise location of certain natural and cultural resources to opposition to the proposed Project. For the interviewee who agrees to participate on the condition that his/her name is withheld from public disclosure, CSH takes all precautions to make sure his/her contribution remains confidential. The confidentiality of subjects is maintained via protected files. For this reason, CIA reports sometimes include a subsection of Summaries of Kama_āina –Talk-Story" Interviews entitled, Additional Statements.

2.3 Compensation and Contributions to Community

Many individuals and communities have generously worked with CSH over the years to identify and document the rich natural and cultural resources of these islands for cultural impact, ethno–historical and TCP studies. CSH makes every effort to provide some form of compensation to individuals and communities who contribute to cultural studies. This is done in a variety of ways: individual interview participants are compensated for their time in the form of a small honorarium and/or other makana (gift); community organization representatives (who may not be allowed to receive a gift) are asked if they would like a donation to a Hawaiian charter school or nonprofit of their choice to be made anonymously or in the name of the individual or organization participating in the study; contributors are provided their transcripts, interview summaries, photographs and—when possible—a copy of the CIA report; CSH is working to identify a public repository for all cultural studies that will allow easy access to current and past reports; CSH staff do volunteer work for community initiatives that serve to preserve and protect historic and cultural resources (for example in, Lāna_i and Kaho_olawe). Generally our goal is to provide educational opportunities to students through internships, share our knowledge of historic preservation and cultural resources and the State and Federal laws that guide the historic preservation process, and through involvement in an ongoing working group of public and private stakeholders collaborating to improve and strengthen the Chapter 343 environmental review process.

Section 3 Traditional Background

3.1 Overview

The sections below will discuss topics as they relate to the four primary ahupua a of this study: Waipouli, North Olohena, South Olohena, and Wailua. While the study area does not fall directly within the Wailua Ahupua a, because of the cultural and historical significance of Wailua, this ahupua a is included in the discussions below. In each section, the depictions will follow a north to south pattern, beginning with Waipouli, ending with Wailua (see Figure 6 and Figure 7).

3.2 Place Names and Wahi Pana

3.2.1 Waipouli

Waipouli means the ―dark water" (Pukui, Elbert, and Mookini 1974; Wichman: 1998; Thrum 1922). The name of the wind that breezes through the ahupua a of Waipouli is called the Inuwai (Nakuina 1992:53).

Wichman describes the meaning of many places within Waipouli Ahupua a:

> On the seacoast, the boundary between Waipouli and Kapa a is **Ka-lua-pā-lepo**, ―pit for dirty dishes." The boundary with Olohena was at **Kaunana-wa'a**, ―mooring place for canoes." There were six house clusters, called villages in the Māhele records, whose names give an insight into the ancient society: **Kāne-limua**, ―man overgrown with moss"; **Maka-lokoloko**, ―eyes swelling up in tears"; **makamaka-'ole**, ―without intimate friend"; **Mokuna-hele**, ―traveling district"; **Nā-hale-ka-wawā**, ―houses where there is lots of noise" (bold in original; Wichman 1998:82)

Waipouli is also noted for Mākaha-o-Kūpānihi, meaning ―Kūpānihi is fierce" or ―star of Kūpānihi" (Wichman 1998:83). Mākaha-o-Kūpānihi ―was a deep pool set aside for the ali i to bathe in. Mākaha is a star near the Pleiades. It and another star named Mākohi-lani were patrons of fighters. Kūpānihi was the god invoked by experts when carving out a canoe" (Wichman 1998:83).

Waipouli is mentioned in a version of the legend of Kaililauokekoa, a female chief of Kapa a of daughter of La a and granddaughter of Mō īkeha. Thomas Thrum (1906:83–84) explains that:

> [Kaililauokekoa's] greatest desire was to play konane [kōnane: ancient game resembling checkers], a game somewhat resembling checkers, and to ride the curving surf of **Makaīwa** (*ke'eke'e nalu o Makaīwa*), a surf which breaks directly outside of Waipouli, Kapa a. She passed the larger part of her time in this matter every day, and because of the continual kissing of her cheeks by the fine spray of the sea of Makaīwa, the bloom of her youth became attractive as a torch on high,' so unsurpassed was her personal charm. (bold in original)

Wichman describes Makaīwa as –a well-known surf near the [Wailua] river mouth" (1998:67). The meaning he offers for Makaīwa is –‘mother of pearl eyes‘ (like those in a feathered image)" (Wichman 1998:67).

Waipouli is also the place where Hi_iaka and Lohi_au were reunited. Initially, Hi_iaka had returned Lohi_au to Pele, only to discover that Pele had not protected Hi_iaka‘s grove of lehua trees (_ōhi_a), as Pele had promised. Hi_iaka, heartbroken, having travelled to Kaua_i to find Lohi_au and return him to Pele, and having already fallen in love with Lohi_au, then kissed Lohi_au. And Pele, realizing what had occurred, killed Lohi_au. Wichman explains: –Pele covered Lohi_au with lava and Hi_iaka returned to Kaua_i, vowing never to see her sister again. Two of Pele‘s brothers took pity on Lohi_au and brought him back to life." Eventually, Lohi_au and Hi_iaka met in Waipouli during a game of kilu (an ancient game: see glossary). They married and lived –the rest of their lives together at Hā_ena" (Wichman 1998:82–83).

As a final note, a portion of the mo_olelo of Kawelo relates to Waipouli as well as North and South Olohena. In Green and Pukui‘s account, Kawelo‘s brother, Kamalama, distributes the lands in the –plain between Waipouli and Wailua which Ka-ma-la-ma had selected as a suitable place" for settlement:

> There the men received each portion and settled down to cultivate the land, while Ka-ma-la-ma turned toward the hills. The men made lo_i, or taro patches, and set out such food-plants as they thought would flourish in this new land. They planted twelve breadfruit trees, one for each taro-patch, and, in order to have a name signifying unity, they called the place –The twelve breadfruit," because the trees all came from a single mother-plant. They also wanted to commemorate the twelve men name –Breadfruit" [ulu] who had come with the party. These trees were famous in ancient days and even now their report is in the mouths of men.
>
> *A pau kana haawi ana, ua huli aku ia o Kamalama no ke Kuamoo. A noho ihola lakou i na loi' kalo, na ano mea ai a pau a lakou i manao ai i pono no ka noho ana o ia aina malihini. A kanu ihola no hoi lakou he umikumamalua mau kumu ulu;-- hookahi kumu ulu o ka loi' ho‘okahi;-- pela a pau na loi' kalo he umikumamalua;-- i kumu hoalike me ko lakou mau inoa,--mai ka ulu kaukahi a ka ula umikumamalua, i mea hoomanao hoi na na mea a pau, i na ulu umikumamalua. Aole paha i nele ka hoomanao ana o ka poe a ka wa kahiko i keia mau ulu kaulana, a hiki wale no i keia manawa e—o mau nei ia mau ulu i ka waha o na kanaka.* (Green and Pukui 1936: 86–88)

3.2.2 Olohena (North Olohena and South Olohena)

North Olohena and South Olohena are ahupua_a with rich histories, but the meaning of the name Olohena is unclear. Pukui, Elbert and Mo_okini do not offer a meaning for the name Olohena. Clark and Wichman also do not provide a meaning for Olohena. Ulukau (Soehren:2010) explains that the name is –A traditional Polynesian place name; meaning unknown. Variant spelling of Olohana" (Soehren:2010). Pukui, Elbert and Mo_okini do note that, –A *heiau* for human sacrifices on the ridge was called Mahe-walu, short for Māhele-walu, eight divisions" (1976:170). In South Olohena there is also Ka-iki-hāuna-kā Heiau, as well as, Kukui Heiau near to the Project area. Discussions of these heiau are in Section 3.5 below.

North along the coast from Kukui Heiau is Papaloa, a village and a beach (Soehren 2010). The name, Papaloa, –papa" meaning reef and –loa" long, appears to refer to the reef offshore (Pukui 1986). There is also an account from 1880, which may be referring to a reef off Papaloa Beach. The citation, from the Order of the Lords Commission of the Admiralty (1885), is as follows: –In 1880, a small steamer was observed secured to a buoy off Wailua, apparently inside a reef, as breakers were observed all around to seaward."

3.2.3 Wailua

The most popular and literal meaning of the place name Wailua is –two waters," perhaps referring to the two main forks (north and south) that flow together to form the Wailua River. However; as Lyle Dickey forcefully clarifies (1917:15), –this explanation never seems to occur to a native Hawaiian." Instead, Dickey refers to the chief, Wailua-nui-haono, as the source for the name (1917:14). Kamakau similarly (1976:7) states that:

> Wailuanui-a-Ho_ano was born in _Ewa, O_ahu, and his descendants went to Kaua_i and to Maui, and wherever they settled they called the land after the name of their ancestor. Wailua was a song of La_akona, ancestor of the _Ewa family by Ka-ho_ano-o-Kalani. His name, Wailuanui-a-Ho_ano, came from adding the name of his mother.

Other meanings include –water pit" referring to the pools at the bottom of several waterfalls along the river's course (Damon 1934:360), a –ghost or spirit" (Kikuchi 1973:5), and a –spirit of one seen before or after death, separated from the body" (Wichman 1998:67). Perhaps even more plausible is the explanation that the term comes from the name of the high chief: Wailuanuiaho_āno. Regarding the variety of sweet potato named –Wailua," it was also –presumably introduced from Wailua, Kaua_i" (Pukui and Elbert 1986:379).

By tradition, Wailua was conceptually divided into parts with –Wailua Nui Ho_āno" (–Great Sacred Wailua") the name of a marked or sacred area associated with the ali_i. As described by Wichman, –Punanuikaia_āina, leader of the settlers from the Marquesas, placed a kapu (taboo, prohibition) on the land on either side of the river from the sea to the top of the range that divides the shore from the uplands. This area was named Wailua Nui a Ho_āno" (Wichman 1998:63, see also Smith 1955:20–21). Wichman notes that, –Punanuikaia_āina himself seems to have borne this name and there is a confusion as to whether Wailua Nui a Ho_āno is the name of a particular chief, or of the land only, or both" (1998:179). As Smith (1955:26) explains: –in the old days of the early Hawaiians, the common people used to live way up in the valley and hills and the *Ali'i* down here in the lower part of Wailua." The area restricted to the residence of ali_i is understood as Wailua Nui a Ho_āno.

Because Wailua was the religious and political center of Kaua_i, mo_olelo abound related to the area. While the scope of this CIA is focused primarily on Olohena (North and South) and Waipouli, Wailua is of such significance that many of the mo_olelo pertaining to the wahi pana of Wailua are included below.

3.2.3.1 Wailua River

Wailua, as the largest river in the archipelago, was proverbial for its waters, as in the saying (Pukui 1983:178) –*Ka wai hālau o Wailua*" (the expansive waters of Wailua). One story of the origin of the Wailua River relates that the giant Kauaho fled from the hero Kawelo to Hanalei

–where he lay down and so backed up the waters of the Hanalei river that they broke through the mountain and flowed down to Wailua." (Dickey 1917:23) Another story of the damming of waters is that an ancient chief had the waters of the Wailua River dammed at the location of a whirlpool, half a mile above Wai_ehu Falls (a.k.a. Wailua Falls) where he wished to have an _awa (kava) feast. (Dickey 1917:35). After the feast the river was returned to its course. The tannin-rich waters of the Wailua have invited speculation regarding the source of the water's color. A tradition of Waikoko-o-Hina ("–the blood-water of Hina"), a place above Wai_ehu Falls (Wailua Falls) explains that: –Hokau injured Hina and caused her blood to flow down the river, making it red and giving it its bloody name. At Kalua the redness of the river stops because of tabu" (Dickey 1917:35).

3.2.3.2 Wailua Beach ('Aliō)

The early name for Wailua Beach is _Aliō. As early as 1885, Lahainaluna Schools describes "–the sacred sands of Alio" (218). According to this description, _Aliō –is located at and in the middle of Wailua" (218–219). In Fornander's –Song for Kamuali_i," there is also reference to –The shore grown hau bark of Alio" (*Ka ilihau pa kai o Alio*) (Fornander VI 1920:482). And Wichman (2003), in *Nā Pua Ali'i o Kaua'i*, refers to "–the sands of _Aliō beach at Wailua" (32).

3.2.3.3 Mo'olelo of Caves in Wailua

There are numerous accounts of storied caves at Wailua of which Māmāakualono (the –Fern Grotto") is the most famous. For some caves, names are remembered and for others the names appear to have been lost or are only known through association with legendary characters. Some of the most famous caves are discussed briefly below.

Anahulu: Anahulu was said to be the name of a cave in Wailua Valley where Kamalau stayed on his way to loot Poli_ahu Heiau (Dickey 1917:30)

Hauma: Hauma was said to be the name of a cave in Wailua Valley where the sister of Kamalau stayed on their way to loot Poli_ahu Heiau (Dickey 1917:30)

Kaluamōkila: Kaluamōkila cave at Pu_u Kī was associated with mo_o (lizard, dragon) and the mother of Kaumuali_i.

Kauela: Stories give various names and spellings for shark demi-gods of Wailua but often associate these beings with underwater caves. Wichman (1998:72) relates that the shark Kauela "–used to live in a cave near the mouth of the river. The present-day cement bridge was built over it and Kauela has had to find a new home."

Ke-ana-o-Kawelowai: Dickey (1917:23) explains that behind Wai_ehu (Wailua Falls) was once Kawelowai, "–cave of Kawelo-wai," an underwater cave that was reached by swimmers by diving under the falls with a weighted rope tied about one's waist (Wichman 1998:79). Wichman contends that "–in olden days Wailua chiefesses hid here in times of war."

Keoniewa: The cave of Keoniewa was said to be a cave where the giant Kauahoa Kame_eui spent the night when he went to visit the ruling chief _Aikanaka in the Nounou Mountains (Dickey 1917:23)

Māmā‘akualono: The cave of Māmāakualono, was the home of a beauty who scorned the advances of the demi-god Maui and is the traditional name of the –Fern Grotto" located near the junction of the north and south forks of the Wailua River Dickey 1917:33).

Manu‘ena: The cave of the mudhens the demi-god Māui branded for withholding the secret of making fire was said to be at Manu_ena (Wichman 1998:73; understood as near Holoholokū Heiau, see discussion below under Section 3238: –Māui").

3.2.3.4 Coconut Groves

Some historic accounts have suggested that coconut groves in Wailua had some traditional cultural importance. Bennett (1931:127) included a –sacred coconut grove" as part of his site 106 (State Inventory Historic Property or SIHP # 50-30-08-106 in Figure 10; Holoholokū Heiau). Handy and Handy (1972:172) refer to Wailua, Kaua_i as –the site of the famous sacred grove belonging to the reigning *ali‘i*." Flores (2000: III-1–III-4) has carefully documented the history of the coconut plantations of Wailua and vicinity. He concludes that these Wailua plantations date to a coconut plantation begun ca. 1892 by Ernest Lindemann. However, this cultural significance of the Wailua coconut groves may be a fairly recent phenomenon. Dickey (1917:17) tells a story that when dividing coconuts between the people of Puna (the early district that included Wailua) and the people of Kōloa, the Puna people –used up theirs. Hence until very lately, when the white people planted coconuts, coconuts grew in Kōloa but not in the Puna district of Kaua_i." The lack of coconut groves may thus offer insight into the low population numbers in the areas outside of Wailua.

3.2.3.5 Ka‘iliauokekoa

Legendary accounts tell of the beautiful maiden named Ka_ililauokekoa, referred to as the daughter of La_a and granddaughter of Mō_īkeha and Ho_oipoikamalanai or as the daughter of Mō_īkeha and Ho_opoikamalanai in other versions. Ka_ililauokekoa is said to have been born in Wailua at Malae Heiau (SIHP # 50-30-08-104 in Figure 10) and lived with her parents in Kapa_a near the surf of Makaīwa. It was during a time when Kaua_i was divided into two kingdoms, with Wailua being the headquarters of the Windward Chiefs. She is associated with a famous kōnane game that led to the naming of the Wailua peak Nā-_ili-a-Ka_auea. She was lured to the uplands of Wailua to an area called Pīhanakalani (or Hanahanapuni) by the melodious sounds of the nose flutes played by Kauakahiali_i. His home was within a canopy created by blossoming _ōhi_a lehua trees whose branches overhead were tightly woven together and decorated with the feathers of those numerous birds found in this area. There is also mention of a fishpond (or –magic fishpond") in the vicinity that supplies Kauakahiali_i, his adopted mother Waha, and his sister Kahalelehua, with fresh fish (Beckwith 1970:538–544; see also Dickey 1917:26–28, 35–36 and Rice 1923:106–108).

3.2.3.6 Kawalo (Kauela, Kawelu, Kawelomahamahaia) and Kūhaimoana, the Shark God

One of the most popular traditions of Wailua is that of a certain shark-man deity whose name is variously spelled as –Kawelu" (Knudsen 1946:83), –Kawalo" (Smith 1955:67) and –Kauela" (Wichman 1998:72). In the following extended quote, the Smith family tells the story of the shark/man of Wailua, Kaua_i (1955: 65–74; see also Knudsen 1946:83):

> Further up the left fork of the Wailua River, are some old Hawaiian burial caves. There are seven in all, but only two can be seen from the river. Just about a

hundred feet from these burial caves are two large rocks. One is on the hillside about fifty feet from the riverbank and the other is in the middle part of the river. When the tide is very low and the water is clear, this rock in the water can be seen very clearly. There are three stones all together, one on land, one in the water and one at the mouth of the Wailua River near Lydgate Park. The rock on land can be seen at all times from a boat. This rock is called the Shark Stone and is shaped like a pup tent.

The people say that there was a man by the name of Kawalo who used to live on the left fork of the Wailua River. He could hear quite a distance away when any canoes were coming down the river. As the sound of the canoe got closer, he would go to the riverbank and call out, ―Good morning, where are you going?" The people would say, ―We are going fishing." Then Kawalo would say, ―The weather is good and I hope you have good luck." Very happily they would paddle on down the river and out to the big blue ocean to fish, [and] think that their fishing would be very good that day. But instead, something would happen, some of them would get hurt or bitten by a shark, and fishing would be very bad that day. The men would go home very unhappy.

A few days later some other men wanted to go fishing, so they got in their canoes and paddled down the river. When they got close to Kawalo's place, they could see him on the riverbank waiting to greet them. They could hear him call out, ―Good morning, where are you going?" The men in the canoes would answer, ―We are going *holo holo* [to go out for pleasure] or going visiting." And then Kawalo would say no more and go back to work in his taro patch. Then these men would paddle down the river, but instead of going *holo holo*, they would go fishing and their luck would be very good. After they were through fishing, they would paddle back home very fast and very happy because their luck had been so good. In fact, they had so many fish that they made a *lū'au* or a feast to celebrate their good luck.

While the *lū'au* was going on, the first group of men who went fishing who had such bad luck, became suspicious and said to their friends that they thought Kawalo was some kind of god. Whenever he asked them if they were going fishing and they said yes, they had bad luck. So this first group of men planned to go fishing again, but this time they decided to get one of the men from their village to watch Kawalo while they were gone. This man was to come down along the riverbank and hide behind a very large rock close to Kawalo's house, and, if at any time he noticed Kawalo doing anything suspicious, the man was to warn the fishermen.

On this second fishing trip, after the men told Kawalo of their intent to go fishing, Kawalo again transformed into a shark. The man who had been hiding in the bushes, tried to warn these honest fishermen, ―but the wind was so strong, it carried his voice away from the fishermen. They did not hear him, so the shark got his victims." When the man finally returned to his village, the following occurred:

> One of the older men called the whole village together so they could decide what to do. He said that from then on, never to tell anyone when they were going fishing. If anyone asked, they were to say they were going *awana*, or going wandering, but never to say they were going fishing. The rock on the land was Kawalo‘s home while he was on land, and the one in the water, his home while in the river. The third rock at the mouth of the Wailua River was his home when he was out to sea (Smith 1955:8).

The Knudsen account (1946:84) also makes reference to three specific rocks associated with the shark-man of Wailua, one of which was ~~“a~~ great flat rock shaped like a poi pounding board, where he was supposed to have pounded his poi.” Wichman (1998:72) associates this story with the shark deity Kūhaimoana.

Dickey (1917:29, see also 1917:33) tells a post-Contact account of one of these shark rocks (which he says ~~“is~~ an ancient shark demi-god”) located on the makai end of a ridge that separates the two northern branches of the Wailua River. Dickey clarifies, ~~“A~~ piece is broken off this stone. This was done by Humaninie, who was sent from Hawai_i to destroy all idols. Once an attempt was made to dig up this rock but the leader died in the attempt and all who assisted him caught the leprosy and since then the rock has not been disturbed” (1917:29).

3.2.3.7 Kaumuali‘i at Wailua

Although historical records seem to associate Kaumuali_i, chief of Kaua_i, more with his home at Papa_ena_ena in Waimea, Kaua_i, he is also said to have often lived at Wailua. Smith (1955:20) places Kaumuali_i‘s Wailua residence on the north bank of the river within the area known as Wailua Nui a Ho_āno and associates him with the ~~“K~~ing‘s Highway” or ~~“K~~ing‘s path.” The name ~~“K~~ing‘s Highway” is used for both the Wailua River itself and the parallel approximate alignment of the present Kuamo_o Road on the north bank (Smith 1955:35–27). Dickey (1917:34) claims that Kaumuali_i used to jump down the Wai_ehu Falls (Wailua Falls).

A passing reference to Wailua is given in the ~~“K~~aumuali_i Chant” by Kapaekukui (Fornander 1920 VI: 481–482):

Ascending from Wailua to Maunakapu	*E pi‘i ana Wailua i o Maunakapu*
The land of Kawelomahamahaia	*Ka ‘āina o Kawelomahamahaia*

3.2.3.8 Legends of Kawelo

In the *Legend of Kawelo* (Fornander 1919: 2–59), the great hero of Kaua_i was born in Hanamā_ulu, but his grandparents soon moved with him to Wailua. Kawelo was brought up with two relatives: _Aikanaka, the son of the ruling chief of Kaua_i and the giant Kauahoa, another culture hero associated with Hanalei. Kawelo was a very great eater (*ikaika loa ... ma ka ‘ai ana*). and had such a voracious appetite that his grandparents grew weary, and to induce him to leave the house, they made him a canoe. After many adventures on O_ahu, Kawelo learns that his parents are being mistreated on Kaua_i by Aikanaka. Kawelo returns to Wailua on a double canoe (*mau wa‘a nui*). Kawelo chanted as follows:

E Kamalama iki kuu pokii,	Say little Kamalama, my younger brother,
I Wailua ka ihu o na waa e	Point the bow of the canoe towards Wailua,
I Wailua, e.	Yes, towards Wailua. (Fornander 1919:32)

With the help of his brother, Kamalama, Kawelo succeeds in defeating Kauahoa and Aikanaka and rules Kaua_i from his home in Hanamā_ulu.

Pukui‘s (1951:111) account is much the same with Kawelo returning to aid his parents announcing, –We go at once to meet the men of _Aikanaka. Steer for Wailua.” Thorpe‘s (1924:157) account of –Kawelo or the Lei of His Parents” is similar, mentioning that Kawelo‘s grandparents carried the little keiki with them when they moved to Wailua.

Westervelt‘s account of –Kawelo” contends that Kawelo, _Aikanaka and Kauahoa were all born the same day and were taken to Wailua as infants where they were brought up near each other (1968:173; see also Thrum 1923:149 *ff.*). Again Kawelo‘s return to save his parents has him landing at Wailua where the fighting begins (Westervelt‘s 1968:183)

The chant *Mele Ahiahi*, or *Evening Song*, is a remembrance of Kawelo at Wailua:

He ahiahi kapu no Kawelo	Sacred is the evening of Kawelo,
I holoholo `ku iloko Wailuanui-a-hoano	Who traveled about Wailuanui-a-hoano.
	(Fornander 1920 VI:418–419)

3.2.3.9 Māui at Wailua

Some of the great feats of the pan-Polynesian demigod Māui are said to have taken place at Wailua. When Māui tried to pull the islands together with his fabulous fishhook at Wailua Bay, seven of his kapu-breaking brothers were turned into stones at the mouth of the Wailua River (Dickey 1917:17; Wichman 1998:70–71). Near the pōhaku piko (birthing stones) of Holoholokū Heiau (see Figure 8 and Figure 9), Māui, first learned the secret of making fire from the _alae (mudhens) and branded them with the red mark that species bears to this day (Dickey 1917:17–18). Wichman (1998:73) associates the place names –Papa_alae” (–Plain of the mudhens”) and –Manu_ena” (–red-hot bird”) with this legendary event.

Dickey (1917:29–30) explains that on both sides of the ridge that separates the two northern branches of the Wailua River, near an area called Kamahualele, (understood to be just east of Poli_ahu Heiau) are marks of this demigod, Māui:

> On the south side, in the water near the landing place of the present [1917] poi factory, is a stone called the fishing weight of Māui. To the north in the stream is a sharp stone, the canoe of Māui, also his fishhook Manaiakalani. The horizontal strata marks on the north side of the stream are marks made by the malo [loin cloth] of Māui when put there to dry after he had been out fishing.

It is further said that Māui‘s home was just above the Waioloia waterfall (also seemingly called the _Ōpaeka_a and Wailuaiki waterfall) and that Maui‘s jawbone (Papaniho o Māui) –is a little below the top of the hill.” (Dickey 1917:32).

Other landforms associated with the Māui tradition are the brothers of a beauty named Māmāakualono. She refused to marry Hina‘s son Māui, and so Hina dammed up the entire south fork of the river, causing the waters to rise almost to the cave where Māmāakualono lived (associated with the popular –Fern Grotto”). When Māmāakualono jumped into the river to swim for her life, Hina removed the dam and Māmāakualono was swept out to see. –She had three

brothers, Niolopa_a, Kōlea and _Uleli (_Ulili) living above her who may still be seen there as stones." (Dickey 1917:33; see also Wichman 1998:77).

3.2.3.10 Nounou (Sleeping Giant) Mountain Range

The Nounou Mountain range was understood as the fortress of _Aikanaka from which he waged warfare against Kawelo. Dickey (1917:24) relates the name to their final battle: –Aikanaka had collected there a large number of stones and a terrific battle with stones followed and therefore the hill has been called –Nounou," or stone battle, from that day to this." Pukui et al. (1974:167) explain that the name literally means –throwing," and similarly contend that it refers to the last stand of the tyrant _Aikanaka. The popular name for the landform, –Sleeping Giant," would appear to have been traditionally associated with _Aikanaka's gigantic warrior Kauahoa in the Kawelo tradition.

Wichman (1998:75–76, following Rice) summarizes two very different traditions for the Sleeping Giant given below.

> One legend of the Sleeping Giant says his name was Puni. While he was sleeping a fleet of war canoes from O_ahu attacked. Puni_s friends, the Menehune, tried to wake him up. They prodded him and poked him to no avail. Finally they threw huge rocks on his stomach, which bounced off and landed in the sea near the war canoes. The O_ahu fleet turned and sailed back home. The following morning the Menehune came to wake Puni up – but they could not. He was dead, for several rocks they had thrown during the night had fallen into his mouth as he snored and choked him to death.
>
> Another legend tells of a giant named Nunui. Wherever he stepped, he created a deep hole that the villagers planted with bananas. Nunui was very gentle and was popular with everyone. When the ruling chief wanted to gather rocks from upper Wailua and *'ōhi'a lehua* logs from the high mountains, Nunui got them all and helped build the heiau Kukui, which is noted for the incredibly large stones used in its walls. After a huge feast, Nunui was tired and lay down to rest. He is still sleeping there and may wake up any day.

3.2.3.11 Pae-ki'i-māhū-o-Wailua Petroglyphs

The Pae-ki_i-māhū-o-Wailua (–Row of Homosexual Images at Wailua") petroglyphs were carved on a number of boulders on the south side of the mouth of the Wailua River and have several associated traditions. Dickey (1917:16) offers that: first, the rocks formed part of the wall of the pu_uhonua when the course of the Wailua River was different; second, the petroglyphs are the hieroglyphics or first attempts of an ancient sculptor of idols; third, that when the brothers of the demigod Māui violated a command not to look at the stern of the canoe, seven of them were turned to stone at the mouth of the Wailua river (see also Wichman 1998:70); and fourth, that the goddess Kapo_ulakīna_u turned eight chiefs to stone in her anger that they were not interested in women. These Pae-ki_i-māhū-o-Wailua petroglyph rocks were designated by Kikuchi as SIHP 50-30-08-105A which was an intentional effort to include them as part of the Wailua Complex of Heiau National Historic Landmark Complex (SIHP # 50-30-08-502)

3.2.3.12 Pu'uhonua or Place of Refuge at Wailua

Wailua (particularly coastal Wailua) was known as a pu_uhonua or place of refuge (Smith 1955:15). Pu_uhonua were places of peace and safety for transgressors and non-combatants in times of strife. _Ī_ī (1959: 138) specifically states that Holoholokū was a pu_uhonua, a place ~~to~~ which one who had killed could run swiftly and be saved." Wichman (1998:70) asserts that the pu_uhonua was at Hikina-a-ka-lā while Dickey (1917:15) maintains that the pu_uhonua was actually at neighboring Hauola.

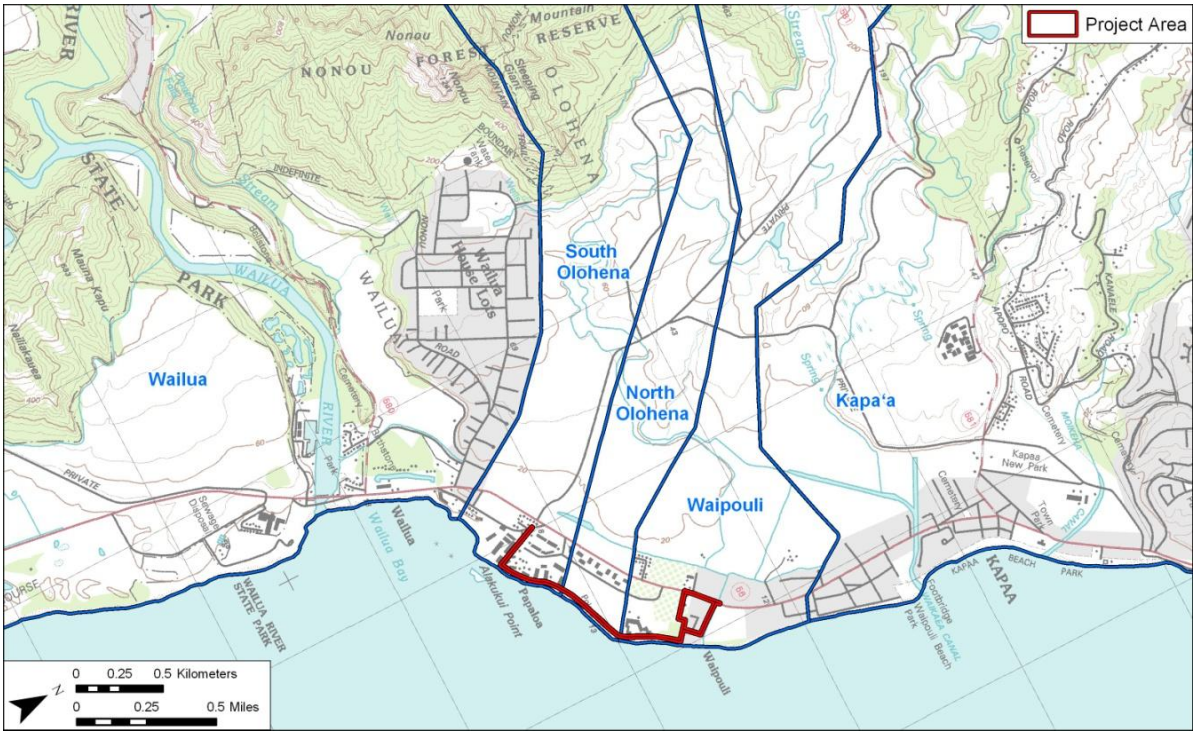

Figure 6. U.S. Geological Survey Ahupua_a Boundaries near the Project Area

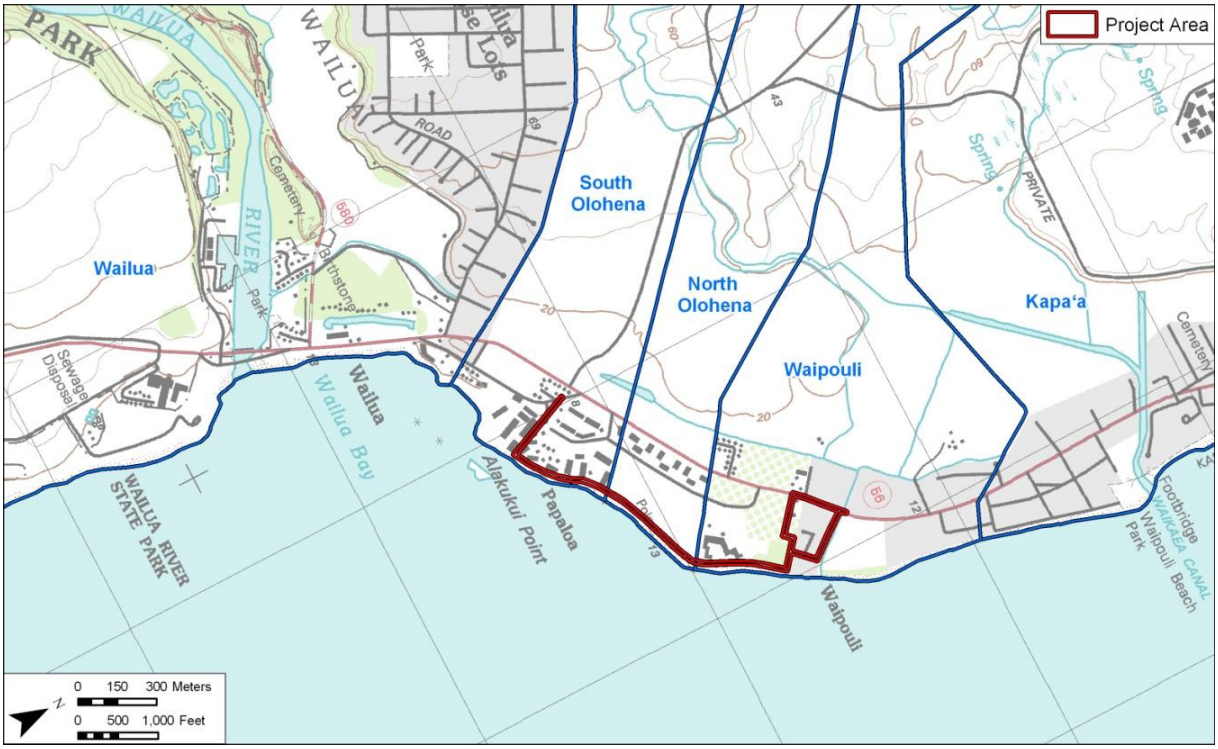

Figure 7. Closer view of U.S. Geological Survey Ahupua_a Boundaries near the Project area

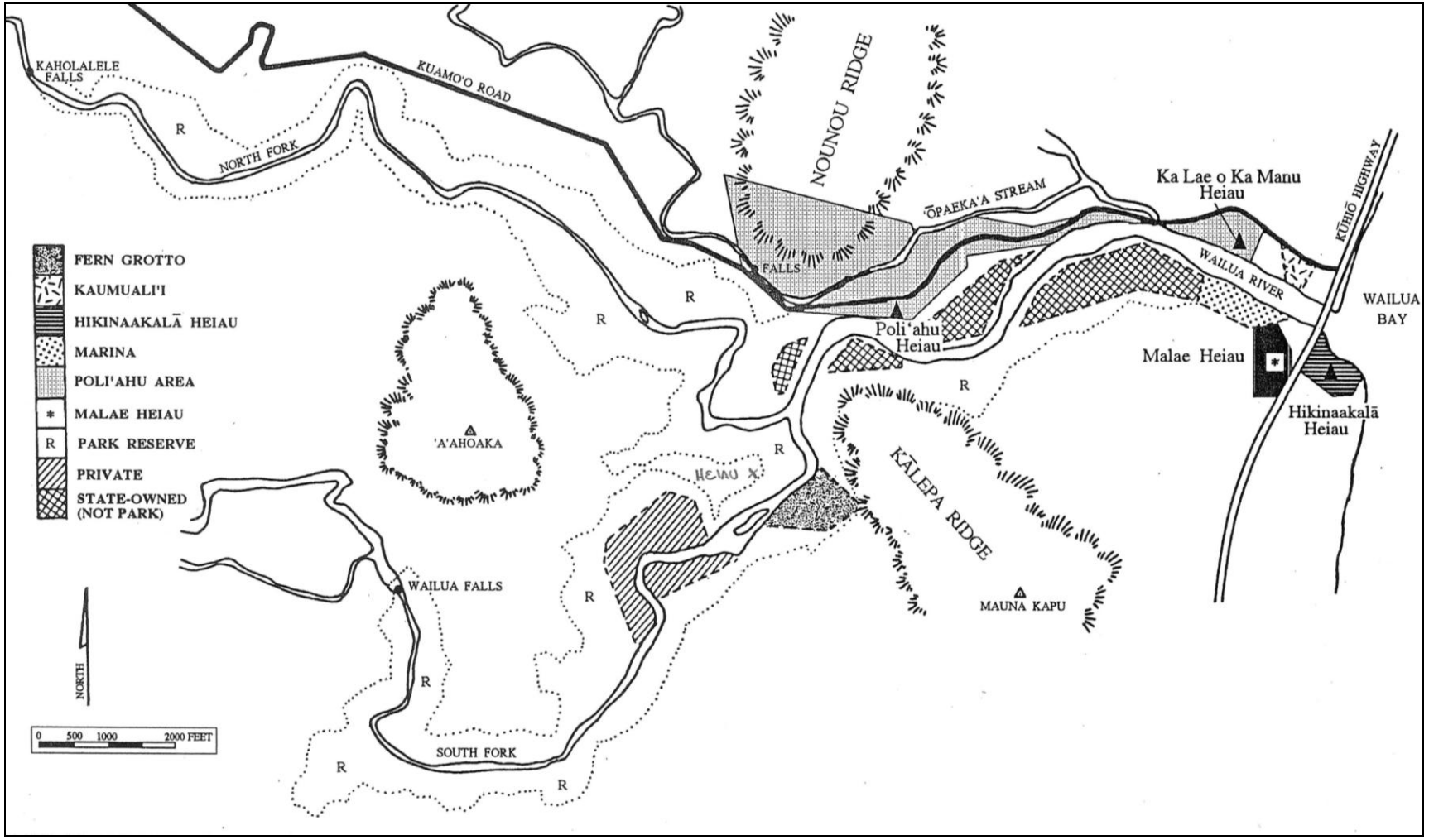

Figure 8. Map of the location of the seven heiau of Wailua (some locations approximate: modification of figure in Yent 1987:5)

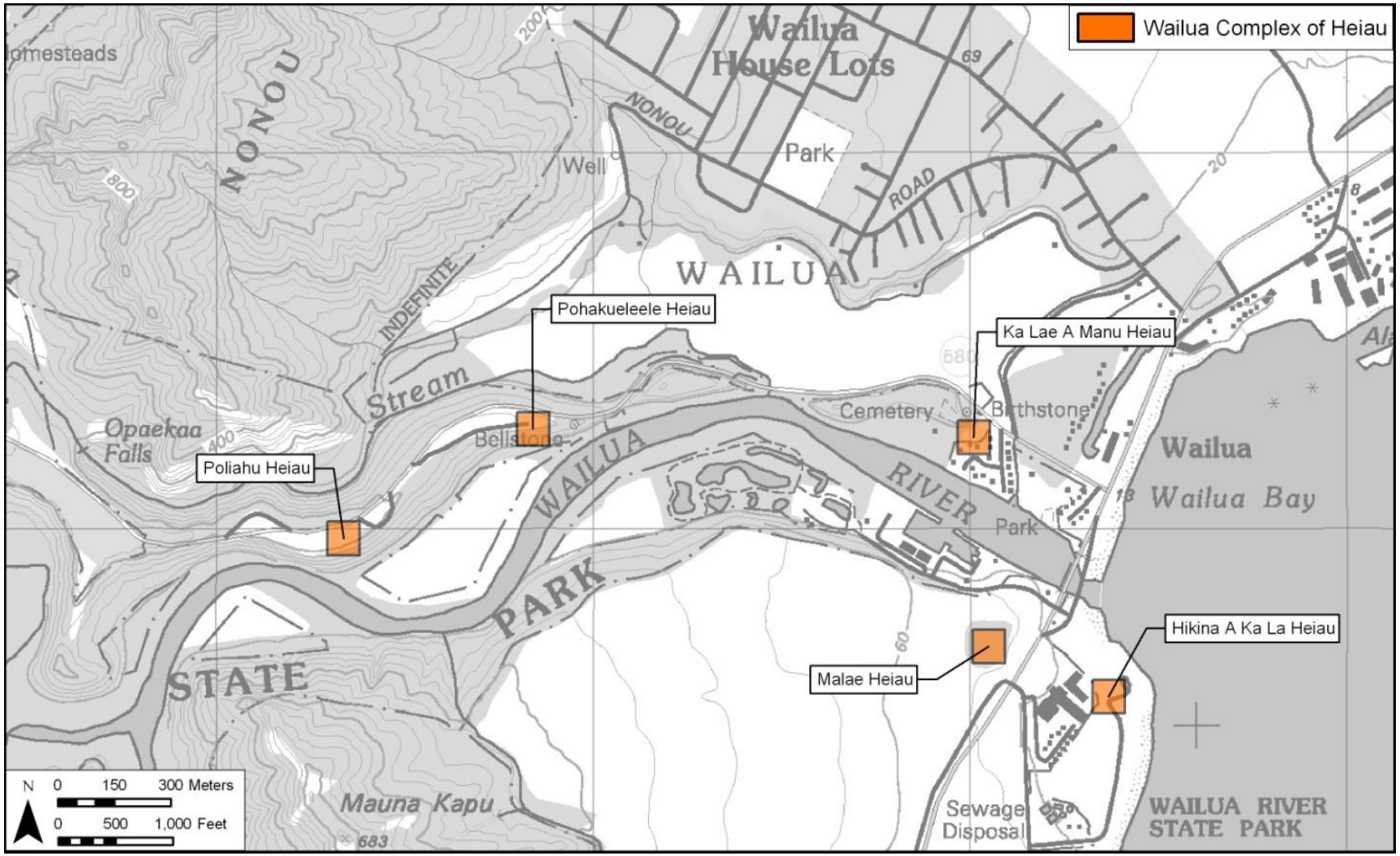

Figure 9. The Wailua Complex of Heiau of Wailuanuiho_āno

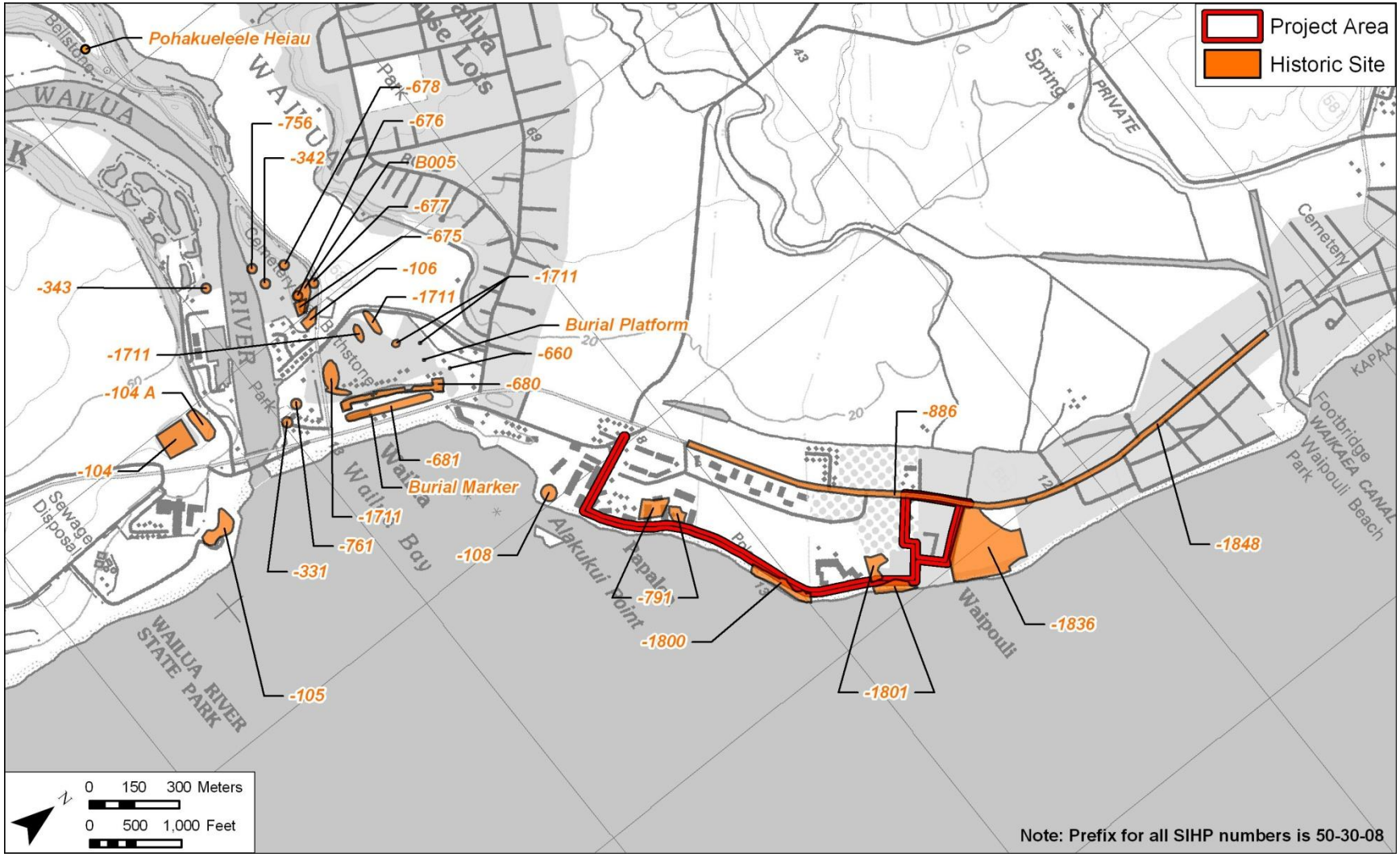

Figure 10. Archaeological Sites in Coastal Wailua Ahupua_a through Waipouli Ahupua_a (50-30-08 plus suffix)

3.3 Subsistence and Settlement

When discussing the important sites of Waipouli Ahupua_a through Wailua Ahupua_a, it is important to note that few Land Commission claims mention these areas. The flatlands between the dunes and Kālepa Ridge contain swampy areas fed by springs along the base of the ridge that may have allowed limited kalo cultivation on the margins of the marsh (Handy 1940:68).

The Wailua River, along both shores, was the most important high-status area on Kaua_i in pre-Contact times. This area was the royal center where the high chiefs carried on their business when they were not traveling about the island(s), and where they entertained visitors. Today we see a small portion of this royal center when we look at the remnants of five of the heiau (where official decision making was carried out), the Hauola Pu_uhonua (place of refuge), the birthstones, the royal coconut grove, the bell stone and the royal fishponds. There exist no visible surface remnants of the chiefly homes, the supporting lo_i and kula lands, the places of recreation, the burial place called Mahunapuoni, or Mahunapu_uone (just makai of Kapule's fishponds), the fish traps and the canoe landings.

3.4 Ala Hele: Trails

Maps from the 1800s indicate that that an ocean trail once crossed all four ahupua_a. As early as 1833, a map by Ursula Emerson shows a coastal trail near the Project area (Figure 11; Emerson 1833:107). An 1878 Government Survey Map by C. S. Kittredge shows that this trail just mauka of the Project area has perhaps become a road (Figure 12). By 1910 the course of this trail appears to have become a road, the contours of which closely match the current Kūhiō Highway (Figure 13).

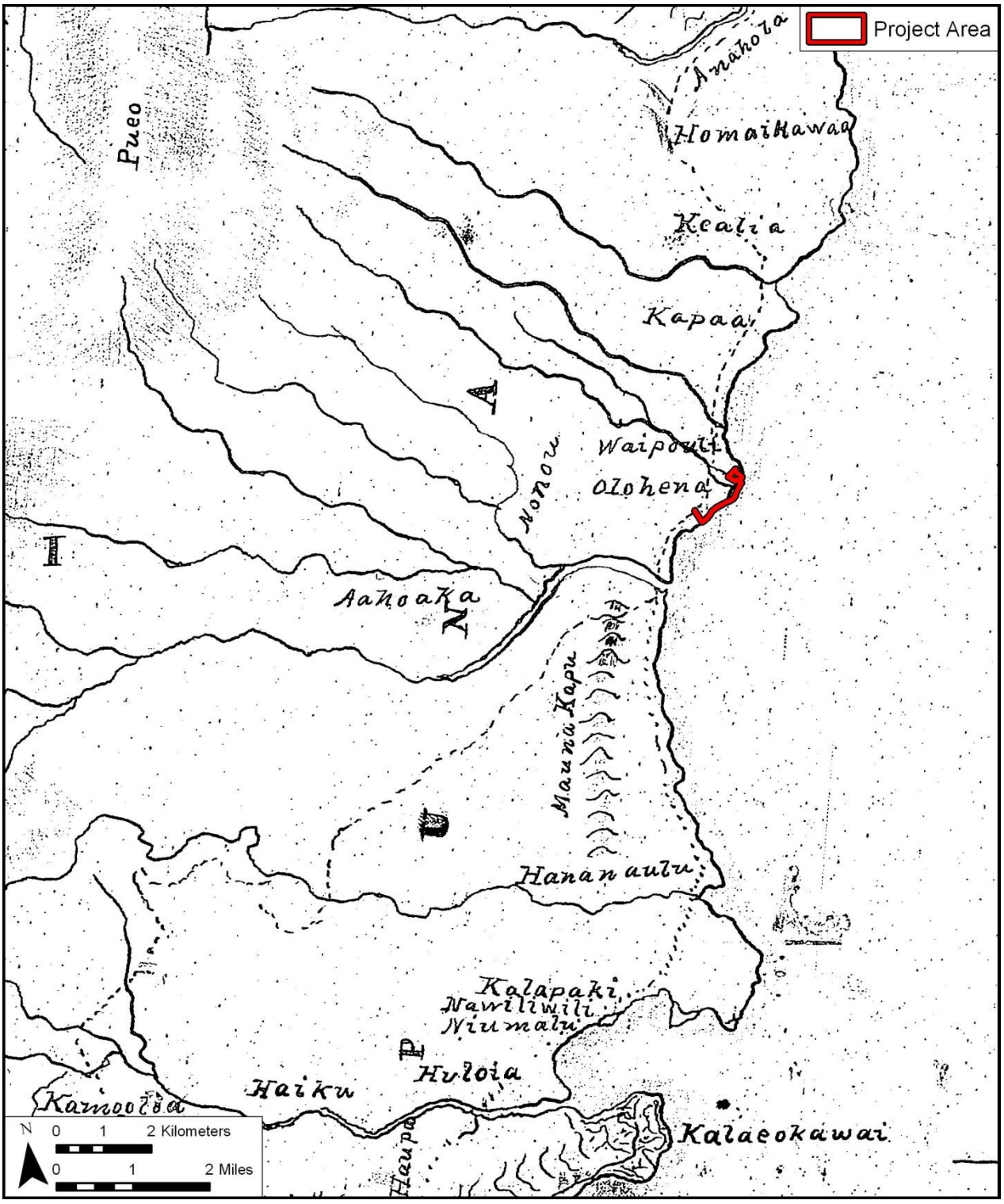

Figure 11. 1833 Emerson Map (RM 432), depicting a coastal trail near the Project area

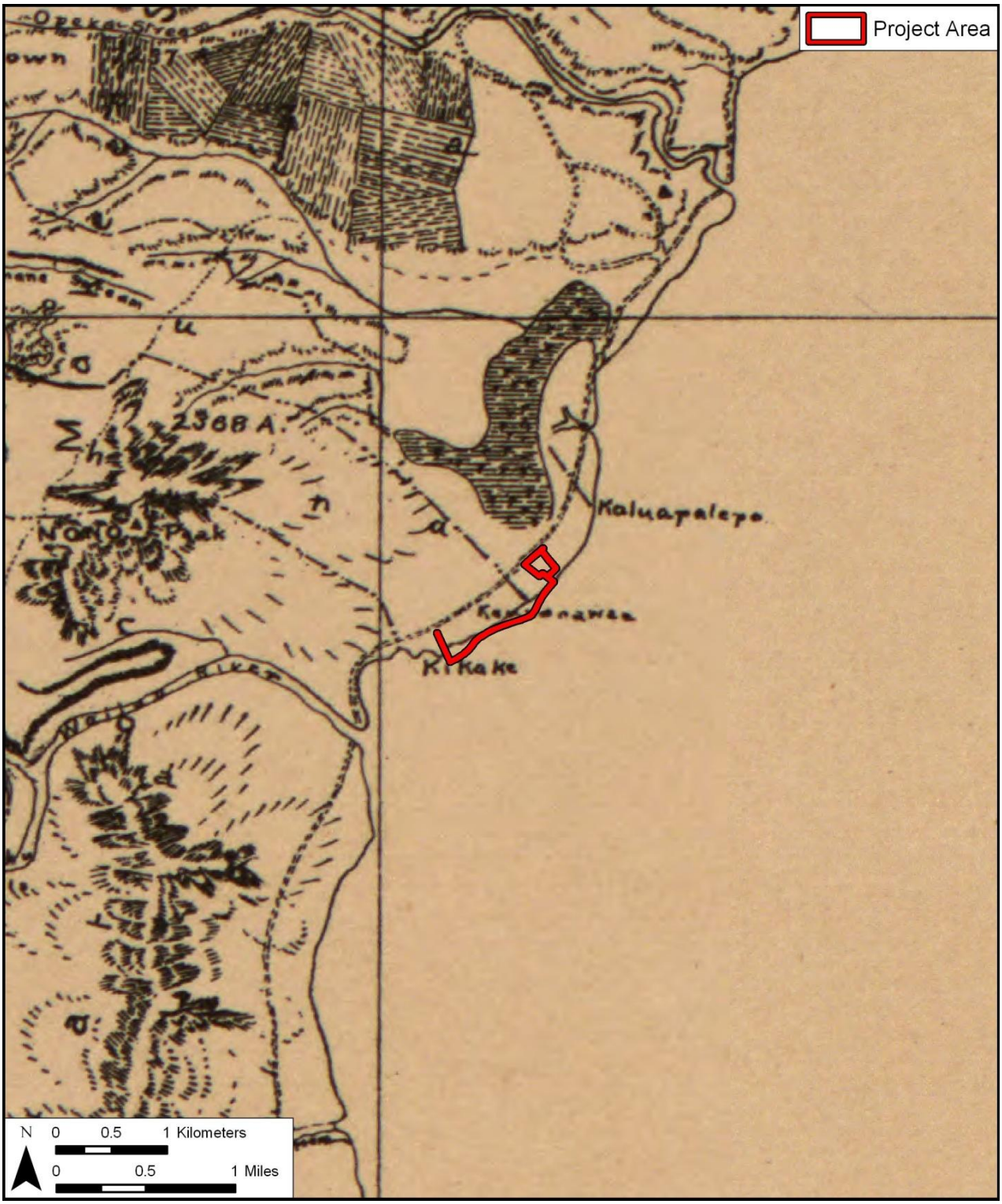

Figure 12. 1878 Kaua_i Island Government Survey Map (C. S. Kittredge)

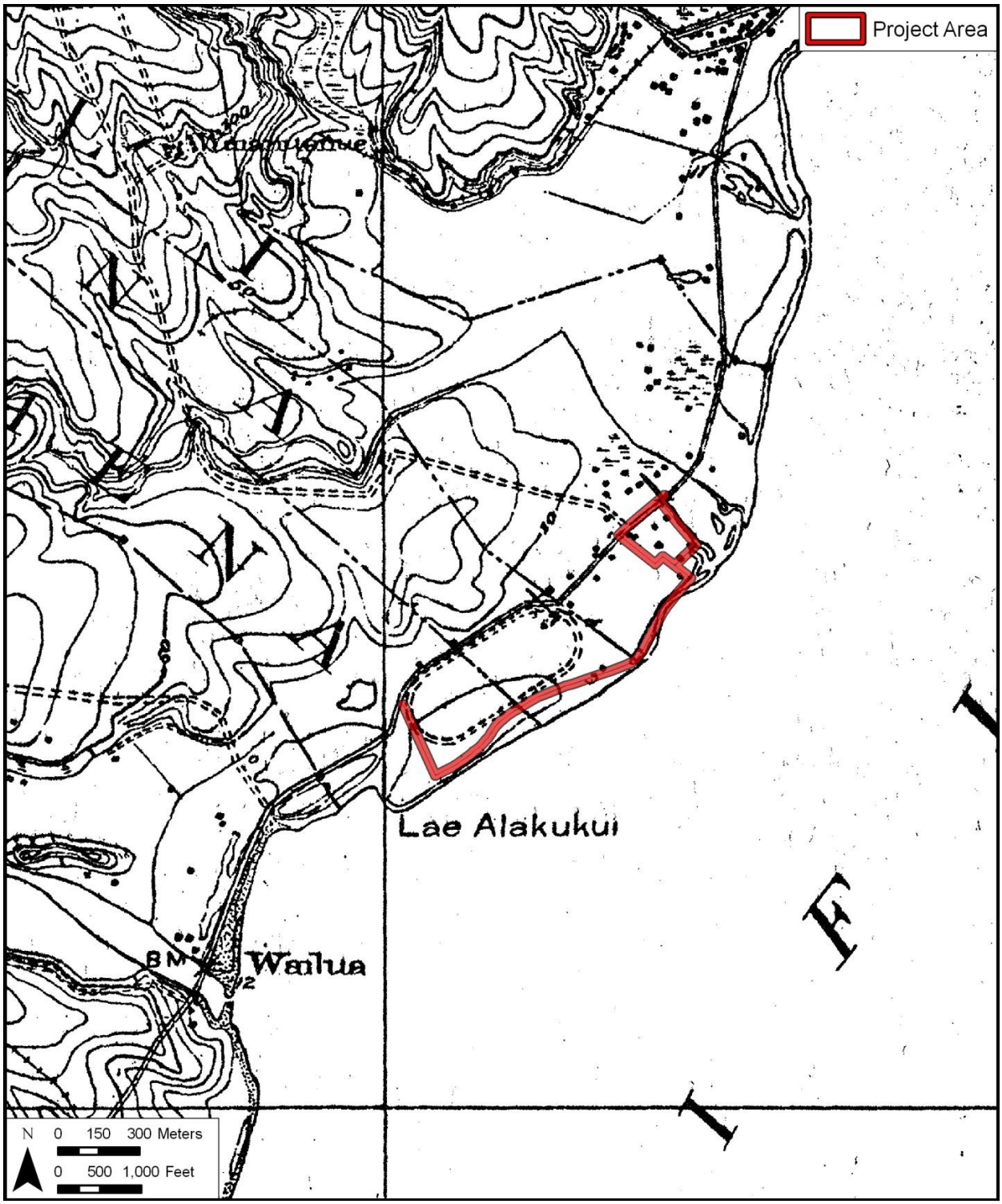

Figure 13. 1910 U.S. Geological Survey Map of south Kapa_a, Kapa_a quadrangle.

3.5 Heiau

The heiau located within these four ahupua_a exist primarily within Olohena (North and South) and Wailua Ahupua_a. Thus the discussions of heiau will not focus on Waipouli Ahupua_a.

3.5.1 Olohena (North and South)

In addition to Māhelewalu, at the summit of Olohena, where eight main land divisions converge (see Section 3.2.2 above), Wichman describes another sacrificial heiau Olohena. Wichman explains that, –After Kawelo defeated _Aikanaka, he built a heiau in Olohena that he named Ka-iki-hāuna-kā, _little striking blow.' It was built as a place to make an offering to his war god of the first enemy warrior to have been killed in battle. This would have been one of the warriors Kawelo killed as his canoe was carried onto shore" (1998:81–82). Wichman also explains that, –Nearby there was a special house built for ho_opāpā, the art of riddling. It was surrounded by a fence made of the bones of those who had lost the game. Its name was Hale-pā-iwi, _house enclosed with bones'" (82).

Another heiau in Olohena, near the Project area, is Kukui Heiau. Wichman's explanation of Kukui Heiau reflects the story of Nunui in Section 3.2.3.10 above:

> Kukui, –candlenut tree" or –enlightenment," was a huge walled *heiau* located on the headland of Lae-_ala-kukui, –point of the scent of kukui." This *heiau* is built of extremely large stones, some of them weighing several tons. The giant Nunui collected the stones and put them in position and gathered the *'ohi'a lehua* logs from the mountains to build all the structures within the walls. After it was built, he was tired and stretched out on the nearby hilltop, where he still sleeps. (Wichman:83)

Flores, in his *Historical Research of the Coco Palms Property* (2000), describes a connection between Kukui Heiau and Hikinaakalā Heiau in Wailua:

> Although this site is in the *ahupua'a* of Olohena, it provides an alignment with Hikinaakalā in delineating the confines of this safeguarded bay. There were also two stone lamps in the vicinity of this site that were said to have been used by fishermen for the purpose of locating fishing grounds and assisting canoes when entering the bay area at night. Portions of the walls presently in disrepair were said to have been constructed with large upright slabs. These large upright slabs that were encorporated into the wall facings are unique archaeological features in Hawai_i, but are commonly found in the *marae* (temple sites) of the leeward Society Islands (Flores 2000:II-6).

Kukui Heiau was placed on the National Register of Historic Places on May 18, 1987 (NRIS #8600027: National Register).

Thrum (1906:77) relates in his story –Kalelealuaka," an account of a man from Kaua_i who came to Waialua O_ahu –in search of a human body to offer as a sacrifice at the temple of Kahikihaunaka at Wailua, on Kaua_i." Kalelealuaka fetches what he believes is a corpse (in reality the unconscious hero Ka_ōpele) and places it –along with the corpse of another man, on the altar of the temple at Wailua." Dickey's and Wichman's accounts have Ka_ōpele offered at

Kukui Heiau (Dickey 1917:19; Wichman 1985:106). Ka_ōpele recovers, marries and sires a child Kalelealuaka. ~~–K~~alelealuaka went over to Wailua, where he witnessed the games of the chiefs." He engages the king in boxing and kills him (Thrum 1906:83). Ka_ōpele soon moves on to other adventures on O_ahu.

3.5.2 Wailua

There were more heiau in Wailua than in other ahupua_a on Kaua_i (Bennett 1931). As mentioned above, the lower portion of the river valley, makai of Nonou ridgeline to the north and Mauna Kapu to the south, was known as Wailuanuiho_āno, or alternately Wailuanuilani. The State of Hawai_i's pamphlet on *Poli'ahu Heiau: Wailua Complex of Heiau* explains that, ~~–W~~ailuanuiaho_ano, translated as the great sacred Wailua, refers to the lower portion of the Wailua River basin and is named for an ali_i who lived in the 14th Century." Wailuanuiho_āno was an area so sacred that it was kapu to maka_āinana, or commoners. According to Dickey (1917), only the ali_i, their kahuna and retainers could reside or visit there. At least seven major heiau have been recorded in this relatively small area of the ahupua_a (Ching 1968:28). The Wailua Complex of Heiau was declared a National Historic Landmark in 1962 (Figure 8 and Figure 9). It is important here to offer some detail regarding the significance of a few of the heiau in Wailua.

3.5.2.1 Hikina-a-ka-lā

Hikina-a-ka-lā (~~–R~~ising of the Sun") Heiau on the south side of the mouth of the Wailua River seaward of Kūhiō Highway was said to have been the pu_uhonua or place of refuge of Wailua. The heiau was designated as site 105 (SIHP # 50-30-08-105) by Bennett (1931:125–126), and this complex was included as part of the Wailua Complex of Heiau National Historic Landmark (SIHP # 50-30-08-502). The Hawaiian historian John Papa _Ī_ī (1959: 138), however, specifically states that Holoholokū was the pu_uhonua. Wichman (1998:70) gives some details including mention of the former presence of houses for the priests and refugees, presence of a pōhaku piko or umbilical cord rock (see Dickey 1917:15) analogous to that at Holoholokū Heiau and of a practice where ~~–t~~hose who had recovered from an illness dove into the water five times, a purification of the body after sickness" (see also Flores 2000:II-5) The Hauola site and the Pae-ki_i-māhū-o-Wailua petroglyphs are often regarded as part of the Hikina-a-ka-lā complex.

Dickey specifically associates the name Hikinaakalā with:

> A long narrow *heiau*, containing graves of a family that desecrated it by cultivating within its walls. It is reported that on the nights of Kāne the sound of drum and *_ūkēkē* [musical bow] played by spirits, may still be heard. This long narrow *heiau* form with two rows of uprights is quite unusual in Hawai_i but is rather characteristic of the religious shrines of the northern Society Islands suggesting possible affinities. (Dickey 1917:15)

There is also a connection between Hikinaakalā and Kukui Heiau in that the alignment between the two heiau using stone lamps provided the outline of Wailua Bay (see above, Flores 2000:II-6).

3.5.2.2 Malae Heiau

Malae Heiau (also called –Maka_ukiu Heiau" by Dickey 1917:25) located on the south side of the Wailua River mouth, just mauka of Kūhiō Highway, was said to have been of Menehune construction and to be the largest heiau on Kaua_i. Bennett (1931:125) designated Malae Heiau as site 104 (SIHP # 50-30-08-104) and this site was included as part of the Wailua Complex of Heiau National Historic Landmark (SIHP # 50-30-08-502). It is said that: –Queen Deborah [Kapule], about 1830, tore down all the interior walls and re-arranged them for cattle and pens" (Dickey 1917:25). Wichman (1998:68) cites traditions that contend the heiau was built by the Menehune who came with Kū_alunuipaukūmokumoku, and that heiau was known as Maka_ukiu or –Source of the _ukiu"—a chilly northern wind (Figure 8 and Figure 9).

3.5.2.3 Pōhakueleele Heiau

Dickey (1917:29) explains that Pōhakueleele Heiau was located on the makai tip of the promontory between the two northern branches of the Wailua River (understood to be on the north bank of the Wailua River near the bell stone). –Here a rock marked with a cross tells the place where the drum was beaten on the nights of Kāne and Lono." Ching (1968:14–15) designated Pōhakueleele Heiau as site 47, and it was subsequently denoted as SIHP # 50-30-08-334 (Figure 8, Figure 9 and Figure 10).

3.5.2.4 Poli'ahu Heiau

Dickey tells the story that Poli_ahu Heiau –was built by the menehunes [legendary race of small people], who each brought up one stone from the river on the north side of the ridge. In the center of the *heiau* is a square laid out in flat stones. About these are many pebbles which I am told were not originally there but have been born from the large flat ones" (1917:30).

Several accounts associate this heiau with a goddess Poli_ahu (Dickey 1917:31; Wichman 1098:74). Whether this is the same conception as of Poli_ahu the goddess of snows on Hawai_i Island is unclear. Bennett (1931:127) designated Poli_ahu Heiau, SIHP # 50-30-08-107 (Figure 8, Figure 9 and Figure 10) is included in the Wailua Complex of Heiau National Historic Landmark (SIHP # 50-30-08-502).

3.6 Loko I'a: Fishponds

From land commission testimony, one fishpond is identified in Waipouli: Hapakio is a fishpond (LCA 9013)of the konohiki (chief of an ahupua_a) (Figure 19). Because Wailua was the center of political and religious life on Kaua_i, the most famous fishponds existed within that ahupua_a. The account of Ka_ililauokekoa also mentions a portion of Queen Deborah Kapule's fishponds, just behind the sand berm, still exists on the grounds of the Coco Palms Resort. In 1840 members of the U.S. Exploring Expedition came to Wailua and recorded information regarding Queen Kapule's fishponds:

> Near Deborah's residence are extensive fishponds belonging to her, which have been made with great labour: they are of different degrees of saltiness. The fish are taken from the sea when young and put into the saltiest pond; as they grow larger, they are removed into one less salt, and are finally fattened in fresh water.

> While our gentlemen were there, Deborah received young fish in payment of the poll-tax, which were immediately transferred to her ponds. (Wilkes 1846:IV, 68–69)

Her fishpond, Akaimiki (also, Weuweu, Kawaiiki, Kauiki, Kaiwiki, Kaimiki), which still exists on the grounds of the Coco Palms Hotel, was of the loko pu_uone (pond near shore) type. Another fish pond was said to be located just mauka of the hotel's historic coconut grove (*Foreign Testimony* 1848:IX, 55–56; XIII 72; Kikuchi 1987:9; Lydgate 1920).

3.7 Ilina: Burials

In Waipouli, James Toenjes et al. (1991) did data recovery at Coconut Plantation to determine the extent of the habitation layer (SIHP # 50-30-08-1801), to re-identify the location of two known burials, and to evaluate the potential for finding more burials. Seventeen hand-dug trenches were excavated and the results showed a limited workshop area and a permanent habitation. No other burials were located. Radiocarbon dates indicated occupation of this site over several centuries from perhaps the 1500s.

Previous archaeological studies have shown the presence of intact cultural deposits and traditional Hawaiian burials along coastal Olohena, such as sites -791 and -1800, next to the Project area (Figure 10). The Rosendahl and Kai study (1990), directly under a portion of the Project area, also found a cultural layer and burials. In addition, the Perzinski et al. study (2001), further south, but still under the Project area, also found a cultural layer and burials.

In Wailua Ahupua_a, *Foreign Testimony* and *Native Testimony*, regarding the south edge of Land Commission Award 3346:1 to Nawai, indicate that burials existed near what is now the Coco Palms Resort. This LCA lies just mauka of Kūhiō Highway and could be the site studied by William Kikuchi (1973) when excavation for a new wing to the hotel uncovered thirty-four burials (Figure 16). This burial ground may extend under and across Kūhiō Highway. Buffum and Dega (2002) and Dega and Powell (2003) furthermore documented a traditional cultural layer in this area between Kūhiō Highway and the Coco Palms resort. In a 2004 *Archaeological Assessment of Alternative Routes Proposed for the Lydgate to Kapa'a Bike and Pedestrian Pathway Project*, Hammatt and Shideler (2004) recommended that, ~~"b~~because of the prospect for burials and/or other cultural resources archaeological monitoring is probably appropriate in this area."

Examining this LCA testimony, Nawai (LCA 3346) claimed two parcels: lo_i land (_āpana 1) and a house lot (_āpana 2). The *Foreign Testimony* from Kaniwi asserted that the house lot was in the _ili of Mahunapuoni and was bounded to the north by a pond called Kaimiki, east by the house lot of Pau, south by the seashore and west by burying ground. The recorded name of the pond as ~~"K~~aimiki" is notably close to the reported names ~~"K~~aiwiki" and ~~"K~~aiuki" (in the Kelani claim discussed below) and is likely to reflect some error in interpreting handwriting. The *Native Testimony* of Kaniui asserted that the house lot was ~~"at~~ Kunapuuone" and was bounded mauka by Kaiuiki Pond, ko_olau (windward side) by Pau's house lot, makai by beach, and kona (leeward) by cemetery. Both the *Foreign Testimony* and *Native Testimony* cite a burying ground/cemetery on the kona (leeward side) of the house lot.

~~"K~~aiuki" is yet another variant spelling of the pond. The place names reported as ~~"M~~ahunapuoni" and ~~"K~~unapuuone" almost certainly refers to sand dunes (~~"p~~u_uone") and are

probably the same place name reported as –Mahunapuoni" and –Mahunapuuone" in the testimony for the house lot of Maawe (LCA3302) (see Figure 14 and Figure 15). Tulchin and Hammatt (2009), in their *Archaeological Assessment for the State DOT Kūhiō Highway Short-Term Improvements Project*, note that:

> While the extent of this burying ground is uncertain in general terms it may be understood as including an area of low sand dunes between the fishpond and the sea extending north from Maawe's house lot to, and possibly into Nawai's house lot. This is consistent with the finds reported by Kikuchi (1973), the location of the present burial re-interment site with a marker plaque, and the location of the human remains recovered during the *Archaeological Inventory Survey of Coco Palms* (Hoffman et al. 2005).

Hoffman et al. (2005) recommended in part the following mitigation effort: –It was recommended that the Kaua_i/Ni_ihau Islands Burial Council be kept informed of development plans as they become more specific. It was recommended that the Council also be promptly informed of any discoveries of human remains that may occur."

A Wailua Boundary Commission Report notes that on the Wailua/Olohena boundary at approximately N 56° 33'W, there is a stone shaped like a dog house, and at S 85° 0'W one goes up a spur 850 links to a narrow place called Kaea (the fifth survey point between Wailua and Olohena) where there is an old burying ground surrounded by hau and kou –where the bodies of those slain in battle were buried" (Commission of Boundaries, Kauai,1:32–37) (see Section 5.3 and Figure 20).

From the north, five studies lie adjacent to the Project area, on the Golding property (SIHP # 50-30-08-1836): Folk et al. 1991, Hammatt 1992, Hammatt et al. 2000, Ida et al. 2000, McCurdy and Hammatt 2008 (Figure 16). Burials, artifacts, and features were found during these studies, conducted over seventeen years. According to Hammatt (1992) and McCurdy and Hammatt (2008), a total of 50 burials were unearthed at this site. Nearly four hundred artifacts (396) were recovered, and the site assigned SHIP # 50-30-08:1836 (Figure 10).

In 1991 Cultural Surveys made the following determination regarding the northern portion of the Project area: –the association of humans [sic] burials in makai areas of the site" (Hammatt 1991b:52). The Rosendahl and Kai study (1990), directly under a portion of the Project area, also found a cultural layer and burials. In addition, the Perzinski et al. study (2001), further south, but still under the Project area, also found a cultural layer and burials.

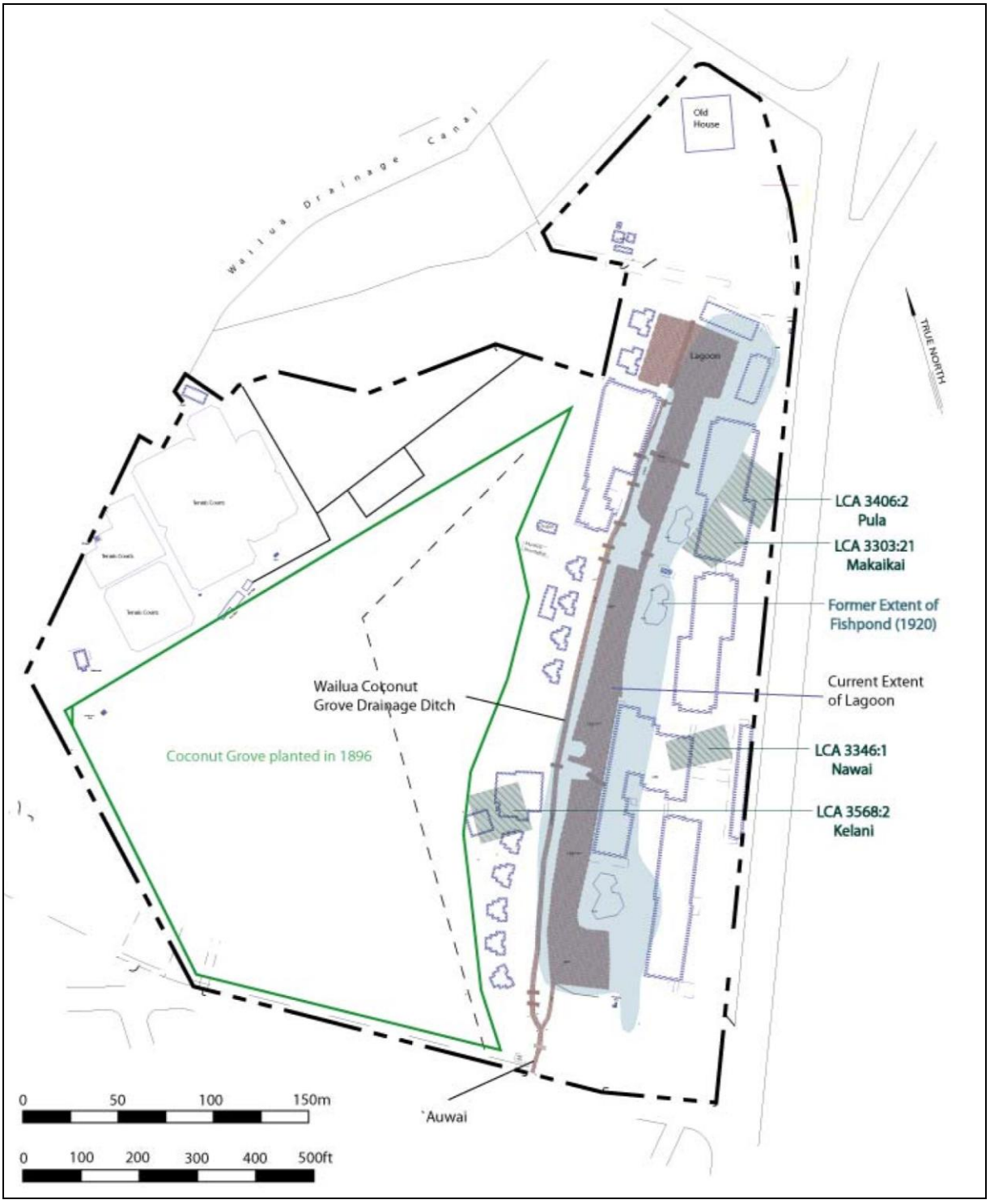

Figure 14. Coco Palms Hotel and the coconut grove, showing relationship of modern features of the lagoon, drainage ditch, and _auwai (canal) to the former locations of the fishponds; and, LCA awards surrounding the fishponds (adapted from map provided by Coco Palms Ventures, LLC.)

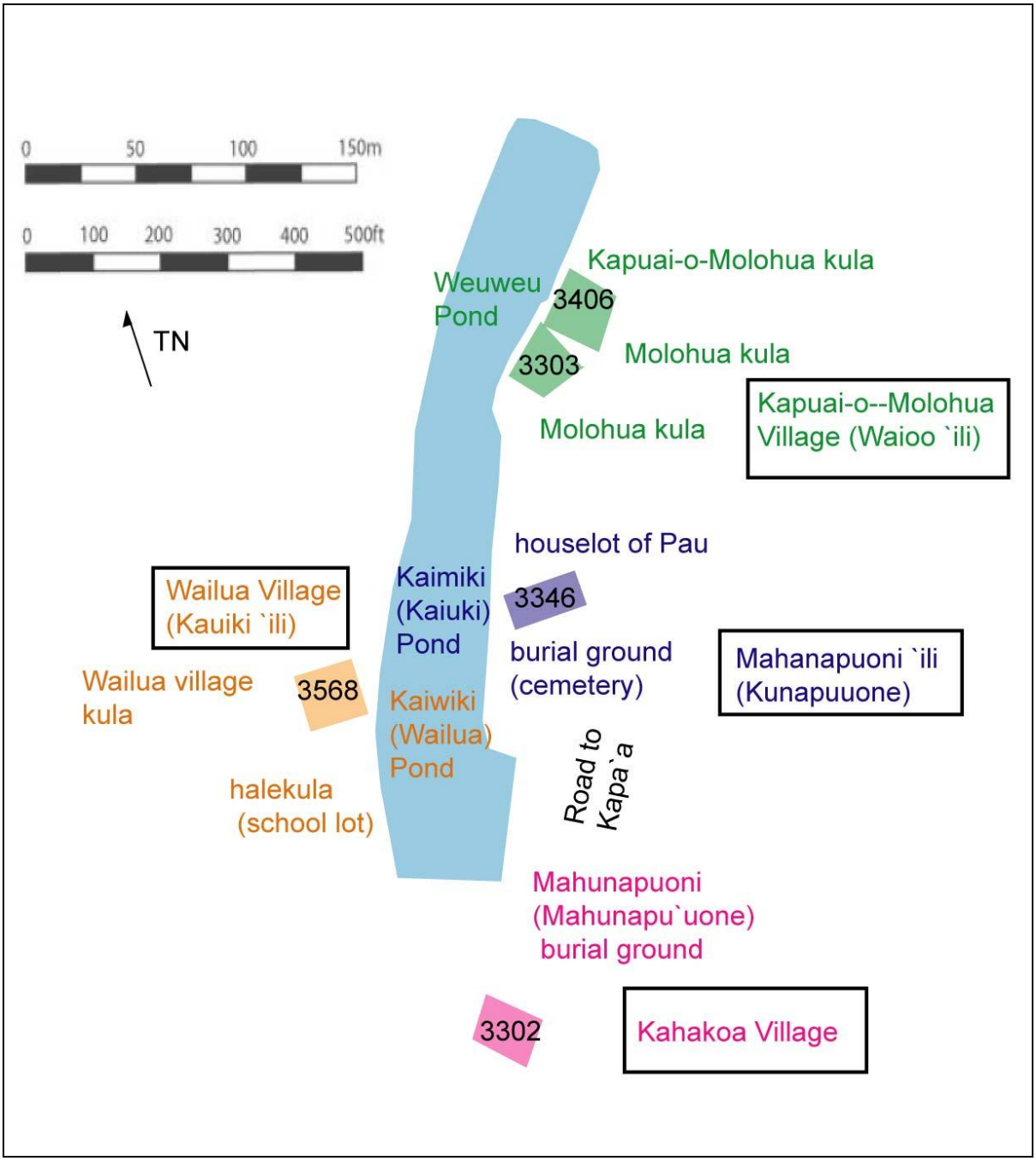

Figure 15. Tracing of 1920 Lydgate map (Hawai_i, Registered Map No. 2699), showing Land Commission Awards 3406, 3303, 3346, and 3568 on the Coco Palms property with location information from the Native and Foreign Testimony labeled (colors indicate the LCA source of location information); LCA 3302, outside the Coco Palms property, located the burial ground of Mahunapu_uone to the north of the LCA parcel, placing the burial between LCAs 3302 and 334 (Lydgate 1920b)

Section 4 Archaeological Research

4.1 Overview

Figure 16 depicts the archaeological research near the Project area. Figure 10 above shows the identified archaeological sites near the Project area. As with the sections above, the discussions regarding the archaeology of the area will follow the same north to south progression, from Waipouli to Wailua (in Figure 12 this means right to left). Moreover, these discussions will center on the sites and research that relate most directly to the Project area. For a more extensive discussion of the archaeology of the area, see the forthcoming Archaeological Inventory Survey (Hammatt 2011).

4.2 Archaeological Research in the Area

Table 1 lists the recent archaeological research identified near the Project area. While most archaeological research has been conducted near Wailua River, because of the historical and religious significance of that ahupua a, six studies fall directly within the Project area; five are adjacent to the Project area (see Figure 16). In a 2004 *Archaeological Assessment of Alternative Routes Proposed for the Lydgate to Kapa'a Bike and Pedestrian Pathway Project*, Hammatt and Shideler (2004) recommended that, "because of the prospect for burials and/or other cultural resources archaeological monitoring is probably appropriate in this area."

From the north, five studies lie adjacent to the Project area, on the Golding property (SIHP # 50-30-08-1836): Folk et al. 1991, Hammatt 1992, Hammatt et al. 2000, Ida et al. 2000, McCurdy and Hammatt 2008. Burials, artifacts, and features were found during these studies, conducted over seventeen years. According to the Hammatt (1992) and McCurdy and Hammatt (2008), a total of 50 burials were unearthed at this site. Nearly four hundred artifacts (396) were recovered, and the site assigned SHIP # 50-30-08:1836 (Figure 10).

In the northern portion of the Project area, along Kūhiō Highway, in 1991 Cultural Surveys made the following determination:

> All three archaeological sites identified in the project area are evaluated as significant for informational content (Criteria D of the National Register). In addition, Site -1836 is evaluated as being culturally significant (Criterion E) because of the association of humans [sic] burials in *makai* areas of the site. This evaluation of Site 1836, as culturally significant means only that there are known burials at other portions of the site besides the project area and does not necessarily effect recommendations since on-site monitoring is already recommended for the cultural layer. (Hammatt 1991b:52)

The Rosendahl and Kai study (1990), directly under a portion of the Project area, also found a cultural layer and burials. In addition, the Perzinski et al. study (2001), further south, but still under the Project area, also found a cultural layer and burials.

Of particular concern is Kukui Heiau located right on the coast of central South Olohena at Alakukui Point. Kukui Heiau (designated SIHP # 50-30-08-108) was placed on the Hawai i Register of Historic Places in 1986 and was placed on the National Register on May 18, 1987

(NRIS #8600027: National Register). In 1977 Bordner and Davis surveyed the heiau area. This site effectively extends from high-water right up and into the Lae Nani Condos parcel. The State Historic Preservation Division and concerned Hawaiian groups are likely to oppose trail impacts near Kukui Heiau.

4.3 Recent Archaeological Studies in the Vicinity of the Project Area

For a more extensive discussion of the archaeology of the area, see the forthcoming Archaeological Inventory Survey for the *Lydgate to Kapa'a Bike and Pedestrian Pathway Project, Ahupua'a of South Olohena, North Olohena, and Waipouli, Island of Kaua'i* (Hammatt 2011).

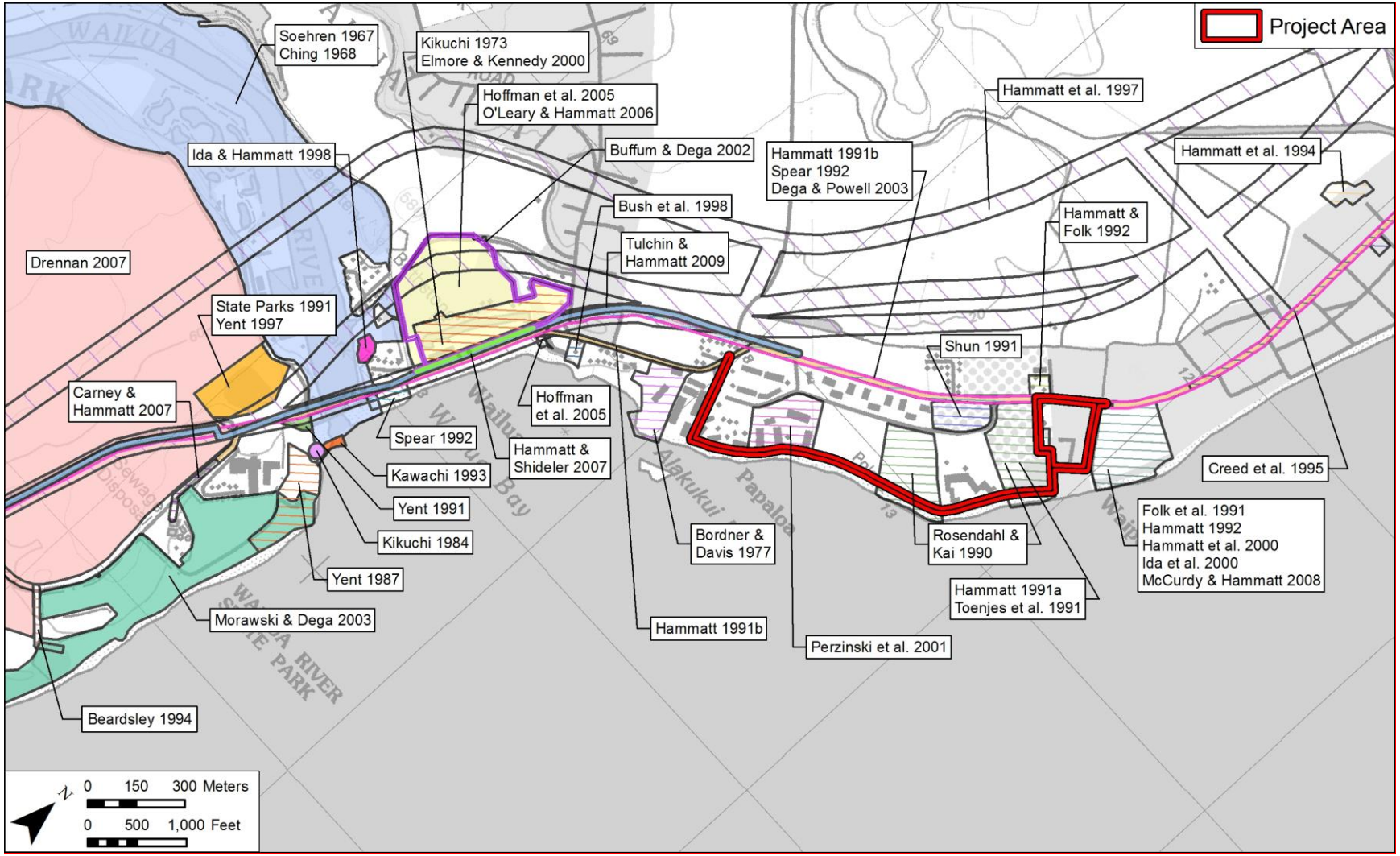

Figure 16. Previous Archaeology near the Project area

Table 1. Recent Archaeological Surveys near the Project area (from north to south)

Source	Location	Nature of Study	Findings
Hammatt et al. 1994	Lands mauka of Kūhiō Highway crossing Waipouli Ahupua_a	Archaeological Assessment	Notes the extensive marshlands stretching across portions of Waipouli just mauka of Kūhiō Highway and the potential for paleoenvironmental data and evidence of wetland cultivation
Creed et al. 1995	Kūhiō Highway between Wana Road and Keaka Road in north Waipouli	Archaeological Monitoring Report	4 burials designated SIHP # 50-30-08-872 within the cultural layer designated SIHP # 50-30-08-1848
Folk et al. 1991	(TMK: 4-3-08:1) 12.66-Acre Parcel makai of Kūhiō Highway, central Waipouli	Archaeological Survey and Subsurface Testing	An extensive pre-contact layer and 8 identified burials; was assigned SIHP # 50-30-08-1836
Hammatt 1992	Also at –Niu Pia" site (TMK 4-3-08:1)	Inventory Survey and Subsurface Testing	3 human burials unearthed
Hammatt et al. 2000	(TMK: 4-3-08:1) 12.66-Acre Parcel makai of Kūhiō Highway, central Waipouli	Archaeological Data Recovery Report	Documents extensive finds of midden artifacts and features
Ida et al. 2000	(TMK: 4-3-08:1) 12.66-Acre Parcel makai of Kūhiō Highway, central Waipouli	Documentation of Burial Disinterment	Documents Burial Finds

Source	Location	Nature of Study	Findings
McCurdy and Hammatt 2008	(TMK: 4-4-3-008:1) Waipouli Beach Resort	Archaeology Monitoring Report	47 human remains were found and 396 artifacts were recovered; it was assigned SHIP # 50-30-08:1836
Hammatt and Folk 1992	TMK 4-3-06:01, adjacent to mauka side of Kūhiō Highway, central Waipouli	Archaeological Subsurface Testing	No significant findings
Hammatt et al. 1997	Just mauka of Kūhiō Highway, central South Olohena	Archaeological Inventory Survey	A sediment core yielded no significant findings
Shun 1991	Makai of Kūhiō Highway	Archaeological Subsurface Testing	No subsurface cultural deposits nor any human remains nor evidence of lo i
Rosendahl and Kai 1990	North coastal North Olohena	Archaeological Inventory Survey	Cultural layer Site - 1800 and burials (3) at coast
Hammatt 1991a	Coconut Plantation Development Site 6 (TMK: 4-4-3-07:27) makai of Kūhiō Highway, S. Waipouli	Archaeological Testing Results	17 1-m^2 hand-dug units better defined the site
Spear 1992 (appears twice in Figure 16 and in table)	Along Kūhiō Highway, South and North Olohena	Archaeological Subsurface Testing	No significant findings
Dega and Powell 2003	Kūhiō Hwy.	Archaeological Monitoring Report	No significant finds
Perzinski et al. 2001	On coast, NE edge of South Olohena	Archaeological Monitoring Report	A cultural layer and burials (2) were given SIHP # 50-30-08-791

Source	Location	Nature of Study	Findings
Davis and Bordner 1977	Alakukui Point, central coastal South Olohena	Archaeological Investigation of Heiau	Specified position and dimensions of Kukui Heiau
Hammatt 1991b (appears twice in Figure 16)	Kūhiō Highway Road Corridor, South and North Olohena	Archaeological Subsurface Testing	Excavation of 3 trenches (3,4,and5) produced no significant findings
Tulchin and Hammatt 2009	Aleka Loop to Leho Drive, along the mauka side of Kūhiō Highway	Archaeological Assessment	Background research indicated probability of subsurface cultural deposits and/or human burials
Bush et al. 1998	Just mauka of Papaloa Road	Archaeological Inventory Survey with Subsurface Testing	No cultural finds besides modern debris associated with pre-existing residence; no further archaeology recommended
Hoffman et al. 2005	Coco Palms Resort	Archaeological Inventory Survey with Subsurface Testing	Three historic properties identified: a burial ground (site -681) and remains of two fishponds (site -680)
O'Leary and Hammatt 2006	Coco Palms Resort	Archaeological Inventory Survey Addendum	Confirmed findings reached from Hoffman et al. 2005
Buffum and Dega 2002	Coco Palms	Archaeological Monitoring Report	Cultural layer identified as site -1711
Kikuchi 1973	Coco Palm Hotel, north of Wailua River, mauka of Kūhiō Highway	Burial Study	Discusses 34 burial finds, other features and artifacts

Source	Location	Nature of Study	Findings
Hoffman et al. 2005	Coco Palms Resort	Archaeological Inventory Survey	Number of inviduals disinterred could be as high as 85 (p.26)
Elmore and Kennedy 2000	N end of Coco Palms property North of Wailua River mouth	Burial Study	Summarized treatment of inadvertently disturbed burials
Spear 1992 (appears twice in Figure 16 and in table)	North of Wailua River mouth, makai of Kūhiō Highway	Sub-surface Testing (7 backhoe trenches)	No significant findings; two charcoal lenses noted.
Ida and Hammatt 1998	North of Wailua River, makai of Kūhiō Highway	Recovery of Inadvertently Discovered Human Remains (SIHP # 50-30-08-761)	Human remains were in poor condition; fragments retrieved during removal displayed bleaching from being exposed to the environment
Kawachi 1993	Mouth of Wailua River	Survey of river mouth (4-1-04:01)	Discovered unreported submerged petroglyph, no site number assigned
Yent 1991	South side Wailua River Mouth	Damage Assessment	Summary of petroglyph SIHP # 50-30-08-105A
Kikuchi 1984	South of Mouth of Wailua River	Mapping of Petroglyphs	Survey of petroglyphs noted 36 figures, more possibly in river and bulldozer damage from clearing mouth of river

Source	Location	Nature of Study	Findings
State Parks 1992	Poli_ahu Heiau	Interpretive Signage Plan	Summarizes data on Poli_ahu Heiau and recommends measures to mitigate any disturbance of boulders in the area
Yent 1987	South of Mouth of Wailua River	Demolition of old comfort station and corings for new comfort station	No subsurface cultural deposits located
Carney and Hammatt 2007	West side of Leho Drive county road from intersection with Kūhiō Highway	Archaeological Monitoring Report for Leho Drive sewer line installation	Archaeological monitoring did not yield any cultural material
Morawski and Dega 2003	South of Wailua River makai of Kūhiō Highway	Archaeological Monitoring Report (SIHP # 50-30-08-103)	Concluded that additional burials are likely to be found in the area
Beardsley 1994	Kaua_i Community Correctional Center west of Kūhiō Highway and the Wailua County Golf Course	Sub-surface testing for sewer line	One burial designated Site -9357 regarded as part of Bennett's SIHP # 50-30-08-103 but no other significant findings
Drennan 2007	TMK: 3-9-02: 12, 24 and 25; 30+ acres along Kūhiō Highway	Archaeological Inventory Survey of proposed Wailuā [sic.] Residential Subdivision	Two sites (TS-1 and TS-2) are significant under Criteria D; one site (TS-3) significant under Criteria D and possibly Criteria E

Section 5 Historical Background

5.1 Overview

As with the previous traditional background sections, it would be difficult to discuss the development South Olohena, North Olohena and Waipouli without placing this history within the contextual influence of Wailua Ahupua_a. The discussions of historical development in the four primary ahupua_a, Waipouli through Wailua, will begin from the north and move southward. Because the discussion of Land Commission Awards is linked to specific parcels near the Project area, that section on the ―Mid-Nineteenth Century and the Māhele" will cover the specific ahupua_a of this study—that is, Waipouli and the Olohena Ahupua_a.

5.2 Early Historic Period

Accounts of excursions by missionaries and naturalist-travelers along the east coast of Kaua_i during the first half of the nineteenth century make no specific reference to Waipouli. These accounts may reflect a general lack of information about the area, perhaps the result of shifts in population that had taken place on Kaua_i in response to the stresses—including disease and commerce—of post-European Contact life. J. W. Coulter, in his study based on the missionary censuses, comments that by the mid-nineteenth century ―on the east coast of Kauai nearly all the people lived in Ko_olau Wailua and in the vicinity of Nāwiliwili Bay" (1931:15).

With both Olohena Ahupua_a, as with Wailua, few Westerners visited these places in the years just after Cook's arrival, hence detailed descriptions of the area are scarce. Most of the voyagers during the late eighteenth and early nineteenth centuries landed at Waimea, on the southwestern side of the island, a location that would eventually overshadow Wailua in its royal importance because of the opportunities there to associate and trade with these foreigners (Lydgate 1920a).

However, in 1793, Wailua was still the ―capital" of Kaua_i and Capt. George Vancouver, who had already visited the island several times under Capt. James Cook and later on his own, knew this fact well and tried to land there in March. Although conditions prevented him from anchoring, Vancouver observed the area from off shore and gave this description:

> This part seemed to be very well watered, as three other rapid small streams were observed to flow into the sea within the limits above mentioned. This portion of Attouai [Kaua_i], the most fertile and pleasant district of the island, is the principal residence of the King, or, in his absence, of the superior chief, who generally takes up his abode in an extensive village, about a league to the southward of the north-east point of the island. Here Enemo the regent, with the young prince Tamooerrie, were now living…. (Vancouver 1798:221–222)

Missionary Hiram Bingham passed through Wailua twice in 1824 and visited the birthplace of King Kaumuali_i (*pōhaku ho'ohānau*), a hōlua slide (ancient sledding course) and the lower falls (Wai_ehu) on the south fork of the river, but left no clues as to the size of extent of the settlement there (Bingham 1847:220, 231).

5.3 Kia'imakani

If Waipouli presented a nondescript appearance to a nineteenth-century visitor, a more interesting past is hinted at in the documented presence of a chief of Waipouli, Kia_imakani, at two important events on Kaua_i during the first quarter of the nineteenth century. In 1824, the brig ―Pride of Hawaii," owned by Liholiho (Kamehameha II), ran aground in Hanalei Bay. Hiram Bingham (1848:221–222) recorded the efforts of a great crowd of Hawaiians to pull the vessel to shore for salvage.

> Kiaimakani passed up and down through the different ranks, and from place to place, repeatedly sung out with prolonged notes, and trumpet tongue…. –be quiet—shut up the voice." To which the people responded … –say nothing," as a continuance of the prohibition to which they were ready to assent when they should come to the tug. Between the trumpet notes, the old chieftain, with the natural tones and inflections, instructed them to grasp the ropes firmly, rise together at the signal, and leaning inland, to look and draw straight forward, without looking backwards toward the vessel. They being thus marshaled and instructed, remained quiet for some minutes, upon their hams.

The salvage efforts ultimately failed and the brig was lost. Bingham's account vividly suggests the force of personality of the chief and further depicts an authority and stature that may have been founded upon the traditional prestige of his domain, Waipouli.

Kia_imakani appears in Samuel Kamakau's (1961) account of the 1824 rebellion of the chiefs of Kaua_i upon the death of Kaumuali_i. Kalanimoku, representative of Kamehameha II, had called a council of the Kaua_i chiefs at Waimea during which he announced:

> –The lands shall continue as they now stand. Our son, Kahala-I_a, shall be ruler over you." A blind chief of Waipouli in Puna [the district at that time], named Kia_i-makani, said, –That is not right; the land should be put together and re-divided because we have a new rule," but Ka-lani-moku would not consent to this. (Kamakau 1961:267)

Some Kaua_i chiefs, including Kia_imakani, rebelled against the imposed decrees.

> On August 8 [1824] the battles of Wahiawa was fought close to Hanapēpē. The Hawaii men were at Hanapēpē, the Kauai forces at Wahiawa, where a fort had been hastily erected and a single cannon (named Humehume) mounted as a feeble attempt to hold back the enemy…. Large numbers of Kaua_i soldiers had gathered on the battleground, but they were unarmed save with wooden spears, digging sticks, and javelins…. No one was killed on the field, but as they took to flight they were pursued and slain. So Kia_i-makani, Na-ke_u, and their followers met death. (Kamakau 1961:268)

Kamakau's singling out of Kia_imakani for special mention reinforces the impression that the chief and his ahupua_a may have shared a traditional prestige. However, by the twentieth century, Handy and Handy (1972:424) would describe Waipouli as, —A rather insignificant ahupua_a south of Kapa_a, watered by Konohiki stream, in the bed of which there were flats where taro was once planted. There is some level, swampy land by the sea that looks as if it had been terraced."

5.4 U.S. Exploring Expedition of 1840

In October 1840, members of the U.S. Exploring Expedition came to Wailua and recorded the following:

> The country on this route was uninteresting, until they reached Wailua, the residence of Deborah, a chief woman of the islands, readily known as such from her enormous size, and the cast of her countenance. She has a person living with her called Olivia Chapin, who speaks English, and has learned how to extort money. Deborah has about forty men in her district; but they were absent, being employed in the mountains cutting timber to pay the tax to the king….

> Wailua, (two waters) was formerly a place of some importance. It is situated on a small stream of the same name, in a barren, sandy spot.
>
> (Wilkes 1846:IV, 68–69).

Debora Kapule, the former wife of Kaua_i sovereign Kaumuali_i, took up residence in Wailua shortly after the rebellion of 1824 in which Kaumuali_i's son George led a revolt which was put down by forces loyal to Kamehameha II. Debora, who remained loyal to Kamehameha, was granted lands at Wailua by Ka_ahumanu, kuhina nui or regent, of the islands.

It is important to note in the above U.S. Expedition account that there are only –about forty men" in the district. This is seemingly a major reduction in settlement from Vancouver's 1793 observation of an –extensive village." The apparent decrease in population may be attributed to the decimation of native Hawaiians by Western-introduced diseases and possibly by a movement of people to the Waimea area, which by 1840 had become the center of trade and politics on Kaua_i.

5.5 Mid-Nineteenth Century and the Māhele

Documentation produced during the second half of the nineteenth century creates a more lively sense of Waipouli itself. At the time of the Great Mahele, William C. Lunalilo (the future king) was awarded the entire ahupua_a of Waipouli along with Kāhili, Kalihiwai, Pīla_a, Manuahi, Kamalomalo_o and Kumukumu (Table 2).

Land Commission records reveal ten individual kuleana awards (small piece of property, as within an ahupua_a; some are divided into two plots) within the makai portion of Waipouli (Figure 17). An 1872 map by James Gay delineating the boundaries of Kapa_a and adjacent lands shows that much of this makai region of Waipouli was a –swamp" that extended into and across the southeast makai portion of Kapa_a (Figure 18). This swamp, perhaps the site of a former fishpond, appears to be the most pervasive natural feature of the seaward end of Waipouli. The ten kuleana claims show house lots and kula from shore to inland.

R. Lane's 1929 map, traced from a M. D. Monsarrat map based upon an 1886 survey, charts the disposition of the ten Land Commission Awards (LCAs) of Waipouli (Figure 19). Eight of the awards included separate _āpana for taro lo_i and pāhale. Kula and lo_i associated with these awards were located within and adjacent to the extensive swamp. Peter H. Buck (1964) describes how the marsh areas would have been utilized: –Wet taro planting took place along the banks of streams and in swamps where the mud was heaped up into mounds." However, it is in combination with details gathered from the *Foreign Testimony* for the Waipouli LCAs that the map—and the area itself—comes to life. Since seven of the ten claims are testified to by one man, Kaalihikaua (who is himself one of the claimants), and two other claimants testify for the remaining three claims, the testimonies in aggregate may possess a uniformity and heightened accuracy. No one in the claims mentions sweet potatoes, although Handy and Handy (1972:424) suggested they would have been grown along the coastal plain.

Table 2. Chart of Land Use from Waipouli LCAs

LCA no.	Claimant	'Ili of Ahupua'a	Land use	No. of 'Āpana
3243	Honolii	Kupanihi Village	mahina_ai (farm), 7 lo_i	(Award in Kapa_a)

LCA no.	Claimant	‘Ili of Ahupua‘a	Land use	No. of ‘Āpana
3560	Kauakahi	Pua/Puaa Puuiki	3 lo_i, kula, house lot	(Award in Wailua)
3622	Kamaholelani Kukaeuli	Makamakaole Village	3 lo_i and kula, house lot	1 (2 acres, 1 rood, 3 rods) 1 (1 rood, 2 rods)
3624	Kaumiumi	Pōhaku Makamakaole Village	3 lo_i and small kula, house lot	1 (3 roods, 38 rods) 1 (1 rood, 8 rods)
3639	Kapalahua and Nalopi	Kekee Kanalimua Village	3 lo_i and uncult. kula, house lot	1 (3 roods)
3971 See 3243		Honolii	living at Waipouli	
7636	Kanaka	Mokuapi Makahokoloko Village	3 (5) lo_i house lot	2 (3 roods, 27 rods)
8559B	Kanaina, C. for Lunalilo	Ahupua_a of Waipouli	Revenue	_Āpana 42
8836	Kaalihikaua	Kaheloko	2 lo_i, kula, wauke, pig pen, house lot	1 (1 acre, 8 rods)
8838	Kahukuma	Pini	2 lo_i, kula and house lot	1 (1.5 acres, 37 rods)
8839	Kuaiwa	Hape Mokanahala / Mokunahala Village	4 lo_i and sm. kula, house lot	1 (3 roods, 13 rods) 1 (1 acre, 1 rood, 1 rod)
9013	Nawaimakanui Kawaimakanui	Naohe Uahalekakawawa	3 lo_i, house lot	1 (1 acre, 12 rods) 1 (1 rood, 27 rods)
10146	Mahi	Pau Paikahawai	3 lo_i and sm. kula, house lot	1 (1 acre, 17 rods) 1 (1 rood)

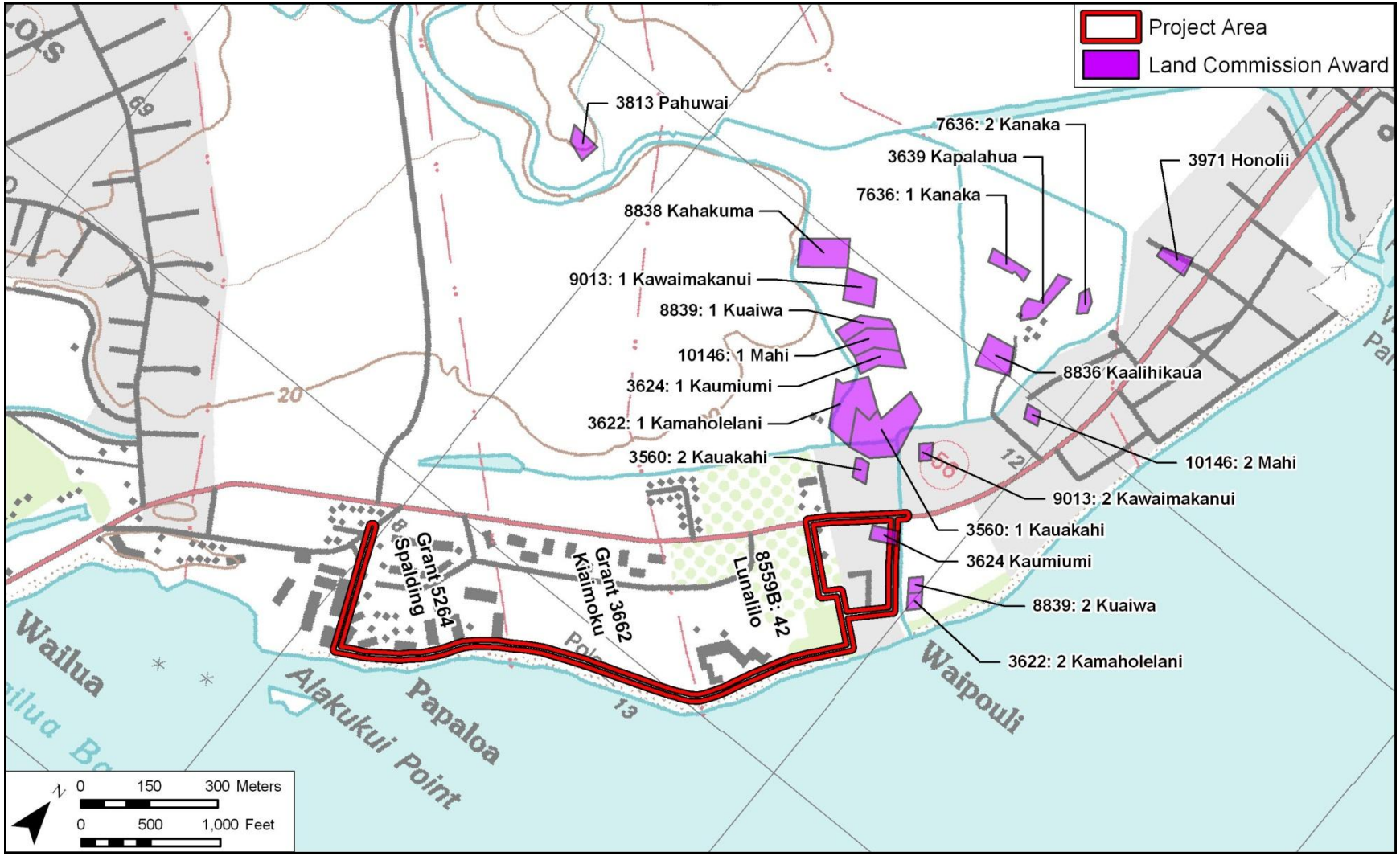

Figure 17. Land Commissions Awards near project area, over U.S. Geological Survey 7.5-minute topographical map (1996 Kapa_a Quadrangle)

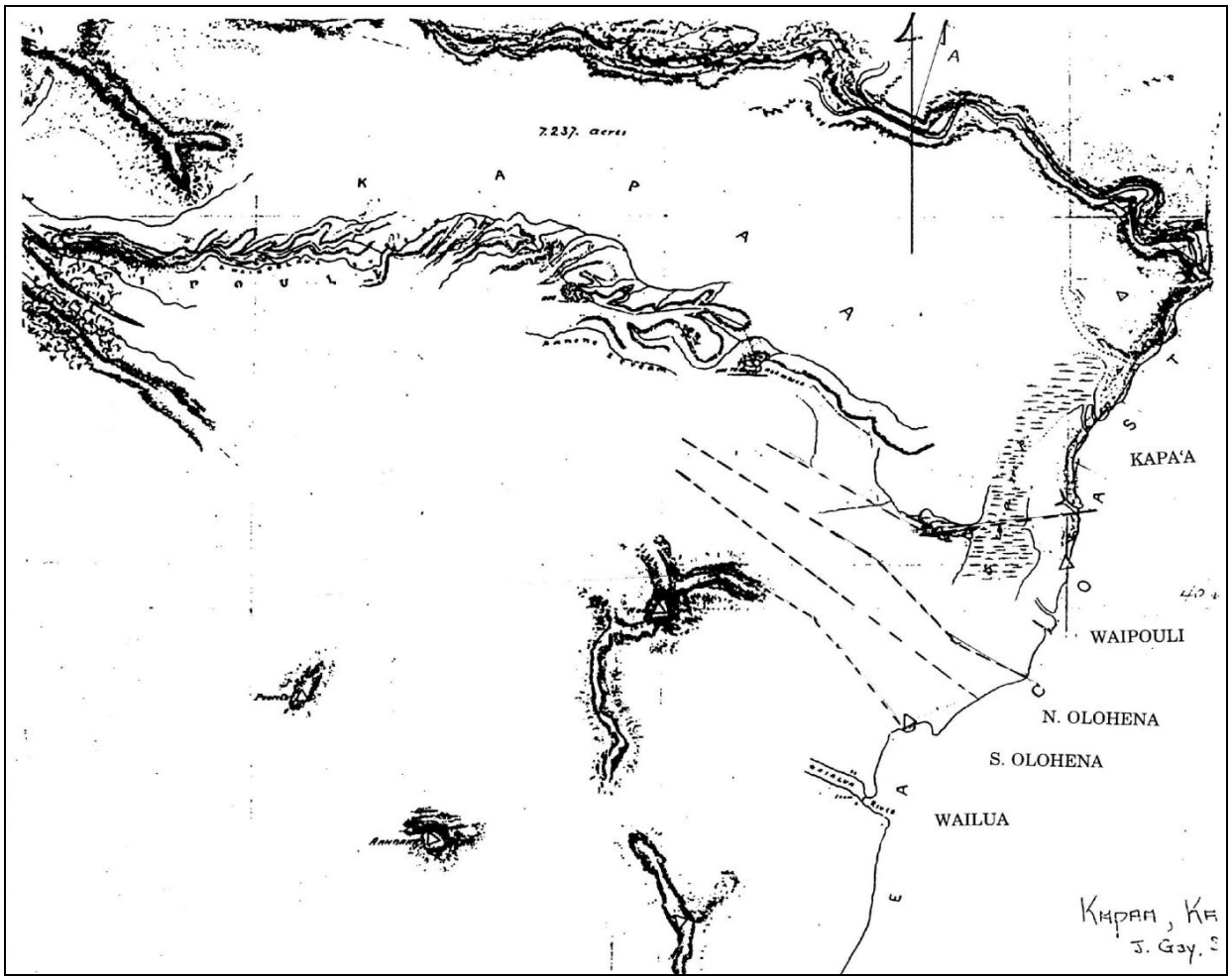

Figure 18. Portion of 1872 Survey Map by James Gay, RM 159, showing Makai Marsh Land in Waipouli and Kapa_a (rough estimates of ahupua_a boundaries at shore added)

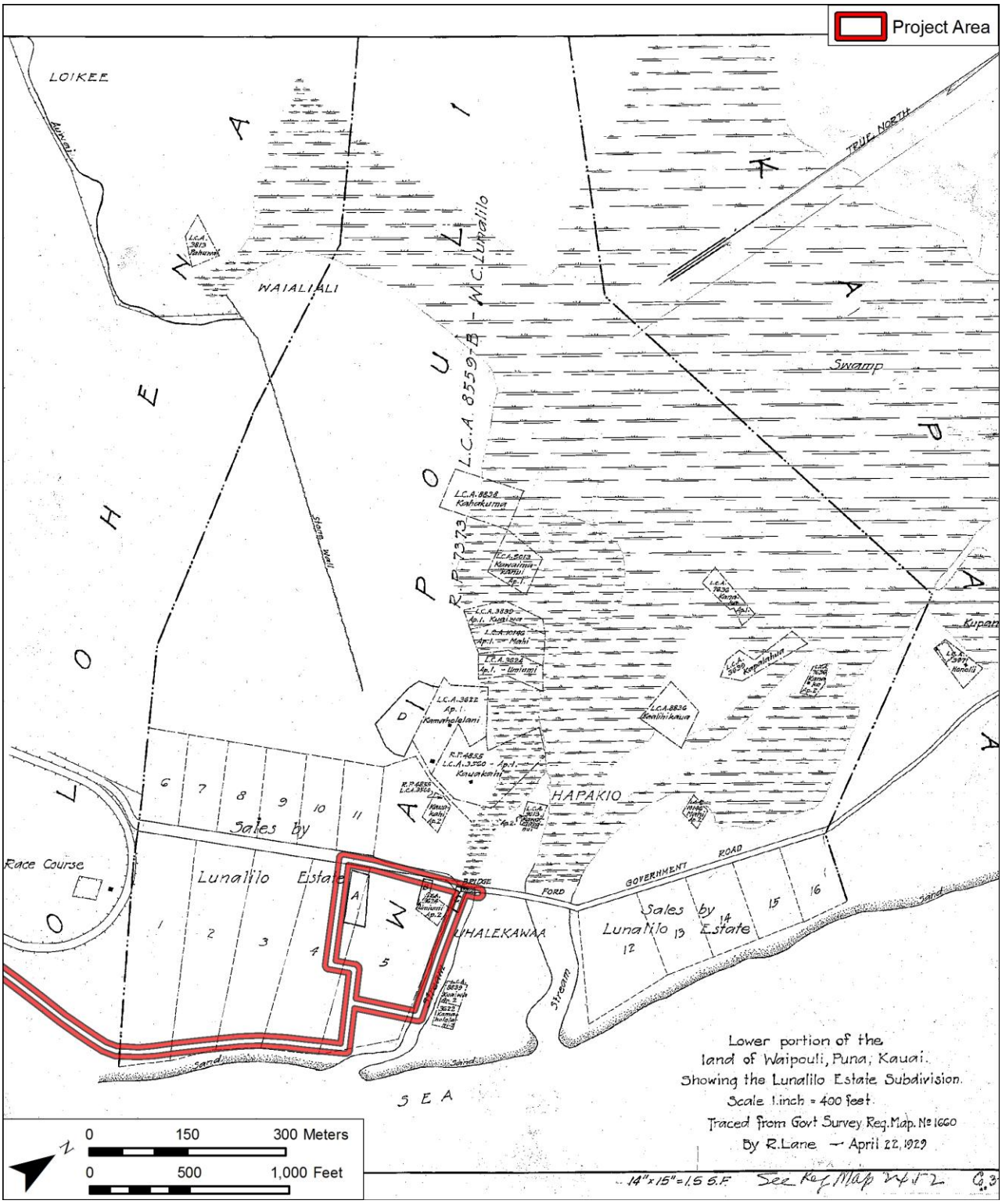
Project Area
LOIKEE
WAIALIALI
TRUE NORTH
Swamp
L.C.A. 8559-B
R.P. 7373
L.C.A. 8538 Kahokuma
L.C.A. 3839
L.C.A. 3822 Ap. 1. Kamahelelani
L.C.A. 8836 Kealiikawa
R.P. 4855 L.C.A. 3750 - Ap. 1. Kauakahi
HAPAKIO
Sales by Lunalilo Estate
Race Course
GOVERNMENT ROAD
FORD
BRIDGE
WHALEKAWAA
Stream
Sand
SEA
Lower portion of the land of Waipouli, Puna, Kauai.
Showing the Lunalilo Estate Subdivision.
Scale 1 inch = 400 feet.
Traced from Govt Survey Reg. Map. № 1660
By R. Lane — April 22, 1929
14" x 15" = 1.5 S.F.
See Key Map
0 150 300 Meters
0 500 1,000 Feet

Figure 19: Portion of 1929 Map Traced by R. Lane (RM 1660), based on 1892 M. D. Monsarrat Survey Showing Makai Portion of Waipouli with Land Commission Awards (Lane 1929)

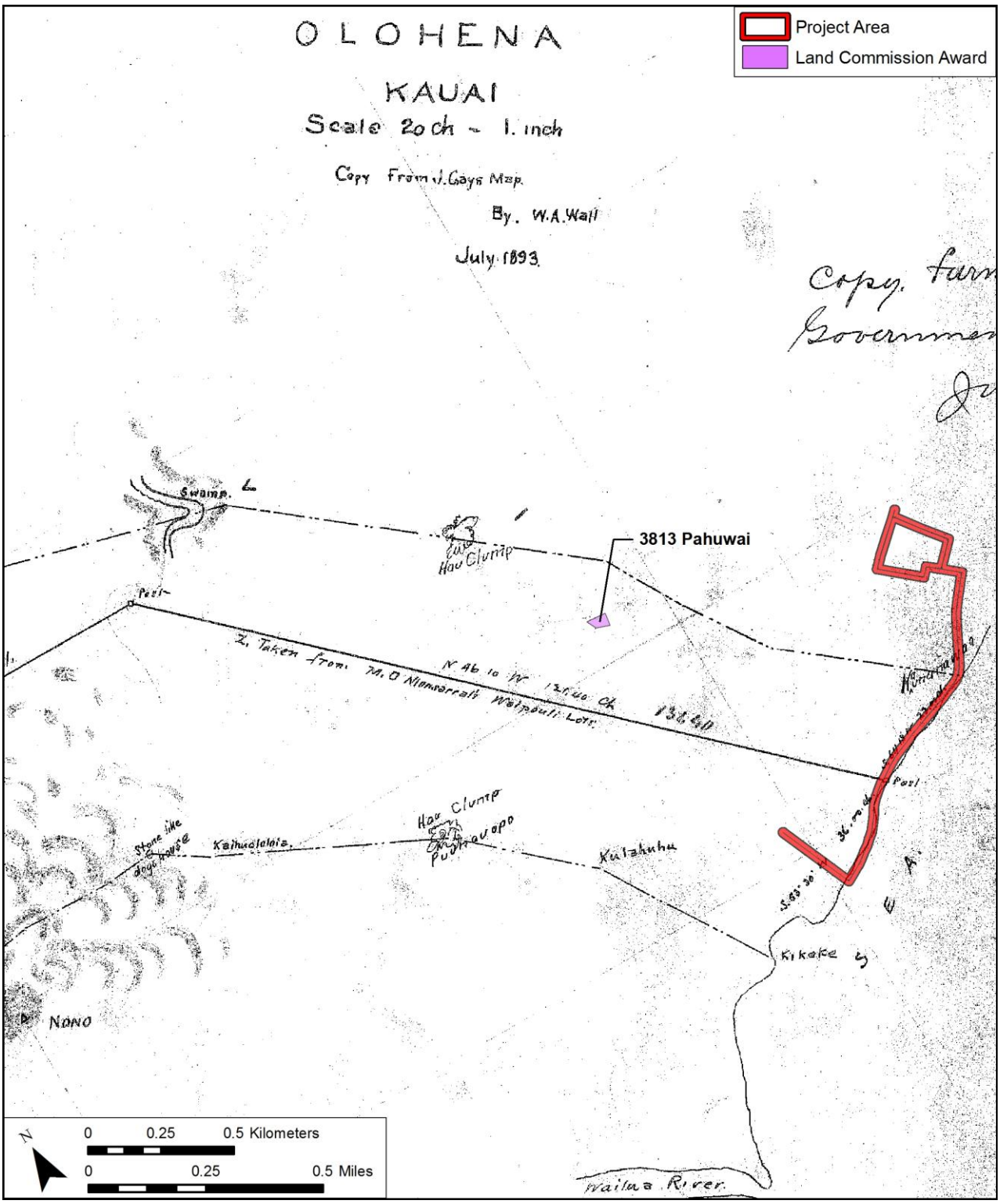

Figure 20. Portion of C. J. Willis Map of Olohena (RM 1688), Showing ~~–~~Stone like dog's house" (citation from Boundary Commission report)

Lane's 1929 map (RM No. 1660) has been augmented with the lo_i, kula, wauke paper mulberry, house lots, pigpen and fishpond claimed in the LCAs (Figure 19). This mapping of the land use claims within the awards shows most of the house lots near the shore, but several inland LCAs (3639, 7636, 8836 and 8828) also have house lots where they are growing taro. There are 12 claims made for land and 10 are awarded. These 10 claims include 16 _āpana, with 38 lo_i, 10 house lots, 8 kula, 1 claim for wauke, and 1 pigpen. The lo_i are all within or around the marsh land just mauka of the shoreline. For LCA 3560 both _āpana state that they are bounded by the 12 claims for land and 10 claims awarded, 16 _āpana awarded, 38 lo_i, 10 house lots, 8 kula, 1 wauke patch, 1 pigpen Waipouli pigpen and the house lot has a cool spring on its makai side. LCA 3622 _āpana 2 (shown on the shore) states it is in a village of Makamakaole and states that the muliwai (river mouth) and Waipouli stream is just south. Umiumi (LCA 3624) claims two _auwai to the east and south of his _āpana 1 claim, and at the shore his _āpana is bounded by the Makamakaole kula to the north. LCA 3639 _āpana 1 states the konohiki's (high chief's: Kawelolokо's) fishpond is to his east. His second lot (not located) states it is also near the Waipouli pig pen and the cool water spring.

Immediately striking in the testimonies is the number of individual features, each given a name by the Hawaiians, used to define the location and boundaries of the claims. The following list presents these names:

_ILI	Kekee, Kukaeuli, Mokuapi, Kaheloko, Pōhaku, Pua, Pau, Koape, Naohe
KULA	Kaheloko, Kulaonohiwa, Makamakaole, of Konohiki, of Waipouli
VILLAGE	Mokanahala, Uahalekawawa, Makamakaole, Puuiki, Paikahawai, Makahokoloko, Kanelimua
FISHPOND	Hapakio (or Kopekia) (Figure 19)
_AUWAI	Waipouli, Koape, Pua, Papaike, Naohe, Pohakauawai, Kololuku (or Kololoko)
RIVER	Waipouli
BROOK	Waipouli, Ohia, Uhalakahawa, Olohena

Two noteworthy details emerge from this accumulation of names. The first is the identification of two place names—Uhalekawaa is a "village" and Hapakio is a fishpond of the konohiki (LCA 9013), and the profusion of named features within a very small portion of the entire ahupua_a suggests an intense use of the makai area by what must have been a much larger population than that present by the mid-nineteenth century. Ross Cordy (1988) also clearly documents the LCA location and land use of Waipouli in his work entitled *Initial Archival Information on Land Use Patterns; Waipouli Ahupua'a* (Cordy 1988).

Some cultural information can be derived from the 1875 Boundary Commission report. Before that, in the Mahele Awards, we know that Kiaimoku relinquished half of Olohena and retained half, and purchased Grant 3662 of 403 acres. Interior Department Book 15 (p. 109) shows Kiaimoku had .60 miles of seacoast. Another Interior Department Document, dated June 28 1850, shows Kiaimoku offering to exchange his Olohena land for Moloa_a land. However Kiaimoku died in October of 1851 and no further documentation is found regarding this land for Kiaimoku (Barrère 1994:365).

The 1893 C. J. Willis Map (Figure 20), along with the Lane's 1929 LCA map of a portion of Olohena (Figure 19), and the LCAs on the 1996 US Geological Survey Map (Figure 17) together show North Olohena made up mostly of Kiaimoku's grant, and South Olohena of Grant 5264 to R. P. Spaulding for Lihue Plantation (419 Acres). The one LCA claimed and granted is inland on Konohiki Stream (LCA 3831; see Table 3 and Figure 17, Figure 19 and Figure 20). Pahuwai, the single claimant in both Olohena, has 2 parcels, one in Olohena _ili and one in Kuanea _ili (not shone on map) and he lived and worked his lo_i there. He is awarded one parcel, but all that he claims is included in the award. The *Native Testimony* adds the information that the entire area was surrounded by a wall. Pahuwai's award is near the Waipouli boundary at the edge of marshland called ~~W~~Waialiali" and he was not far from his nearest neighbors, the most inland Waipouli claims.

Table 3. Chart of Land Use from Olohena Land Commission Award

LCA Number	Claimant	_Ili of the Ahupua_a	Land Use	No of _Āpana Awarded
3813	Pahuwai	Kuanea	4 lo_i and house lot	1 (2 roods)

Awarded 1 claim, 1 _āpana, 4 lo_i, 1 house lot

In the Boundary Commission survey (1875) for Olohena, James Gay describes in general terms the boundaries of Olohena. The half belonging to Kamehameha III became government land (Commission of Boundaries, Kauai, I:106–108). Yet the Wailua Boundary Commission report contains more information about Olohena than the Olohena report does—no witnesses were called for the Olohena boundaries since the surrounding boundaries (Wailua and Waipouli) were already surveyed. The Wailua report notes that on the Wailua/Olohena boundary at approximately N 56° 33'W, there is a stone shaped like a dog house, and at S 85° 0'W one goes up a spur 850 links to a narrow place called Kaea (the fifth survey point between Wailua and Olohena) where there is an old burying ground surrounded by hau and kou ~~w~~where the bodies of those slain in battle were buried" (Commission of Boundaries, Kauai,1:32–37). Kama_āina testimony states that the boundary at the sand beach is where ~~t~~the fish were drawn in and were divided between Olohena and Wailua," that the blow hole and the house and God Stone of Kewalo are in ~~O~~lohuna" (Commission of Boundaries, Kauai 1:32–37). No other mention of Kewalo's God Stone was found. The house of Kawelo—Ching's site 41 ~~a~~ little below the cave of Mamaakualono [in Wailua]—is a stone shaped like a grass house. Kawelo would be Kawelomahamahia, grandfather of Aikanaka and a king of Kauai" (Ching 1968:23). Kewalo is possibly the same as Kawelo. Fornander's accounts of the legend of Kawelo say he lived with his parents in Hanamā_ulu. In any case, the Boundary Commission report does not mention where the house or God Stone were.

5.6 1850 to 1900

Additional clues to the nature of Waipouli Ahupua_a come to light in the records of the 1872–73 Commission of Boundaries (1864–1905) proceedings concerning Waipouli. The guardians of William C. Lunalilo had petitioned that the ~~b~~boundaries of the Ahupua_a of

Waipouli situated in the district of Puna Island of Kaua_i may be defined and settled." Four witnesses, all Hawaiians familiar with the ahupua_a, gave evidence from which Duncan McBryde, the Commissioner of Boundaries, made his decision on November 7, 1872. A subsequent survey by James Gay was undertaken in June 1873. McBryde's decision and Gay's survey notes—both included in the Boundary Commission record—contain an abundance, similar to that of the *Foreign Testimony* entries for Waipouli LCAs, of place names. Some of these place names are especially worth noting.

According to these sources, Kauwanawa_a is a ―canoe harbor" on the shore at the southern boundary of Waipouli. Midway up the southern boundary is an ―old pig pen Papuaa". Along the mauka half of the northern boundary are the ―site of old houses Panini" and ―old houses Kapukaili." The presence of the pig pen and two old house sites suggests there were populated areas, of which these were only three, within the mauka reaches of Waipouli before the nineteenth century. Areas at similar elevations in neighboring ahupua_a are known to have had agricultural endeavors.

In the last quarter of the nineteenth century, the upper reaches of Waipouli were planted in sugar cane by the Makee Sugar Company of Keālia. Sometime after 1886, but before the turn of the century, the marshy former taro lands in the makai portion of the ahupua_a were planted in rice; these rice fields extended into Kapa_a where a rice mill was located.

Like most well watered areas in Hawai_i, rice crops began taking over former lo_i kalo in the second half of the 1800's. This sharing of the land by the Chinese rice farmers and native kalo growers continued through the century. Knudsen (1991:152) visited Wailua in 1895 and wrote: ―We rode through the Lihue Plantation cane fields, passed through Hanamaulu and came to the Wailua River. What a sight! The great river lay clear and placid—winding away up toward the mountains with rice fields and taro patches filling all the low lands."

By 1935, Handy (1940:67) found no kalo being cultivated. The terraces had been taken up by rice, sugar cane, sweet potato and pasture. However, Handy (1940) explains that, ―Waipouli, Olohena (North and South), and Wailua are ahupua_a with broad coastal plains bordering the sea, any part of which would be suitable for sweet potato plantings; presumably a great many used to be grown in this section. There are a few flourishing plantations in Wailua at the present time" (Handy:153).

5.7 1900 to the Present

According to Edward Joesting, after 1898, with the influx of American citizens to Hawai_i, real estate values rose and sugar plantation increased:

> The result was a leap in real estate values and in the value of personal property. Total collected real estate taxes for Kauai and Ni_ihau in 1898 were $27,341, and collected taxes on personal property were $37,571. In 1900, when Hawaii was securely in U.S. hands, collected taxes on personal property had leaped to $69,432….
>
> Mechanical advances meant increased sugar acreage for Hawaii_s Farmers, and brought the industry to a point where a new kind of expansion was practical. The expansion took the form of a new kind of cooperative, starting in 1906 with the

> purchase of a large refining factory in Crockett, California. The refinery was located on San Pablo Bay, north of Oakland, where ships carrying raw sugar from Hawaii docked at the piers next to the refinery.
>
> The cooperative, named California and Hawaiian Sugar Refining Corporation, not only processed an increasing amount of Hawaii's raw sugar as the years passed, but also marketed the sugar under the C and H label. (1984:262–264)

C and H sugar remains a popular brand of sugar today, but their sugar is no longer produced in Hawai_i.

On Kaua_i, near the Project area, the primary sugar plantations were Makee Sugar Company, Kealia Plantation, and Hui Kawaihai. Makee Sugar Company, which lasted the longest, closed in 1933 (Dorrance 2000:24–25).

By the 1920s Waipouli Beach, had become a polo ground, where Major George Patton, with his army team, beat a local team. Charles I. Fern, piloting the first plane to Kauai in the 1920s, landed his plane in the same polo field (Beacon 1971:21).

With greater interisland plane travel, development continued on Kaua_i. By the 1970s, there was ~~a~~ Kaua_i-wide rule banning high-rise development" (Beacon:20). By the end of the twentieth century, ~~t~~he backshore of Waipouli Beach is lined with long rows of tall ironwood trees. A shoreline pedestrian trail is used by strollers and joggers…. Although most of the Waipouli shoreline is developed or privately owned, six public rights of way provide access to the beach. They are all marked and easy to locate" (Clark 1990: 9).

Section 6 Community Consultation

Throughout the course of this assessment, an effort was made to contact and consult with Hawaiian cultural organizations, government agencies, and individuals who might have knowledge of and/or concerns about traditional cultural practices specifically related to the Project area. This effort was made by letter, email, telephone and in-person contact. The initial outreach effort was started in November 2010 and ended in December 2011. In the majority of cases, a letter (Appendix C), an aerial photograph of the Project area (Figure 1) and U.S. Geological Survey map (Figure 2). The Outreach letter included the following text:

> At the request of Kimura International, Inc., Cultural Surveys Hawai_i, Inc. (CSH) is conducting a Cultural Impact Assessment (CIA) for the Phase C and D of the Lydgate Park/Kapa_a Bike Path Project, South Olohena, North Olohena and Waipouli Ahupua_a, Kawaihau District, Kaua_i Island, TMKs ([4] 4-3-02 and [4] 4-3-07). The County of Kaua_i will construct, own and operate the facility. The project will be funded in part by the U.S. Department of Transportation, Federal Highway Administration.
>
> The CIA will be used for a Supplemental Environmental Assessment. The EA will focus on a preferred alternative that extends from Papaloa Road, between Kauai Sands Hotel and Aston Islander on the Beach, then north through the County's beach reserve and along the coastal bench *makai* (ocean side) of the undeveloped parcels and Courtyard Kauai Coconut Beach (formerly Kauai Coconut Beach Resort). The preferred alternative continues just *mauka* of Mokihana of Kaua_i and the Bullshed Restaurant (currently a parking lot) and along the southern bank of Uhelekawawa Canal (currently a landscaped strip) to Kūhiō Highway. The preferred alignment crosses Uhelekawawa Canal as a cantilevered attachment to the existing highway bridge or an independent single span bridge, where it will connect to the existing bike path at Waipouli Beach Resort. On the northern end of the project area, the EA will also assess use of an existing beach access located south of Kapaa Missionary Church, as well as a stretch adjacent to and *makai* of Kūhiō Highway between the beach access and Uhelekawawa Canal (approximately 580 feet).
>
> The Project requires compliance with the State of Hawai_i environmental review process (Hawai_i Revised Statutes [HRS] Chapter 343), which requires consideration of a proposed Project's effect on cultural practices and resources. This CIA investigation may be used to support the National Historic Preservation Act (NHPA) Section 106 and the National Environmental Policy Act (NEPA) consultation, but does not, in itself, satisfy the cultural consultation requirements of either Section 106 or NEPA.
>
> The purpose of this cultural study is to assess potential impacts to cultural practices as a result of potential development in South Olohena, North Olohena and Waipouli Ahupua_a. We are seeking your *kōkua* and guidance regarding the following aspects of our study:

- **General history and present and past land use of the project area.**
- **Knowledge of cultural sites which may be impacted by future development of the project area—for example, historic sites, archaeological sites, and burials.**
- **Knowledge of traditional gathering practices in the project area, both past and ongoing.**
- **Cultural associations of the project area, such as legends and traditional uses.**
- **Referrals of *kūpuna* or elders and *kama'āina* who might be willing to share their cultural knowledge of the project area and the surrounding *ahupua'a* lands.**
- **Any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the project area.**

One to 14 attempts were made to contact individuals, organizations, and agencies apposite to the CIA for the Project. The results of the community consultation process are presented in Table 4. Written statements from organizations, agencies, and community members are presented in Section 6.1 below, and summaries of interviews with individuals are in Section 7. The interview questions are provided in Appendix D, and a sample Release Form is in Appendix E.

Table 4. Results of Community Consultation

Name	Affiliation	Comments
Valentine Ako	Kupuna	January 31, 2011, CSH mailed letter and figures. February 3, 2011, CSH called and scheduled interview appointment. February 16, 2011, CSH called again to confirm interview appointment and interviewed Mr. Ako on February 18, 2011. CSH contacted Mr. Ako on April 25 and April 28, 2011. On May 5, 2011, Mr. Ako edited and approved the statement by telephone. See Section 7.1 below
Kunane Aipoalani (Clisson)	Chairman, Kaua_i/Ni_ihau Island Burial Council	November 15, 2010, CSH sent letter and figures. Mail was returned on November 23, 2010. CSH emailed letter on January 31, 2011
Liberta Albao	President, Queen Deborah Kapule Hawaiian Civic Club	March 3, 2011, CSH emailed letter and figures
Andrew Bushnell	Professor of History, Kaua_i Community College	January 31, 2011, CSH sent letter and figures
Halealoha Ayau	Hui Mālama I Na Kupuna _O Hawai_i Nei	March 3, 2011, CSH emailed letter and figures

Name	Affiliation	Comments
Jose Bulatao	Kekaha historian	November 15, 2010, CSH sent letter and figures. January 31, 2011, CSH again sent letter and figures
Don Cataluna	OHA Trustee, Kaua_i/Ni_ihau	November 15, 2010, CSH sent letter and figures. January 31, 2011, CSH sent letter and figures
Phyllis –Coochie" Cayan	Former SHPD History and Culture Branch Chief	November 15, 2010, CSH sent letter and figures. December 14, 2010, SHPD sent reply to CSH. See Section 6.1.2 below
Milton K. C. Ching	Kama_āina	November 15, 2010, CSH sent letter and figures. January 31, 2011, CSH sent mail. February 7, 2011, CSH called, and number was disconnected. February 8, 2011, Mr. Ching called CSH. February 17, 2011, CSH met with Mr. Ching. Mr. Ching gave a short written statement as well as commented in a brief interview. March 30, 2011, CSH emailed Mr. Ching, and Mr. Ching replied on March 31, 2011. May 5, 2011, CSH sent email. Mr. Ching replied the same day with corrections. May 9, 2011, CSH emailed revised statement and again on May 20, 2011 to ensure that changes had been completed. See Section 7.2 below

Name	Affiliation	Comments
Ian K. Costa	Former Planning Director, Kaua_i County Planning	January 31, 2011, CSH sent letter and figures
Sophronia Noelani Diego-Josselin	Kama_āina	February 15, 2011, emailed response to CSH outreach letter
Kai_opua Fife	Kama_āina	February 16, 2011, CSH called Mr. Fife, and he suggested that CSH contact Sabra Kauka. February 19, 2011, Mr. Fife called CSH and gave CSH a referral regarding a meeting
Jane Gray	Director, Kaua_i Museum	March 3, 2011, CSH emailed letter and figures
Nathan Kalama	Former board member of Malie Foundation and co-founder of Mokihana Festival (a popular music festival now in its 27th year in Kaua_i)	January 31, 2011, CSH mailed letter and figures. February 3, and February 7, 2011, CSH called Mr. Kalama. Mr. Kalama referred CSH to Kumu Kekua
Kauai Island Hawaiian Civic Club	Association of Hawaiian Civic Clubs	January 31, 2011, CSH mailed letter and figures
Sabra Kauka	Cultural Practitioner	February 17, 2011, CSH phoned Ms. Kauka. Ms. Kauka suggested that CSH attend a meeting of longtime residents that evening. Because of a scheduling conflict due to another interview, CSH was not able to attend the meeting

Name	Affiliation	Comments
Keone Kealoha	Executive Director, Mālama Kaua´i	March 3, 2011, CSH emailed letter and figures
Kehaulani Kekua	Kumu Hula, Halau Palaihiwa o Kaipuwai Director of Ka_ie_ie Foundation and Kaua_i Heritage Center	November 15, 2010, CSH sent letter and figures. January 31, 2011, CSH sent letter and figures. February 7, 2011, CSH emailed letter and figures
Lionel Kaohi	President, Hawaiian Civic Club of Kaumuali_i	March 3, 2011, CSH sent email of letter and figures
John Kruse	Kaua_i Island Burial Council Kawaihau Regional Rep.	March 3, 2011, CSH sent email of letter and figures
Cheryl Lovell-Obatake	Konohiki of Nawiliwili, Kalapaki and Niumalu Ahupua_a	February 19, 2011, CSH received a statement from Mrs. Lovell-Obatake. Mrs. Lovell-Obatake had been contacted by Mrs. Rogers regarding the project on February 11, 2011. May 23, 2011, CSH emailed Mrs. Lovell-Obatake. July 19, 2011, Mrs. Lovell-Obatake emailed CSH. July 20, 2011, CSH responded, thanking her for her email and asking if there might be any further clarifications. See emailed statement in Section 6.1.3.3 below
Sally Jo Manea	Kumu Hula, Member of Board of Directors for Kaua_i Path	February 9, 2011, CSH received an email on from Mrs. Manea, who requested to meet on February 17, 2011. She was referred to CSH by Mr. Noyes February 10, 2011, CSH replied and

Name	Affiliation	Comments
		emailed Mrs. Manea on February 11, 2011. February 16, 2011, CSH confirmed meeting, and Mrs. Manea emailed reply on February 17, 2011. February 17, 2011, CSH interviewed Mrs. Manea. April 25, 2011, CSH emailed Mrs. Manea, and Mrs. Manea replied on April 27, 2011. April 28, 2011, CSH sent revisions to Mrs. Manea, and Mrs. Manea approved her statement on the same day. See Section 7.3 below
Nancy McMahon	Former SHPD, Deputy State Historic Preservation Officer	January 31, 2011, CSH mailed letter and figures. February 17, 2011, CSH received reply from SHPD. See Section 6.1.2 below. CSH was informed that Nancy McMahon has retired
Beverly Muraoka	Kama_āina	January 20, 2011, CSH called and discussed Project with Mrs. Muraoka. January 31, 2011, CSH mailed information. February 3, 2011, CSH called, and again on February 14, 2011. February 16, 2011, CSH called again and interviewed Mrs. Muraoka on February 17, 2011. May 12, 2011, CSH called Mrs. Muraoka and left message. May 13, 2011, CSH called and

Name	Affiliation	Comments
		spoke to Mrs. Muraoka, who asked CSH to call back. May 27 and June 1, 2011, CSH called and left message. CSH mailed a follow up letter on August 18, 2011 and also called her that same day. CSH called Mrs. Muraoka on November 29 and again on December 5 and 7, 2011. CSH met with Mrs. Muraoka on December 8, 2011 and she made corrections to her interview and approved its use
Clyde Nāmu_o	Administrator, Office of Hawaiian Affairs	November 15, 2010, CSH sent Letter and figures. December 16, 2010, OHA replied. See Section 6.1.1 below
Thomas Noyes	Coordinator, Friends of Kamalani and Lydgate Park	February 7, 2011, CSH emailed letter. February 7, 2011, Mr. Noyes replied with a statement. See Section 6.1.3.1 below
Tommy Oi	DLNR—Kauai Land Division	November 17, 2010, CSH sent letter and figures. January 31, 2011, CSH sent letter and figures
Waldeen Palmeira	Kama_āina, spokesperson for kūpuna in Wailua area	February 3, 2011, CSH called Ms. Palmeira: the number was disconnected. February 3, 2011, CSH called a second number and spoke to Ms. Palmeira. February 7, 2011, CSH sent email of Letter and figures. February 18, 2011, CSH called Ms. Palmeira to notify her of meeting

Name	Affiliation	Comments
		scheduled for February 19, 2011. February 19, 2011, Ms. Palmeira came to a meeting organized by Nani Rogers. July 6, 2011, Ms. Rogers forwarded group interview to Ms. Palmeira. August 2, 2011, CSH emailed and phoned Ms. Palmeira: phone was disconnected. August 4, 2011, having received a new number, CSH again phoned Ms. Palmeira: she agreed to meet after Kaua_i County Historic Preservation Commission meeting. August 4, 2011, CSH met with Ms. Palmeira and handed her a typed copy of the group interview. The group interview has not yet been approved and does not appear in this Draft CIA report
Sandra Quinsaat	Kaua_i/Ni_ihau Burial Council Member	January 31, 2011, CSH sent letter and figures
Hannah Reeves	Kupuna	January 10, 2011, CSH called Mrs. Reeves. Mrs. Reeves requested project information January 17, 2011, CSH mailed letter and figures
Nani Rogers	Hui Ho_okipa o Kaua_i	January 31, 2011, CSH sent mail letter and figures February 11, 2011, Mrs. Rogers emailed CSH, requesting a meeting. CSH replied and Mrs. Rogers emailed the same day, scheduling a meeting on February 19, 2011. February 14, 2011, CSH emailed reply

Name	Affiliation	Comments
		February 16, 2011, Mrs. Rogers confirmed date of meeting; CSH acknowledged confirmation. February 19, 2011, CSH met with Mrs. Rogers and nine other people and listened to their mana_o about the project. March 17, 2011, CSH sent meeting summary to Mrs. Rogers. March 30, 2011, CSH emailed follow up letter: Mrs. Rogers emailed CSH on the same day, requesting the complete transcript and explaining that she will forward the transcript to those from the February 19 meeting; Mrs. Rogers also stated that there will likely be more mana_o that will be sent March 31, 2011, CSH sent transcript again and Mrs. Rogers sent confirmation that she forwarded the transcript to others from the February 19, 2011 meeting, as well as to a few people who were not at that the meeting; on the same day, Mrs. Rogers sent email to CSH, requesting that CSH answer a question from Noelani Josselin, who was not at the February 19, 2011, meeting; CSH replied in an email to Mrs. Rogers and Ms. Josselin on the same day. April 7, April 21, May 3, June 17, July 6 and July 14, 2011, CSH sent follow up emails to Mrs. Rogers, requesting approval of the transcription. The group interview has not yet been approved and does not appear in this report

Name	Affiliation	Comments
Healani Trembath	Kupuna	February 8, 2011, CSH emailed Mrs. Trembath. February 17, 2011, upon arrival on Kaua_i, CSH contacted Mrs. Trembath to meet; Mrs. Trembath explained that that she would be flying to O_ahu the following day and would not be available
William Trugillo	Ka Leo o Kauai	November 17, 2010, CSH sent mail. January 31, 2011, CSH sent letter
Rick Tsuchiya	Kaua_i Historic Preservation Review Commission	November 17, 2010, CSH sent mail of letter and figures: email was undeliverable. November 17, 2010, CSH called and was told that Mr. Tsuchiya retired; CSH was then referred to Ian K. Costa, Director of Planning
Randy Wichman	Executive Director, Kauai Historical Society	January 31, 2011, CSH mailed letter and figures. February 7, 2011, CSH called and left message
Norma Yokotake	President, Hanalei Hawaiian Civic Club	March 3, 2011, CSH emailed letter

6.1 Written Responses

The State Historic Preservation Division and the Office of Hawaiian Affairs were contacted and provided written responses for this CIA. Thomas Noyes, and others also presented written responses. Summaries of written responses are presented below.

6.1.1 OHA Response Letter

On December 16, 2010, CSH received a letter from Clyde Namu_o of OHA, regarding the –Lydgate Park/Kapa_a Bike Path Project" (Figure 21). Of significance within this letter is that OHA states the following:

> It is critical that the CIA address the cumulative impacts of the overall project (as opposed to the relatively narrow scope of Phases C and D) will have on traditional and customary practices. You may be aware that the –Phase B" alignment of this project, which is within the traditional landscape of Wailuanuiho_āno and crosses the sacred sands of _Aliō is an extremely sensitive issue, which from certain perspectives has never been resolved to the point of lifting kaumaha and healing _eha.
>
> It is with this in mind that we point out that many concerns related to traditional cultural practices detailed in the FEA [Final Environmental Assessment] are still applicable to the SDEA [Supplementary Draft Environmental Assessment]. The potential for encountering iwi kūpuna and cultural resources within beach sand deposits along the coastal portions of the project is clearly identified in the FEA. We urge that a comprehensive analysis (including an archaeological literature review of precious projects in the vicinity) and consultation on this issue be completed before any revised alignment is settled and design and engineering plans developed….
>
> A memorandum of agreement executed in 2006 for this project between the FHWA [Federal Highway Administration], DPW [Public Works Department] and State Historic Preservation Officer provide detailed mitigation measures for the adverse effect this project will have on historic properties and cultural sites. We expect that the terms and provisions of this MOA [Memorandum of Agreement] will be fully implemented should the alignment be revised.

In the end, OHA recommends consultation with –Nathan Kalama, Waldeen Palmeira, Kehaulani Kekua, Val Ako, the Kaua_i/Ni_ihau Island Burial Council and the Kaua_i Historical Society." OHA also urges that people involved in this project, –Please remember that this list is not all encompassing and we are sure additional groups and individuals will be identified as you move forward with your consultation process. Those consulted in the FEA should also be considered." (Table 4 indicates that many from the above list were contacted for this study.)

6.1.2 SHPD Response Letter

SHPD's response letter, dated December 14, 2010, similarly viewed this project within the larger context of impacts to the culture of the Wailua area generally. On behalf of SHPD, Phyllis "Coochie" Cayan writes, in part, the following on behalf of SHPD:

> While the general area has documented and significant historic cultural sites and properties as well as previous development, there is always a general probability that some cultural resources remain unknown or unseen. There are Hawaiian cultural practices **in the general area** which include but are not limited to access to religious sites, to ocean and other areas for ceremonial and/or for recreational uses. SHPD is concerned with any ground disturbance work which may uncover burials or burial sites in sandy areas such as this project. The department is mindful that traditional access in the project area to cultural places mauka for resources in the general ahupua‗a and/or to the ocean should be considered in your study that may impact the general community as well as cultural practitioners. [Bold in original.]

SHPD recommends that consultation include Aunty Barbara Say (KNIBC), John Kruse, Keith Yap (KNIBC), Kumu Hula Kehau Kekua, Kumu Hula Nathan Kalama, Mr. Val Ako ("fisherman/kupuna"), Sharon Palmroy ("farmer/fisher folk"), Waldeen Palmyra, Ms. Kaliko Santos, Cheryl Lovell-Obatake, Rhoda Libre, and James Alalu. (Table 4 indicates that many from the above list were contacted for this study.)

PHONE (808) 594-1888 FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

COPY

HRD10/0093E

December 3, 2010

Margaret Magat, Researcher
Cultural Surveys Hawai'i, Inc.
P.O. Box 1114 Kailua, Hawai'i 96734

RE: Pre- Cultural Impact Assessment Consultation
Lydgate Park/Kapa'a Bike Path Project
Kawaihau, Island of Kaua'i

Aloha e Margaret Magat,

The Office of Hawaiian Affairs (OHA) is in receipt of your November 13, 2010 letter initiating consultation ahead of a cultural impact assessment (CIA) for "Phases C and D" of the Lydgate Park/Kapa'a Bike Path Project (project) proposed by the County of Kaua'i.

The County of Kaua'i-Department of Public Works (DPW) has accepted a "finding of no significant impact" determination contained within a 2007 final environmental assessment (FEA) for the project which will construct a shared use path extending approximately 2 miles from Lydgate Park to Waika'ea Canal in Kapa'a on the Island of Kaua'i. The project is part of a larger effort to construct a continuous pathway extending 16 miles from Nāwiliwili to Anahola. The FEA provided a detailed examination of the "preferred alternative" which has been selected as the final project alignment (alignment). Because Federal Highways Administration funding is also being used to support completion of this project, compliance with the National Environmental Policy Act (NEPA) and a Section 4(f) evaluation pursuant to the Department of Transportation Act were also required.

It is our understanding that the County of Kaua'i is now proposing revisions to the alignment for "Phases C and D" of the project, triggering the requirement for a supplemental draft environmental assessment (SDEA) pursuant to Chapter 343, Hawaii Revised Statutes. The CIA will be incorporated into the SDEA as a support document.

It is critical that the CIA address the cumulative impacts the overall project (as opposed to the relatively narrow scope of Phases C and D) will have on traditional and customary practices. You may be aware that the "Phase B" alignment of this project, which is within the

Figure 21. OHA Response Letter

traditional landscape of Wailuanuiho'āno and crosses the scared sands of 'Aliō is an extremely sensitive issue, which from certain perspectives has never been resolved to the point of lifting kaumaha and healing 'eha.

It is with this in mind that we point out that many of the concerns related to traditional cultural practices detailed in the FEA are still applicable to the SDEA. The potential for encountering iwi kūpuna and cultural resources within beach sand deposits along the coastal portions of the project is clearly identified in the FEA. We urge that a comprehensive analysis (including an archaeological literature review of previous projects in the vicinity) and consultation on this issue be completed before any revised alignment is selected and design and engineering plans developed.

The alignment will extend makai of certain coastal developments through what are known as "coastal reserves", which are intended to facilitate lateral public access along the shoreline. While facilitating, or increasing access to the shoreline can increase the ability to exercise traditional and cultural gathering practices, this also has the potential to place additional pressures on resources and adversely impact those currently exercising these practices without the project. This is an issue which should be addressed in the CIA.

Because of the use of Federal funds, the provisions of the National Historic Preservation Act are guiding the overall effort to identify historic properties and cultural sites within the area of potential effect for this project. A memorandum of agreement executed in 2006 for this project between the FHWA, DPW and State Historic Preservation Officer provide detailed mitigation measures for the adverse effect this project will have on historic properties and cultural sites. We will expect that the terms and provisions of this MOA will be fully implemented should the alignment be revised.

OHA recommends consultation with the following groups and individuals who may be willing to share their thoughts with you: Nathan Kalama, Waldeen Palmeira, Kehaulani Kekua, Val Ako, the Kaua'i/Ni'ihau Island Burial Council and the Kaua'i Historical Society. Please remember that this list is not all encompassing and we are sure additional groups and individuals will be identified as you move forward with your consultation process. Those consulted in the FEA should also be considered.

Thank you for initiating consultation at this early stage. We look forward to reviewing the CIA. Should you have any questions, please contact Keola Lindsey at 594-0244 or keolal@oha.org.

'O wau iho nō me ka 'oia'i'o,

Clyde W. Nāmu'o
Chief Executive Officer

C: OHA- Kaua'i Community Outreach Coordinator

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

GUY KAULUKUKUI
INTERIM FIRST DEPUTY

LENORE N. OHYE
ACTING DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 14, 2010

LOG NO: 2010.3730
DOC. NO: 1012PC002

TO: Margaret Magat, Researcher
Cultural Surveys Hawai'i-Hawai'i Office, P.O. Box 1114, Kailua, Hawaii 96734

FROM: Phyllis Coochie Cayan, History and Culture Branch Chief

Subject: **WAIPOULI 4: A Cultural Impact Assessment for the Phase C and D of the Lydgate Park/Kapa'a Bike Path Project, South Olohena, North Olohena and Waipouli Ahupua'a, Kawaihau District, Kaua'i Island.**
TMK: [4] 4-3-02 and [4] 4-3-07.

Mahalo for the opportunity to comment on a CIA for the above subject matter. The purpose of this cultural study is to assess potential impacts to cultural practices as a result of potential development in South Olohena, North Olohena and Waipouli Ahupua'a and that this CIA will be used for a Supplemental Environmental Assessment (EA). This EA will focus on a preferred alternative for the subject matter as well as assess use of an existing beach accesses. This CIA may be used to support the National Historic Preservation Act (NHPA) Section 1056 and the National Environmetnal Policy Act (NEPA) but does not in itself satisfy the cultural consultation requirements of either Section 106 or NEPA.

While the general area has documented and significant historic cultural sites and properties as well as previous development, there is always a general probability that some cultural resources remain unknown or unseen. There are Hawaiian cultural practices **in the general area** which include but are not limited to access to religious sites, to the ocean and other areas for ceremonial and/or for recreational uses. SHPD is also concerned with any ground disturbance work which may uncover burials or burial sites in sandy areas such as this project. The department is mindful that traditional cultural access in the project area to cultural places mauka for resources in the general ahupua'a and/or to the ocean should also be considered in your study that may impact the general community as well as cultural practitioners.

The folks listed may have mana'o to share or refer you to others about the project area:

• Aunty Barbara Say, KNIBC	296 Makani Rd. Kapaa 96746	Phone: 808-821-0430
• John Kruse	P.O. Box 628, Koloa, HI 96756	Phone: 808-241-6222
• Keith Yap, KNIBC	P.O. Box 1571, Kapaa, HI 96746	Phone: 808-632-2543
• Kumu Hula Kehau Kekua		please ask Kumu Nathan Kalama
• Kumu Hula Nathan Kalama		Phone: 808-822-2166
• Mr. Val Ako, fisherman/kupuna		No contact info
• Sharon Pomroy, farmer/fisher folk		Phone: 808-822-3231
• Waldeen Palmyra		
• Ms. Kaliko Santos	Office of Hawaiian Affairs – Kauai	Phone: 808-241-3506
• Cheryl Lovell-Obatake	kuhiau@hotmail.com	Phone: 808-652-3982
• Rhoda Libre	Rhoda@hawaiilink.net	Phone: 808-645-1210
• James Alalu		Phone: 808-635-0835

Please do talk story with these folks for information or referrals of any traditional or cultural practices in the project area. Any questions, please call me at 808-692-8015 or via email at Phyllis.L.Cayan@hawaii.gov. #

Figure 22. SHPD response letter.

6.1.3 Other Response Letters

Other community members also provided written responses to our outreach letter. These written responses are provided below.

6.1.3.1 Mr. Thomas Noyes

CSH emailed the community contact letter to Mr. Thomas Noyes on February 7, 2011. Coordinator, Friends of Kamalani and Lydgate Park, Mr. Noyes replied on the same day with the following statement:

> Thank you for the opportunity to comment on the cultural aspects of portions of the proposed alignment of portions of Phase III of Ke Ala Hele Makalae.
>
> Having been involved with this project since 1993, and as an avid bicyclist, I feel entitled to recommend that you might advance the positive aspects of this endeavor by using more precise terminology.
>
> The built sections of Ke Ala Hele Makalae are being used primarily at this time by pedestrians—about 75% of the users are on foot. Predictably, the section of proposed pathway you are engaged to assess will similarly be used predominantly by pedestrians.
>
> When you pejoratively refer to this facility as ~~–t~~he bike path," you both miss a crucial aspect of the nature of the endeavor and compromise cyclists' efforts to advocate for better accommodations (e.g. bike lanes) on the major roadways connecting our island's communities.
>
> While bicyclists certainly will be among the users of any paved path system, labeling this facility ~~–t~~he bike path," when it has been blessed and designated as Ke Ala Hele Makalae—a multi-use path, diminishes the potential impact this project promises to bring to our community.
>
> Ke Ala Hele Makalae has proven to be ~~–b~~uilding community through transportation," as opposed to ~~–b~~uilding transportation through community." My experience is that path users—whether they are walking, jogging, strolling, skate boarding, riding a Razor, enjoying the scenery from a wheel chair, running, or bicycling—engage with one another in ways that are foreign to automobile operators. Over time, these frequent personal encounters strengthen community bonds in profound ways.
>
> Walking is the most natural way to exercise. Physical activity contributes to health by reducing the heart rate, decreasing the risk for cardiovascular disease, and reducing the amount of bone loss that is associated with age and osteoporosis. Physical activity also helps the body use calories more efficiently, thereby helping in weight loss and maintenance. It can also increase basal metabolic rate, reduces appetite, and helps in the reduction of body fat.
>
> This path system is a means to increasing joy and health in our community. Kindly refrain from marginalizing the potential for community norm changes that this facility can achieve by referring to it as "the bike path" in future

> communications. By providing attractive, moderate exercise that is freely available to the general public, path systems have the potential to keep our citizenry more fit and increase both the quality and the enjoyable duration of life.
>
> I believe that well designed, attractive pathways made available in the near term offer a significant benefit in perpetuating our cultural heritage. The better the health and lucidity of our kupuna, the stronger our bonds are to this community's rich cultural heritage.
>
> Sadly, I will be away from Kauai on Feb. 17, and so won't be to participate in a personal interview with you. I am including several members of the Kauai Path board in this response—hopefully one or more of them will be able to respond to your appeal for additional personal input.

The Project is currently being described as the Lydgate Park–Kapa_a Bike and Pedestrian Path Phases C and D, CMAQ-0700(49).

6.1.3.2 Ms. Sophronia Noelani Diego-Josselin

On February 15, 2011, Sophronia Noelani Diego-Josselin sent an email attachment response to the initial community contact letter. Her complete response is in Appendix F. Beginning at the initial salutation, the following is her response, with any misspellings corrected and only minor grammatical corrections:

> Aloha Kuhio Vogeler
>
> Mahalo for Allowing me to contribute my mana‘o to the Cultural Impact Assessment for Lydgate Bike Path Phase C and D Project, Job Code Waipoli 4 [*sic.*].
>
> Why is this C.I.A. is being conducted AFTER the notification was sent out to begin construction on Lydgate Bike Path Phase C and D Project? And WHY were we not contacted or notified to participate in previous bike path C.I.A‘s,?
>
> For the record, I was born in 1962, raised by my grandparents in the village of Hana, Maui. In 1987 we moved to Kaua‘i. My husband was hired as the new executive Chef for Coco Palms. Our family was housed on property for almost a year. During this time I believed my spirit connected to those of my ancestors in the Wailua area. Since, I lived and worked in Wailua, where I raised my family for over 24 years.
>
> I, through my Grandmother Lupinehae Kala-Diego am a direct lineal descendant of Kaumuali_i and, Mano O Kalanipō, who were descendants of ali_i nui, KUKONA.
>
> I have studied design, feng shui as well as marketing and merchandising which I hold an AA degree in. I have owned, designed and built numerous commercial restaurants, coffee shops, and organized the very first TASTE OF HAWAI_I which originated in the Sacred Wailua Coconut Grove, which was adopted by the Kapa_a Rotary Club as their main annual fundraiser.

I feel it is a responsibility of Corporations and Persons such as Kahele makalae a.k.a. PATH Inc., Cultural Surveys Hawaii and Hallett Hammatt Ph.D. to **correctly** identify renowned SACRED historical areas such as areas included and surrounding Wailua Complex of Heiau. These areas are LISTED on the NATIONAL REGISTRY OF HISTORICAL SITES. Cultural Surveys Hawaii Inc. should refrain from dissecting Wailua's landscape and plundering ~~"in~~advertent" artifacts and human remains. In your initial reports, that allowed for archeological permitting, CSHI considered these sacred sites to be FONSI [Finding of No Significant Impact]! By refusing to allow Native Hawaiians to participate in prior consultations that directly affect Wailuanuiahoano, it's coastline, land, cultural artifacts, burials, places of worship and spiritual places of cultural practices you are breaking not only state laws but **international laws**. I pray that you take these concerns into consideration, and make right the HEWA of your ~~"s~~urveys" and ~~"a~~ssessments", starting with the **mitigation** of;

1. The blockage of the KINGS PATH for religious practices with a vertical concrete wall and ~~"t~~ourist" scenic point.

2. Failing to Identify and preserve numerous ~~"~~KI_I" that were identified and described in various testimonies by Ms. Sharon Pomroy who is a direct lineal descendant of this Pu'u honua area, to be beautifully carved.

3. Failing to identify and protect the demarcation line of HAUOLA pu_u honua area, indicated with a line of submersed boulders located under the south end of the new bridge embankment.

4. Failure to identify and protect KANE IE Cave which was sealed, but might have been damaged during construction.

5. Failure to identify and protect HUI KI_I and KI_I PAE MAHU, all in the general vicinity of the HISTORICAL CANE HAUL BRIDGE!

6. Failure to identify and preserve ~~"w~~hat remains" of MAHUNAPU_UONE, KAWELOS Heiau and Ali_i Ohana Burials, Makai of Kūhiō Highway. I find this to be s grossly irresponsible to the culture that you make your living from.

7. Failure to provide parking for those wishing to visit sacred Papaloa reef for fishing, giving Ho_okupu, etc.

8. Failure to provide adequate Parking for those wishing to visit Kukui Heiau for traditional customary practices.

I pray that **WE** can move forward with this project. Understand that in order for this project ~~"J~~ob Code Waipouli 4" to be PONO [righteous], Cultural Surveys Hawaii Inc. must take into account and apply all of the information that you have gathered for your reports, FONSI are unacceptable.

Native Hawaiian's religion and spirituality are rooted in the land or AINA. Sacred sites provide the physical foundation for mo'olelo or stories, that connect each new generation to their ancestors and weaves them into their culture and defines

> their identity. The protection of sacred sites, and defending the ability to conduct rituals and ceremonies at these sites in **privacy and without disruption**, are therefore vital to maintaining and passing from generation to generation the distinct identities, traditions, and histories of our people.
>
> The use and protection of sacred sites is not merely a cultural or spiritual concern. It is a human right that has been identified and protected by international law. Article 25 of the UN Declaration on the Rights of Indigenous Peoples provides that:
>
> > Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard.
>
> Mahalo Nui Loa,
>
> Noelani Josselin

6.1.3.3 Ms. Cheryl Lovell-Obatake

On February 14, 2011, Cheryl Lovell-Obatake, who was unable to attend the group interview on February 19, 2011, responded in writing to the initial contact letter (Appendix G). This letter response was a copy of a statement submitted to the County of Kaua‗i Planning Department. Much of the letter pertains to the Coconut Plantation Holdings, LLC., and includes ―comments and concerns on the text compiled by C. B. & D. and Group 70 International.‖ The portions of the letter that relate directly to impacts of the current the Project concern archaeological research. Under item 5 of her letter, Mrs. Lovell-Obatake urges the following: ―I recommend that SHPD and PW [State of Hawai‗i, Public Works Division] require that the applicant have a certified archaeologist on site during any and all ground/underground disturbances; such as extracting of trees and relocating them. I am concerned about Native Hawaiian burials and funerary objects connected to Native Hawaiian burials.‖

Section 7 Summaries of Community Interviews

Kama_āina and kūpuna with knowledge of the proposed Project and study area participated in semi-structured interviews for this CIA in February 2011. CSH attempted to contact 41 individuals for this CIA report, of which 14 responded via email or phone, five provided written statements, four participated in formal, individual interviews and ten participated in group interview. One individual interview and the group interview have not been approved for this Draft Report. Thus, 17 people were interviewed for this report.

CSH initiated the interviews with questions from broad categories such as wahi pana and mo_olelo, cultivation and gathering practices, trails, cultural and historic properties, and burials. Participants' biographical information, comments, and concerns about the proposed development, the Project area and the environs are presented below.

7.1 Mr. Valentine Ako

Cultural Surveys Hawai_i (CSH) interviewed Uncle Valentine Ako on February 18, 2011 in his Kapa_a home. Although Mr. Ako was born in 1926 in Hōlualoa, on Hawai_i Island, he has made Kapa_a, Kaua_i, his home for more than 50 years. He married Auntie Elizabeth Huddy from Kaua_i, and together they raised four children: Blanche (Kepola), Valerie (Nani), Ivan (Kaho_onani), and Julie (Mamo), in their home in Kapa_a. They also have numerous grandchildren and great-grandchildren. As a young boy, Mr. Ako was a curious child and learned all he could about Hawaiian culture from kūpuna including traditional fishing methods and how to make and gather salt. From them, he also learned about the traditional way of life which respects the environment, as well as mo_olelo regarding Hawaiian history and its people.

Mr. Ako was also interviewed previously on July 13, 2010, for a project involving the expansion of the Kūhiō Highway in nearby Wailua Ahupua_a, and with his permission, portions of that interview are used along with specific comments for the proposed multi-use path project, Phase C and D in Waipouli Ahupua_a.

At 84 years old, Mr. Ako remains active, planting his own taro and making his own poi (the Hawaiian staff of life, made from cooked taro corms), which he generously sends to _ohana (family) and friends. During the interview with CSH, he shared insights into traditional fishing methods such as the various kinds of chum that are used. On the island of Hawai_i, for example, from Keauhou to Kalaemanō, there are many tidal pools that have _ōpae_ula (small endemic red shrimp). Chum from these areas included the _ōpae_ula in addition to ingredients like cooked _uala (sweet potato: *Ipomoea batatas*), _ulu (*Artocarpus altilis*), and pumpkin, or pala_ai (*Cucurbita pepo*).

According to Mr. Ako, the kūpuna would catch fish that ate this type of chum, which they would leave in the _ōpū (stomach) of the fish. "They grill it and it has a fresh taste," he stated. The kūpuna were very careful and selective in making the chum, noted Mr. Ako. They always used everything fresh, compared to the younger generation today who tend to use spoiled fish to catch fish.

Mr. Ako's vast knowledge of Hawaiian fishing methods extends to the numerous ko_a (fishing grounds) he knows about, located along the North Kona shoreline. He shares that each

family had their own ko_a in their own area, and they would take care of it. A ko_a is usually located a quarter of a mile offshore, in water that is about 180 feet deep. In the past, kūpuna would use marks along the shore or a compass to locate the ko_a, but now a GPS (Global Positioning System) is used by the younger generation. Although he tries to pass on his knowledge to young Hawaiians, Mr. Ako remarks that the makua generation (parent generation) seem not to be interested in learning much about it.

While discussing the multi-use path project, Mr. Ako noted that in the 1970s, he was the lead construction employee who was in charge of excavating and burying the 87 iwi kūpuna that were unearthed during the construction of two buildings at the Coco Palms resort, namely Alii Kai I Guest Rooms & Suites and Alii Kai II Guest Rooms & Suites (Building no. 6 and 7 on the 1980s Coco Palms map, as seen at the address http://www.coco-palms.com/photos/map/full/full-map.JPG).

At the time of the excavation, Mr. Ako worked for Munro Burns, a mainland company. He described the appearance of the iwi that he saw, noting the extraordinary length of the shinbones and shape of the skulls, which according to the presiding archaeologist, William Kikuchi, meant that the burials were of a people that were in Kaua_i long before. Mr. Ako cautioned about the likely possibility that more iwi will be found in the current Project area: "You are not going to find them on the top. Those kūpuna were buried over 400 years ago. And that type of Hawaiian was not an ordinary Hawaiian. They were giants. If you put a Hawaiian skull on the table, it rocks. But this other Hawaiian, the one I found, its skull was extra large. If you put it on the table, it stays flat."

Mr. Ako explained the discovery of the bones, stating that they made a "14-feet cut," going down to 40-feet density. As they excavated, he came across the graves. He dug by hand while pumping the water out. The manager of Coco Palms, Grace Guslander, gave him the authority to care for the iwi kūpuna in the best possible way according to Hawaiian tradition.

Describing the process of finding the iwi, Mr. Ako notes he had a general idea where the graves would be because of the _ōhi_a (*Metrosideros macropus*) logs that were found with each burial. He carefully buried the iwi kūpuna himself, and emphasized that there was a service that was conducted. The proper burial and the service were critical, which explained why no problems occurred in Coco Palms. He shares the following:

> I had service with all the kūpuna people; buried them. I can feel they were asking me, "Where are you taking me?" I told them, "I am going to take you folks where nobody can touch you folks over there." And I buried those 87 bodies with Mrs. Guslander there, in the picture terrace. That's the reason why Mrs. Guslander didn't have any problems with the hotel.

According to Mr. Ako, during the time when Antone "Kona" Vidinha was the mayor of the County of Kaua_i, from 1969 to 1972, the mayor sold his property near Haleilio Road, where the treatment plant is currently located, to Mrs. Guslander. Because of that transaction, Mrs. Guslander took a portion of state land. Mr. Ako recommends that the government survey the metes and bounds of Coco Palms, instead of breaking the seawall. The multi-use path would then be adjacent to the wall and if there are iwi in the sandy area, it will be protected.

Looking at a map of the Phase C and D proposed section of the multi-use path, Mr. Ako points out that the area by the Coconut Marketplace will need a stoplight there or an overpass, –because traffic is so heavy, that there could be accidents." He believes the traffic should be on Papaloa Road before it goes down to Kauai Sands Hotel.

Mr. Ako recounts that the area by the Coconut Marketplace was owned by Isaac Kaiu, great-grandson of Deborah Kapule. Then the Broadbents bought the property, and planted coconut trees. They raised cattle on the makai side, where the Aston Islander on the Beach, Kauai Sands Hotel, Coconut Beach Hotel and Marriot at Makaiwa Beach are now standing. This was as early as the 1950s. The Broadbents eventually sold it to Blackwell.

When asked about any gathering of plants in the area, Mr. Ako says that he does not know about any, but he states that there will likely be graves found in the sandy areas of the Project area. –Westerners don't realize that our kūpuna did not have metal implements to dig for their graves. So that's why they moved all the graves near the ocean, sand, so they can dig it by hand." He advises the Project proponents to stay above the water line.

Mr. Ako emphasizes that iwi found in the ahupua_a must stay in that ahupua_a. –The moment that you take the iwi and put it in another ahupua'a, that's when you get the problems," Mr. Ako stresses. If iwi are discovered, he recommends finding a place in the ahupua'a where they were found, a place not too obvious, and then hold a good burial service. He believes that the iwi could be similar to the iwi that he found with tall shinbones and huge skulls.

If the multi-use path would be built, Mr. Ako would like to use it. But because of his disability, he cannot walk far. He notes that he would need a motorized wheelchair or something like that to transport him, but he would certainly use the path if he could.

At the time of the interview for the proposed multi-use path, Mr. Ako notes that even if he had a motorized wheelchair, he may not be able to use the path due to the regulation that bans the use of motorized vehicles. Since then, however, CSH has learned from Project proponents that motorized wheelchairs are allowed and exempt from the rule.

7.2 Mr. Milton K. C. Ching

CSH interviewed Mr. Milton K. C. Ching on February 17, 2011, in the proposed Project area, beside Uhelekawawa Canal, across from Waipouli Beach Resort. Mr. Ching is an active member of the Kapa_a First Hawaiian Church, and was a former Board of Trustees member of the church. Kapa_a First Hawaiian Church has its roots in Wailua where ali_i Deborah Haakulou Kapule, wife of Chief Kaumuali_i, once resided. The church building was moved in 1878 from Wailua to Kapa_a by George Charman of Kōloa, William H. Rice of Līhu_e and hui (club, association) members of Kawaihau.

Born in Līhu_e, Mr. Ching is a former Kaua_i Police officer who has worked for the Department of Land and Natural Resources for 30 years. He has been interested in genealogy for many years, and has made it his mission to learn about the various families and their backgrounds. Much of his information about the Project area comes from members of the Kapa_a First Hawaiian Church, many of them older Hawaiians who are residents of Waipouli or who lived in Waipouli in the past.

Noting that many of the kūpuna who know much of the area history have passed away, Mr. Ching commented that the makua hardly has any elders left to tell them the stories of the past. While sitting next to the Uhelekawawa Canal, Mr. Ching identified the family that lived nearby at the back of the stream, the Reverend Isaiah K. Kaauwai _ohana. Mr. Ching spoke to John K. Kaauwai, the 76-year-old grandson of the reverend who is a member of the Kapa_a First Hawaiian Church. Mr. Ching also found information poring over census records. Reverend Isaiah K. Kaauwai was the pastor of Kapa_a First Hawaiian Church for 40 years and he passed away in 1937. According to Mr. Ching, the Reverend has a granddaughter-in-law, Alicia Kaauwai, who still lives in the area. Her husband, Kenneth –Bully" Kaauwai, passed away in 2005.

Another prominent family in Waipouli was the David Kaaina Kāne family, who still maintain property in the area. Mr. Ching also mentioned the Issac Simeon Kaiu family, including the late Auntie Jennie Akau and Uncle Charles Akau. Auntie Jennie was the daughter of Issac S. Kaiu.

Issac S. Kaiu is related to Simeon Kaiu, who was married to Queen Deborah Haakulou Kapule in Wailua. According to Mr. Ching, William C. Lunalilo (later King of the Hawaiian Kingdom after the death of Kamehameha V) was awarded the entire ahupua_a of Waipouli, among other ahupua_a.

Asked about cultural information regarding Waipouli, Mr. Ching notes that many of the names he found linked to Waipouli were also connected to Wailua: –In the old days, there were no boundaries. Although there were boundaries in maps that say this is Waipouli, this is Wailua, this is Kapa_a, Hawaiians that lived here traversed back and forth for fishing and stuff. There wasn't really a boundary. They survived and lived."

Mr. Ching provided some background on Wailua. He notes that Deborah Haakulou Kapule was the last reigning queen of Kaua_i and that she died in 1853. Based on Mr. Ching's document research, his great-great grandfather, Ma_ilolo, testified in an 1885 document that he was the caregiver for an old Hawaiian man named Kaailuale, a cousin of Deborah Haakulou Kapule. According to Mr. Ching, the document shows that his ancestor Ma_ilolo used to take care of Kaailuale. –So we have some relationship with ali_i families that used to live over at Wailua," Mr. Ching stated.

When CSH asked about the importance of genealogy, he expresses that:

> Genealogy is really important because it goes with the land... In the old days, there was different classes of people. We all know of the ali_i, etc. but there was a lot of people who were working class, maka_āinana. A lot of the old Hawaiian names that used to live there [Waipouli] also had a connection with the heiau found in Wailua, and also the Hawaiian village that used to be across the Uhelekawawa Canal over here [indicates Project area].

Mr. Ching stresses that he wants to make sure that that the different individuals and families who lived in different ahupua_a, who grew taro and worked and lived together, are all recognized. He describes the canoe village that is immediately north of the Project area. It is an ancient village, and during the construction of Waipouli Beach Resort, a number of bodies were

exhumed and put in a special burial place at the back of the hotel. However, Mr. Ching believes there must be more bodies that were not found.

Speaking about Uhelekawawa Canal, Mr. Ching points out the abundance of fish like tilapia and mullet despite the water's superficial depth. He surmises that although it is a shallow stream now, years ago it was likely different. "When you have this kind of aquatic life, you know there's going to be crab," he stated. "You are going to have all the aquatic life in this freshwater stream ... you have saltwater mixing with the fresh, so you have brackish water."

Indicating the direction of the current, Mr. Ching notes how it flows from right to left, from makai to mauka. During storms and heavy rains, the water runs straight out into the ocean. There are more marine creatures at the end of the canal connecting to the ocean: "At the point of the canal, then you got the big _a_ama crab (*Grapsus grapsus*), you are going to run into all these crustaceans, the spiny lobster. And I think one time, we had one of the Hawaiian monk seals that was born in this canal."

Mr. Ching estimates that the Hawaiian monk seal incident happened about ten to 15 years ago. It appeared that the seal was born in the canal and that she came back to her birthplace. Despite the stream's shallow depth close to the Project area, Mr. Ching notes that in some places, it can be deep.

When asked his mana_o about the proposed Project, Mr. Ching states his preference for preserving burials. Noting that he does not agree with some decisions made by the Kaua_i/Ni_ihau Burial Council, Mr. Ching shares the following:

> I am really for preserving Hawaiiana. I always like them to preserve the burials, I don't like when ... for example, the Kaua_i Burial Council. They determined the ancient burial, they want to move it. I think the burial should always be left in place. That was the intention of those who buried that person. You can never remove it. Yet the Burial Council makes the decision, with the advice of the Historic Preservation that the remains be removed and transferred to somewhere else. Which they did over here [indicates Waipouli Beach Resort]. So I'm a guy who really don't approve moving the burials. It should always be left in place. If you are going to find one burial, you know that there is going to be other burials. If you find, say a father, and they don't find the mother or the children or the grandparents, etc., you know they are there. I am a guy ... that likes to see things the way it has always been, but it is never going to happen.

At the same time, Mr. Ching emphasizes that he also is not one to protest: "I don't like to protest, because I have been to places where people protest. And a lot of times, they don't really know what they are talking about. Sometimes, when you tell them what the facts are, they don't really listen. They are going to do it anyway."

He remains skeptical about the viability of the proposed multi-use path, noting lack of use in the past:

> I can only tell you about the bike path. When JoAnn Yukimura was the mayor of Kaua_i [1988–1994], they did a bike path down here. I worked for DNLR ... for some 30 some years, and you never see people using the bike path. They are

always on the main road. So the county wasted a lot of money installing the bike path which they did years ago, so maybe 20 to 25 years ago. And people never used it. They are on the main Kūhiō Highway. So that is my mana_o about the bike path.

7.3 Mrs. Sally Jo Manea

CSH met and interviewed Mrs. Manea in Līhu_e, Kaua_i, on February 17, 2011. She is a kumu hula (hula teacher), teaching hula in Kapa_a for the last thirteen years. She is a member of Kaua_i Path's Board of Directors. Mrs. Manea has danced the hula since childhood. Her kumu hula on Kaua_i was Roselle Bailey, who now resides on Maui. She is active in the community both politically as well as culturally and has studied the Hawaiian language for 50 years. Born on the mainland United States, her father's work with the Navy enabled the whole family to move to Hawai_i in the mid-1950s. She graduated from Punahou School and the University of Hawai_i, and worked for two years in Pohnpei, Micronesia, as the Public Health Advisor for the Department of Health. Mrs. Manea moved to Wailua Homesteads from Honolulu in 1975, but she also resided in Kaua_i from 1960 to 1963. Because of her experience, she is able to vividly recall what the Waipouli area looked like in 1975: "All the hotels were there already when I first moved here in '75, except the Waipouli Beach Resort across from Safeway. The hotels at Coconut Marketplace were there; that hasn't really changed that much from '75. This area is an older hotel area, actually."

But in the early 1960s, Mrs. Manea recalls that the area by the Project area was mostly pasture land, including the area where Coconut Marketplace is now located. Previously, there had been a racetrack, and individual houses all along the beach from Wailua Bay to Waipouli.

In response to CSH's question whether there were any gathering of plants in the Project area, Mrs. Manea notes that people gather spinach, which she states is not native to Hawai_i but from Australia. Some individuals gather coconut. Presently there is no good limu (seaweed) picking along the coastline but there may have been limu there before. Mrs. Manea's husband is a fisherman and a diver, and the fishing ground off the Project area is not one of his favorites. He prefers to go closer to Kapa_a where many fish can be spotted.

According to Mrs. Manea, in the area where Mokihana Bullshed restaurant is now located, the Ka_auwai family lived there. She points out that Alicia Ka_auwai still lives in the area. Another family also resided there, the Kāne family who lived by the beach. Andrew Kāne was employed at Coco Palms for many years. She shares that there was a historic building near Mokihana Bullshed that used to be called _Awapuhi. It is now a green building where JV's Restaurant and Sweet Marie's bakery are presently located. There were other Hawaiian families that lived in the area but bit by bit, their properties were slowly sold off. There was good fishing along the beach and families would go right down to the shoreline.

When CSH asks Mrs. Manea if she had mana_o regarding the proposed Project, Mrs. Manea relates that she has seen how the multi-use path in Keālia has opened up to allow those who could not go there before to use it, such as mothers pushing baby strollers, the elderly and the physically disabled. She gave the following example of a friend who had a stroke and had difficulty walking:

> Before the path from Kapa_a to Keālia was paved, she had a really difficult time walking along that coastline because of rocks and uneven footing. Since it's been paved, she can enjoy the walk just like anyone else can now. She wouldn't walk there before because there were big rocks and pukas [holes]; it was too difficult.

Besides her friend, Mrs. Manea states that she regularly sees a one-legged man who rides daily with his tricycle. She also sees people with motorized wheelchairs or regular wheelchairs being pushed, with their family members walking beside them or riding bicycles:

> All of these people will now have access to wherever this path will go. Because of the view, because of the air, because it's so awesome to walk along the beach, I believe that any extension of this path should be along the coast as much as possible. It is very important that all the phases of the path are connected. For example, right now where the path section is incomplete north of Lydgate Park and Wailua River, you have to walk or ride along the highway where it is very dangerous with the traffic. So having a safe pathway continue along that section is going to provide a continuous route for people who are walking or riding bicycles from Lydgate, or the Hanamā_ulu and Līhu_e areas.

Mrs. Manea has specific recommendations for the multi-use path, calling for buffers in areas where the cars and people are going to be sharing the same route. Although it is not in the Project area, Mrs. Manea used the example of the Kapa_a swimming pool, which is located at Kapa_a Neighborhood Center to illustrate the possible dangers without buffers:

> Areas where vehicles and the path are within close proximity are going to be a risk and it's really important to have a buffer such as shrubbery. There's a narrow area by the [Kapa_a] swimming pool, which cars and the path share; it's only about 50 feet long, but the cars and the people share the same route. So vehicles are in and out, pedestrians and families with kids on bikes are in and out and all have to really watch carefully through there.

Mrs. Manea describes likely scenarios that may happen if there are no buffers in the proposed Project area:

> In the areas where the path and vehicles are in close proximity, it's important to make sure that there's a clearly delineated buffer between the two. Because what happens is that people who ride their bikes ... some riders go very fast and don't really care about people who are walking. And walkers, sometimes, are whole families. They are just ambling along, and looking at the whales and taking pictures of each other and standing in the middle of the path and the bicyclists are going through very fast. Nothing's happened yet, but the potential of something happening, the more miles of path we have, the more potential there is for something to happen.... Keep that in mind as it's being built, as the design is going in. Separate the cars from the path users as much as possible.

Mrs. Manea uses portions of the multi-use path that already exists as a cyclist and as a walker, so she is well-versed with both points of view. She states that currently, bikers and cyclists share the same space, but pedestrians have the right-of-way. It is up to the cyclist to warn people when

passing. When she rides her bicycle, she tries to warn others from 40 to 50 feet away so they have time to move out of the way. There are also times when cyclists should also get off their bicycles and walk along the side of the path:

> People don‘t have the mindset yet. It‘s still a new thing to them; they‘re not really familiar with it. And visitors who rent bikes, who aren‘t usually cyclists, and they‘re just doing it because it‘s a good thing to do while you‘re here. So they rent bikes and they don‘t really think what they‘re doing ... they ride three across. So you‘ve got differing interests going on with this 10–12 foot wide space.... When cars are introduced to this mix, there‘s going to be conflict. Consideration for avoiding these difficulties should be built into the design from the beginning.

When asked about cultural resources in the Project area, Mrs. Manea confirms that she has heard of stories from families that used to live in the area. For example, from the Kāne and Ka_auwai _ohana, she heard about Night Walkers and spirit people, as well as other stories about places. She knows that there are cultural resources, but she does not know what they are as it was long ago. Mrs. Manea recommends that CSH contact Alicia Ka_auwai and her children or the children of Andrew Kāne. She points out that the Fernandez Road near the Project area is named after the Fernandez _ohana and that they may know of cultural resources.

Mrs. Manea provided CSH with the background of Kaua_i Path, the volunteer organization that she is affiliated with and which takes care of the multi-use path. She has been involved with the Kaua_i Path for the last seven years. According to Mrs. Manea, when Brian Baptiste was mayor, he reconvened a group of people who had worked in the 1990s to initiate cultural preservation, proposing the idea of a ―cultural pathway‖ and making recommendations. Mrs. Manea shares that the mayor knew of a plan to develop 350 acres of property in Hanamā_ulu:

> He wanted the developers to understand that there were people who wanted to have a public pathway through their property on the makai, coastal side of the property.... They [the developers] didn‘t want a pathway by the ocean because they didn‘t want to give up any of their land for the facility. So Mayor Baptiste convened as many of the group as he could get together and I was included in that. And we put together a presentation ... about the path that was already established in Lydgate, told them about the plans for the path going north from Kapa_a.... We wanted this developer to put a path along his property along the ocean and not along the highway.

The group of people that put together the presentation included Thomas Noyes and others such as Mrs. Manea, and they decided to meet regularly and form a volunteer organization that would assist with what she describes as ―maintenance and cleaning, to keep all the phases moving along.‖ The organization was called ―Kaua_i Cultural and Heritage Trail,‖ now known simply as ―Kaua_i Path.‖ Mrs. Manea describes the organization‘s volunteer activities in detail:

> We do service Projects along the path. We advocate for the continuation of assessment and design work and other stages required in order to keep the various phases going. The various sections are in different stages of the development process so we‘ve taken it upon ourselves to keep it moving so eventually the whole 17 miles of this pathway will get built. You know [how] the government is,

> you know how people are, there's always some kind of stumbling block. There's always something people complain about ... there's a need for continual advocacy to keep things moving ... and to have one organization to keep a finger on what all the phases are and where they are and who's doing what. That's kind of our kuleana [responsibility], the path people.

In addition with her volunteer work with Kaua_i Path, Mrs. Manea also advocates for what she terms –smart growth." For example, she is on the Mayor's Advisory Committee for the Kaua_i Division of Transportation, responsible for the Kaua_i bus line. She works toward improving and increasing bus service and making other mass transportation options more available. At the same time, she continues to teach hula several times a week.

She expresses her thoughts about the proposed Phase C and D of the Project:

> I really believe it should be kept along the coast as much as possible. Walking that coastline is physical and mental therapy. Before or after your busy day, to get your shoes on and walk or cycle with the cool ocean breeze and watch the surf rolling in, whales jumping, monk seals sleeping, and meet friends and family along the way. What a wonderful way to keep healthy!

7.4 Mrs. Beverly Muraoka

CSH interviewed Mrs. Beverly Muraoka, or –Auntie Beverly," as she is affectionately known, on February 17, 2011. Mrs. Muraoka is a well-respected *kumu hula* (teacher of hula), and a cultural practitioner and former entertainer at Coco Palms Resort in Wailua, Kaua_i. Born in 1949 in Līhu_e to Ernest and Christina Apana, she was raised in Wailua Valley with her five sisters Caroline, Dorna, Shirlet, Lynette, Lovey and brother Russell. Mrs. Muraoka's grandparents were Chinese immigrants who worked the rice fields in Wailua adjacent to the land that would later become Coco Palms. Her father, Mr. Ernest Apana, later bought a three-quarter acre parcel next to what would become the resort location. From 1960 to 1983, she sang with her family in the Mormon Choir at the Coco Palms on Mondays and Wednesdays. As a member of the Coco Palms Ambassadors, she travelled with the choir throughout the United States. Mrs. Muraoka is the youngest of the well-known Apana Sisters who performed in Coco Palms from the mid-1960s to early 1980s. Together with her sisters Lovey and Shirlet, she travelled and performed all over the Pacific, Asia and Europe. Mrs. Muraoka is the Kumu Hula at Healani's Hula Hālau.

To underscore the importance of starting a project in the right possible way, Mrs. Muraoka began the interview by discussing the trouble that occurred during the construction of Waipouli Beach Resort, where the proposed multi-use path will connect to the existing bike path. A few years ago, Mrs. Muraoka's *hālau* (hula meeting house) was contracted to come to the resort and help clean, in order for the new owner to move in. Some of the *hālau* sisters reported that the hotel had problems, such as the refusal of a security guard to continue his patrol due to babies crying where there were no babies to be seen. Other issues included the departure of the executive housekeeper, along with new employees who left due to hearing running showers or babies crying in rooms where there was no one to be found.

One day, when Mrs. Muraoka was looking down on the resort grounds, she saw a rock formation of a mother with two babies on each side, facing the ocean. She expresses that when the grounds of Waipouli Beach Resort was first excavated, those in charge did not practice the right protocol and there was no accounting of the people that used to live there. Their remains were pushed aside due to progress, according to Mrs. Muraoka.

Referencing a previous interview with CSH for the Kuhio Highway expansion project, where she emphasized that burials will be found all along the shoreline, Mrs. Muraoka states:

> That's why in my other interview, I may mention when we are talking shoreline, there is no doubt in my mind you will find *iwi* (bones). These are the remains of men, women and children because Kaua_i was a peaceful island but she had her own battles amongst chiefs in the old villages. We come from the Kawaihau district. There was a chief that would want to overtake this area. And that chief may be from Kōloa. Kōloa battled from the chief from Waimea. And Waimea battled with the chief from Kalalau. And Kalalau chief battled with Kīlauea and so on and so forth. Where would they battle after they come to the main center of the island? They pushed towards the ocean. Even in Roman history you're going to find you have armies pushed up against a river, a lake, an ocean, wherever water was. I'm certain, there's no doubt in my mind, there are bones there.

Mrs. Muraoka notes that when she was growing up, her parents were ordered to dig trenches in their 310 Apana Road property by order from World War II bombings. In the trench they found a perfect set of teeth (*niho*), with no cavities, along with the *po'o* (head) and the *lima* (hand). Her parents reburied the *iwi* and dug somewhere else. Because their family property was right next to Coco Palms, Mrs. Muraoka relates the likelihood that there are *iwi* at Coco Palms, stating ~~it~~ is most likely."

Speaking of the Coco Palms *iwi* that was excavated in the 1970s by Mr. Valentine Ako (who was also interviewed for this report), Mrs. Muraoka stresses that Mrs. Guslander, the manager of Coco Palms at the time, was ~~v~~ery *akamai*, she's very smart, she took the time to reinter the bones." But this was not the case with the *iwi* that was found in the Waipouli Beach Resort, and this is the cause of the problems since, according to Mrs. Muraoka. She states that Hawaiian activists confronted the contractor of the resort in court but nevertheless, the contractor was allowed to proceed with the project.

When CSH asked about the project area, Mrs. Muraoka notes that the ocean in front of the project area (Phase C and D), has a ~~t~~errible undertow," and this was why her father never allowed her and her siblings to go swimming in front of the project area. He had good reason to caution them. Mrs. Muraoka shares the story that when the area in front of the Coconut Market place was still pasture land, a Brahma bull would regularly graze on the land but knew enough not to go into the ocean. However, one day, the bull was swept away into the ocean, and her

father, the fire captain, had to rescue it. Another place where they were told not to go in the water was at Keālia Beach because the way the waves would face, the current would slam them against the rocks.

Now that there are modern machinery, it is possible to crack the reef and create a swimming area like Lydgate Park. However, Mrs. Muraoka cautions that there is a consequence whenever one meddles with nature:

> When you touch nature, you can succeed but someplace else is going to pay the price. We believe after they did the successful two pools here [adult and children's swimming pool in Lydgate Park], Kekaha took the punishment because the force of the current pushed it somewhere else. Today, they have built a stone wall in Kekaha to hold back the waves there. But when the waves get turbulent, they'll cross the road and erode the wall. Not so far in the future, they'll have to redo the wall...we believe that it's because when they were successful in getting these rocks broken up and pushed back [at Lydgate], it affected [Kekaha], because this is the east and it affected the west.

The rough waters in front of the project area is the reason why many of the hotels, including Waipouli Beach Resort, do not allow their guests to swim, according to Mrs. Muraoka. However, there will always be some people who are hard-headed and do not listen. There have been several drownings recently in Kaua_i, and she and other *kūpuna* (elders, grandparents) have been approached for their advice. She notes that besides training lifeguards and having the proper equipment, people should not go into certain areas that are *kapu* (forbidden).

Referring to the bridge project, Mrs. Muraoka points out that when there is a tsunami warning, no one can cross the bridge. "When it first came out, I said build it up further so people can drive on it in case there is a tsunami and it wouldn't affect them." Despite her recommendation, however, the bridge was built on its current site. With the bridge project, Mrs. Muraoka shares that a relative of hers passed away. "In every project, unfortunately, someone will be sacrificed. The project isn't finished yet, so far so good. We would love for it to be perfected and not have anybody suffer any losses."

As for the proposed project, she stresses that correct protocol must be done in the beginning, before it breaks ground. If project proponents do not use the correct protocol, then there will be challenges and difficulties as the project is moving along. She provided an example where the beginning of the project, which involved the clean up of Malaekahana Heiau, was done properly, and cited another project where it was not:

> They asked me to come and give the blessing which my husband and I did. I gave the *'oli* [chant], my husband gave the prayer. And they proceeded correctly. They cleaned up Malaekahana without any incident. Look at what happened in Hā_ena. They didn't do the right protocol and so they had so much trouble there (I don't know where that project is). The bypass is still incomplete!

Noting that the proposed multi-use path is close to the ocean, Mrs. Muraoka emphasizes that the project has to be done correctly. She states:

> If it has to take place, that the right protocol be done. Get the people who were born and raised in this area to come and be honored. And ask them to forgive...open the way so this project can succeed. So many times we've been looked upon like "they don't know anything, they're peons" because developers have money and they don't have time for these things. They just want to get the project done. They forget they need to talk to the people that sacrificed...They come with their money and they say, "I want that and I want it done now.' But they need to remember that someone gave their all so you can be the beneficiary. If they come with that attitude, sometimes it can backfire. When it backfires, they come back and ask us old timers what can they do. That's when we begin to say, "Don't ask us anymore."

When asked about the cultural resources, in and around the project area, Mrs. Muraoka shares that her father told her and her siblings not to fish in the immediate area, besides forbidding them from swimming in the rough surf. Further down south was a "wonderful fishing area" where her *'ohana* would fish. It also has medicinal plants. The family would fish in an area they called "Pahulu." In Pahulu, she picked *pipipi* [small mollusks] as well as *limu* with her sisters and she stresses the importance of continued access to these areas:

> There is no doubt in my mind these were all areas my Hawaiian people did use for their living rights. They probably didn't fish there but came down to visit Lydgate. It's full of commercial use by tourists [now]. But further down, they have the best sea harvest (they call it Pahulu). You can have all the fish...we could get our food. As long as my Hawaiian people can have access to getting their food and their *lā'au*, which is the medicine, which is all the *naupaka*, yeah, this is all *lā'au* growing here. (Then it's) a project that you cannot stop. It's in the name of progress… "

In addition to being a fisherman, Mrs. Muraoka's father Ernest was also a fireman and a rancher. His work schedule as a fireman was 24 hours of work and 48 hours off. Although he was Chinese in descent, he was raised by Hawaiians and he had Hawaiian ways. Mrs. Muraoka recounts with fondness how her father would be a *paniolo* (cowboy) during the first 24 hours of his two days off, and then for the rest of the time, he would grab his *'upena* or fishing net and all six Apana sisters, including her, would have to get ready to leave with him:

> So Daddy would say to mom, "Make a little bit *kaukau* [food in pidgin], we're going to go Pahulu, I'm going to look for *'ama 'ama*" [mullet]. "Oh no… We'd gotta get up..." And yet we loved being with our father, he was so adventurous. We'd love to go with him when he saddled up his horse, we loved to go with him when he'd get his net ready but we just didn't want to stay in the hot sun. So over there at Pahulu, he'd take his net and his fishing bag and he'd tell us to wait on the shore and when he would stay in the water, we would be so bored, we would take a stick and draw in the sand. [He'd stay in the water for] two hours...We'd draw circles, squares, triangles, and we'd play tic tac toe on the sand. If we see our daddy going to throw his net, we would have to move with him. If he walked down, we'd have to walk down with him. As he walked down, we would see him coming closer to the rocks. We had a favorite rock. We called it the "Bath Rock."

> The rock was sort of like a bed with a *puka* [hole], and when the wave would hit, the water would come in and we would stay in like a bath. So we'd be waiting inside of there.

Recalling her happiness when she would see her father get ready to catch the fish, Mrs. Muraoka shares the following:

> When we saw our daddy put his net on his elbow, and then, we knew, we knew we were going home with food. So we would run and get the bag and jump, because ooh, pretty soon, we would be going home! He would throw his net and it'd be beautifully round...Once he turned, we'd come running because my daddy was going to gather fishes...we would be so excited!

The job of the sisters was to take the fish and put it in the burlap bag and carry it to their 1949 Dodge truck. When asked if her father came home with fish every time he came to the ocean, Mrs. Muraoka confirms that he always was successful at catching fish. To ensure a healthy catch every time, her family developed their own folk practices. Their father told them never to cross their hands in front or fold their arms in front when standing at the ocean. They were also told not to cross their hands at the back. Instead, the Apana family made it a point to just stand with their arms loosely down their sides, as if to welcome the ocean. It was a gesture that her family would always practice.

> If my father saw anyone come with their hands crossed, then we'd go back in the car and go home. That was a sign he wouldn't catch any [fish]...And we never put our hand in the back, like "huh, huh, let's see what you can get" (grabs her hands at the back in a mock-superior pose).

All these family practices were to ensure the giving of the sea. Even today, she would still adhere to her father's rules, especially when she would visit her older sister Dorna who now lives in Las Vegas. When Mrs. Muraoka visits her sister, she would try her luck in the slots. "[Dorna] would come right at the machine, and I would tell her, "Get away from me. Daddy said don't cross your hands. I'm not going to have any luck..." (laughs).

Mrs. Muraoka shares details of her father, who in addition to his English name of "Ernest," was known affectionately as "Apo" by Hawaiians although his Chinese name was Quan Po. He was quite the talented man, according to Mrs. Muraoka. When not fishing, or ranching, Mr. Apana would sew and repair nets. His activities, as well as her mother's observations of the world around them, marked the seasons and foretold the weather.

> We knew when he would repair nets, because that would be the World Series, baseball...anyway, we knew. We never had any calendars or anything. Even my mother taught us when the mountains are cloudy like this [that] the volcano is erupting on the Big Island. When the *mauna* [mountain] is cloudy, Tūtū Pele is erupting. When the _ōlena are up, *wana*, we can go down and get the sea urchin...That's how we could tell different seasons. Our lives here were simple but beautiful...

Her father later had an accident which caused doctors to fear for his life. But Mrs. Muraoka recounts how her mother never lost doubt that her husband would survive. Because he was a

fireman, Mr. Apana did not qualify for Social Security. The family income was limited to $123 in the form of a monthly disability check, which her mother supplemented with working in the Kapa_a cannery during summers for $1.50 or less an hour. But her mother never complained and Mrs. Muraoka remembers her childhood as a happy one:

> Now when we compare ourselves, my gosh...We lived in poverty but we didn't believe it because we were so happy. Very happy. We had everything. We thought we were the rich kids in the whole neighborhood. And yet our clothes must have five *pukas*...and my Chinese grandmother mended it, and mended it and mended it...After that accident, we learned to sacrifice, we learned to be caregivers. And so, I feel like, we didn't have time to be sorry for ourselves, because we had too much to do for others. We loved our *kūpuna*, we handled them, we took care of them, when they told us something, we would listen. And we were such happy people.

Music brought the family together and was a source of good times, whether the Apana sisters were learning to play or to sing. Mrs. Apana would sing, and her husband would provide the instruments. ~~–~~So we would all have a tub bass, with a broomstick. The pakini bass, the guitar, piano, _ukulele. We had a $15 silver tone guitar from Sears...We always played guitar," Mrs. Muraoka reminisced. Her mother also taught the sisters to play the *ukulele* on a pineapple-shaped instrument which Mrs. Muraoka now wishes she kept. Another sister learned to play the piano but had to stop when her father's illness caused him to shun noise. Mrs. Muraoka remains grateful for having learned music at a young age. ~~–~~Because of our music, today we can support ourselves. Because we entertained at Coco Palms."

In the corner of their world at 310 Apana Road, Mrs. Muraoka grew up with music and with her parents and Chinese grandparents. While they played music, her grandma would cook. To supplement their income, the family raised pigs, which the girls would take to the slaughterhouse, learning to back up the trailer and drive it. They would then have pork chops, pork shoulder, ham steak, and pork ribs, some of which they would store in the freezer and the rest would go to Japanese neighbors for barter. Mrs. Muraoka recalls how her family did not have to shop. If they wanted fish, they would go to the ocean. If they wanted pork, they had it in the freezer. If they wanted to barbecue steaks, ~~–it~~ was available to them always!"

At the river, Mrs. Muraoka shares that her father would ask her and her siblings to collect guava or plum sticks. ~~–~~He would have the charcoal and make his own *pūlehu* [to broil]. He would get free meat from being a rancher. If we wanted to *pūlehu* steaks, we can have steaks, five pound barbecue steaks, go ahead..."

The Apana family traded their fish and pork for cabbages, turnips, and mustard cabbage. Her Chinese grandmother would salt the cabbages in a crock and put it on the stove. Today, Mrs. Muraoka points out, salted cabbage would cost $8.95 in a Chinese restaurant, when it used to always just be in a crock pot for free when she was growing up. As for fruit, they had free access to mangoes, bananas, papayas, avocadoes, and lychees. When Mrs. Muraoka later got married and had to move to Oahu, it took some time for her to get used to buying fruits like bananas and other staples.

Even today, Mrs. Muraoka does not know how her parents did it, raising her sisters and brother with meager income. –Anything we wanted, we could get," she states. So today, when she hears little children at stores requesting vending machine treats from their parents, and the parents saying, –No, no money," Mrs. Muraoka wonders at how her parents never denied her anything. She admits not wanting vending machine toys during her childhood, but instead, she has more fulfilling, lasting memories of the good times that she and her siblings experienced with their parents:

> Our lives were so wonderful. So this is why, our music, our Hawaiiana, my mother, she was so precious...She taught us how to play and to sing. And from there we got together as a family. We always used that (music) to bring joy with our lifestyle. We feel we were steeped both in Hawaiian and the Chinese. Although my father spoke Chinese, he taught us a lot of Hawaiian ways.

Her Hawaiian grandmother taught certain beliefs:

> If there was any home improvement, no nailing, dark time, no pounding, no sweeping out with the broom. If we had to fix a wall or something. After the sun sets, no more pounding. Because in the old days, if someone passed, you'd have to make the casket quickly --- you'd pound it, so you'd lay the body. If you pounded at night, it was an omen, somebody was going to die....No clipping of the fingernails at night...We still try to honor that, wait for the next day."

Although she honors the old traditions, Mrs. Muraoka also states that her decision-making is not guided by the past. –This was some of the things we lived by, although we are Christians now, and we should not bring back our old traditions to overpower our decision-making, we need to remember our Heavenly Father, above and beneath and inside the Earth."

Mrs. Muraoka was around eight years old when she and her sister Lovey got involved with the church choir, which eventually led to singing at the Coco Palms resort twice a week. She still remembers that little girl who did not know anything about Hawaiiana but grew up loving music and still does. Sharing her recommendations about life in general and about the project, Mrs. Muraoka stresses the following:

> We need to be mindful of how you treat your neighbors. The first commandment is –Thou shall love the Lord." The second commandment is –Thou shall love thy neighbor as thyself." And I think if we honored those two, more problems would be solved...Our actions sometimes speak of our selfishness. –What I can get out of it" not –what the next person can get out of it." That's why it has caused a multiple domino effect of problems. So this is pretty much what I'm thinking about this project. I know for a fact that these hotels won't go away, so it has to be worked around them. Do the right protocol and honor and recognize the [people from the area]. Have them know that you're grateful for all of things they've contributed to make possible for all of these development. Somebody took care of it. Taking care of the *'āina*. So consider them, consider the relatives who may be still within the area.

Mrs. Muraoka recommends for CSH to contact the Papaloa Road families, e.g. Derby, Aki, and Robert and Kimo Kaholokula.

Section 8 Cultural Landscape

Discussions of specific aspects of traditional Hawaiian culture as they may relate to the Project area are presented below. This section integrates information from Sections 3–7 in order to examine cultural resources and practices identified near the Project area, within the broader context of the encompassing the cultural landscape from Wailua through Waipouli. This information and analysis is intended to present a context for the Summary and Recommendations in Section 9.

8.1 Place Names and Wahi Pana

The responses regarding wahi pana and mo_olelo link Waipouli and Olohena (North and South) to Wailua Ahupua_a. As Mr. Ching explains: –In the old days, there were no boundaries. Although there were boundaries in maps that say this is Waipouli, this is Wailua, this is Kapa_a, Hawaiians that lived here traversed back and forth for fishing and stuff. There wasn't really a boundary. They survived and lived."

Similarly, OHA's response expresses concern about the cumulative impacts upon the area and draws attention to the wahi pana in Wailua. OHA's mention of Wailuanuiho_āno and _Aliō within Wailua Ahupua_a, demonstrate that even today, the wahi pana of Waipouli are linked to Wailua.

Ms. Diego-Josselin, in her response, also references sites in Wailua, including the following: King's Path, –the demarcation line of Hauola pu_u honua," Kāne Ie Cave, Hui Ki_i, Ki_i Pae Mahu and Mahunapu_uone. Ms. Diego-Josselin also mentions Papaloa (–long reef"), an off-shore portion of the two Olohena Ahupua_a. The distinctions of these closely-related ahupua_a do appear to be as important as the connections that link the place names of the area.

Because of the historical significance of Wailua Ahupua_a, many of the place names and wahi pana discussed in the background research were also from Wailua. Olohena (North and South) and Waipouli are significant primarily because of the proximity of these Wailua Ahupua_a. Thus the context for this discussion of the Lydgate Park–Kapa_a Bike and Pedestrian Path, Phases C and D, is difficult without relating this information in some way to Wailua and the many projects near this Project area.

The mo'olelo of these areas also reveal the dominance of Wailua over the neighboring ahupua_a. The legend of legend of Kaililauokekoa, a female chief of Kapa_a, briefly mentions the –eurving surf of Makaīwa (*ke'eke'e nalu o Makaīwa*), a surf which breaks directly outside of Waipouli, Kapa_a." Waipouli is also the place where Hi_iaka and Lohi_au were reunited. Olohena also has Kukui Heiau and Papaloa, but the preponderance of mo_olelo concern Wailua.

Mo_olelo particular to Waipouli, specifically Waipouli Beach Resort, adjacent to the Project area, was narrated by CIA participant Mrs. Beverly Muraoka, who notes that members of her hālau reported of showers running and babies crying where there was no one to be found. Mrs. Muraoka also relates that there is a rock formation of a mother with two babies on each side, facing makai, in the hotel grounds.

8.2 Water Resources

Waipouli means the ―dark water" (Pukui, Elbert, and Mookini 1974; Wichman: 1998; Thrum 1922). The boundary between Waipouli and Kapa a is **Ka-lua-pā-lepo**, ―pit for dirty dishes"; between Waipouli and Olohena is **Kaunana-wa'a**, ―mooring place for canoes" (bold in original; Wichman 1998:82). Waipouli is also noted for Mākaha-o-Kūpānihi, meaning ―Kūpānihi is fierce" or ―star of Kūpānihi" (Wichman 1998:83). Mākaha-o-Kūpānihi ―was a deep pool set aside for the ali i to bathe in" (Wichman 1998:83). In one way or another, these terms refer to water resources.

Farther down the coast is Wailua. The most popular and literal meaning of the place name Wailua is ―two waters," perhaps referring to the two main forks (north and south) that flow together to form the Wailua River. Another explanation for the name is that it refers to the chief, Wailua-nui-haono (Dickey 1917:14). Other meanings include ―water pit" referring to the pools at the bottom of several waterfalls along the river's course or a ―ghost or spirit" (Damon 1934:360; Kikuchi 1973:5; Wichman 1998:67). The social, religious, and political importance of Wailua, in part, appears to be related to the water resources of the river and nearby area.

The off-shore resources impacted by the Lydgate Park–Kapa a Bike and Pedestrian Path, Phases C and D, are Makaīwa and Papaloa (see Section 3.2.2 above). Ms. Diego-Josselin, in her reference to the *Declaration on the Rights of Indigenous Peoples*, mentions the right of Indigenous Peoples ―to maintain and strengthen … waters and coastal seas and other resources." SHPD, in its statement, discusses the need for access to water resources.

Mr. Ching, in his interview, describes Uhelekawawa Canal and the fish, like tilapia and mullet, in that shallow waterway. The Project would pass directly over this canal. Mr. Ching surmises that although it is a shallow stream now, it was different years ago. Because there is both freshwater and saltwater combining to make brackish water, there are all kinds of aquatic life in the canal.

Indicating the direction of the current, Mr. Ching notes how it flows from right to left, from makai to mauka. During storms and heavy rains, the water runs straight out into the ocean. There are more marine creatures at the end of the canal connecting to the ocean: ―At the point of the canal, then you got the big a a ama crab, you are going to run into all these crustaceans, the spiny lobster. And I think one time, we had one of the Hawaiian monk seals that was born in this canal." Despite the stream's shallow depth close to the Project area, Mr. Ching notes that in some places, it can be deep.

Mrs. Manea describes her husband's fishing in the area, and that the fishing grounds off the Project area is not one of his favorites. He prefers to go closer to Kapa a where many fish can be spotted. According to Mrs. Muraoka, the ocean in front of the Project area has a ―terrible undertow" and this is why her father forbade her and her siblings to swim. Instead, the family would swim and fish in a place they called ―Pahulu" south of the Project area where there were lots of fish, limu, pipipi as well as medicinal plants.

Regarding loko i a, land commission testimony identifies one fishpond is identified in Waipouli: Hapakio is a fishpond of the konohiki (LCA 9013)(see Figure 17). Because Wailua was the center of political and religious life on Kaua i, the most famous fishponds existed within

that ahupua a. The account of Ka ililauokekoa also mentions a portion of Queen Deborah Kapule's fishponds, just behind the sand berm, which still exists on the grounds of the Coco Palms Resort. Her fishpond, Akaimiki, was of the loko pu uone (define) type. Another fish pond was said to be located just mauka of the hotel's historic coconut grove (*Foreign Testimony* 1848:IX, 55–56; XIII 72; Kikuchi 1987:9; Lydgate 1920).

The importance of these water resources may be summarized in the Kawalo mo olelo, which is an account regarding the protection of fishermen and fishing. Smith explains the advice from the old man who saw Kawalo turn into a shark once he learned from passersby of their intent to go fishing: "He [the old man] said that from then on, never to tell anyone when they were going fishing. If anyone asked, they were to say they were going awana [auana, auwana], or going wandering, but never to say they were going fishing" (Smith 1955:8). Fishing, and water resources, should be kept secret for fear that others may use that information. Though all may not be known of these water resources, the maintenance of these areas is important for the Project and for the community that lives near this Project.

8.3 Agriculture and Gathering

Few community participants mentioned agriculture and gathering practices in the near the Project area today. When asked about any gathering of plants in the area, Mr. Ako says he does not know about any. Mrs. Manea notes that people gather spinach, which she says is not native to Hawai i but from Australia. According to Mrs. Manea, some individuals gather coconut, but presently there is no good limu picking along the coastline but there may have been *limu* there before. The Project area is fairly well developed, so gathering *limu* and plants of the area is difficult. South of the Project area is a place called "Pahulu" by Mrs. Muraoka that had plenty of limu, pipipi and medicinal plants, such as naupaka and other lā au. Mrs. Muraoka also recalls that her family would gather guava and plum sticks by the river for their use in pūlehu.

8.4 Ala Hele

Emerson's 1833 map, Kittredge's 1878 map, and the 1910 U.S. Geological Survey Map do not depict *ala hele* near the sea shore (Figure 11, Figure 12, Figure 13). Each map shows a trail, but nothing closer than Kūhiō Highway. The kahakai (beach) area does not appear to be where ala hele were traditionally located.

8.5 Historical and Cultural Properties

In OHA's response, Mr. Clyde Nāmu o references a 2006 memorandum of agreement regarding historic properties: "A memorandum of agreement executed in 2006 for this project between the FHWA, DPW and State Historic Preservation Officer provide detailed mitigation measures for the adverse effect this project will have on historic properties and cultural sites. We expect that the terms and provisions of this MOA will be fully implemented should the alignment be revised." SHPD's response also cautions against the potential for damaging "unknown" historic properties. :

> While the general area has documented and significant historic cultural sites and properties as well as previous development, there is always a general probability that some cultural resources remain unknown or unseen. There are Hawaiian

> cultural practices **in the general area** which include but are not limited to access to religious sites, to ocean and other areas for ceremonial and/or for recreational uses. SHPD is concerned with any ground disturbance work which may uncover burials or burial sites in sandy areas such as this project.

Figure 10 shows the large number of archaeological sites near and under the Project area. Figure 16 shows the vast amount of archaeological studies in the area. The prevalence of historic properties in the area is well known.

Ms. Diego-Josselin offers a list of historic properties, which she believes have not been properly identified or cared for, including King's Path, Mahunapu_uone and Ki_i Pae Māhū. Ms. Diego-Josselin ends her response with the following paragraph: "I pray that **WE** can move forward with this project. Understand that in order for this project _Job Code Waipouli 4' to be PONO, Cultural Surveys Hawaii Inc. must take into account and apply all of the information that you have gathered for your reports, FONSI are unacceptable."

The responses from OHA, SHPD, Ms. Diego-Josselin, as well as archaeological sites and studies in the area, all indicate that historic properties are a primary concern for this Project. Ms. Diego-Josselin summarizes the cultural concerns regarding these sites in the following paragraph:

> Native Hawaiian's religion and spirituality are rooted in the land or AINA. Sacred sites provide the physical foundation for mo'olelo or stories, that connect each new generation to their ancestors and weaves them into their culture and defines their identity. The protection of sacred sites, and defending the ability to conduct rituals and ceremonies at these sites in **privacy and without disruption**, are therefore vital to maintaining and passing from generation to generation the distinct identities, traditions, and histories of our people.

As mentioned above, Mrs. Muraoka notes the cultural properties or pōhaku near the entrance of Waipouli Beach Resort. She relates that it is a mother and two children formation.

8.6 Heiau

While Māhelewalu and Ka-iki-hāuna-kā are important heiau, the heiau in Olohena closest to the Project area is Kukui Heiau, which is built using extremely large stones. Its presence is connected to several mo_olelo including the collection of the stones by the giant Nunui.

There is also a connection between Hikinaakalā and Kukui Heiau in that the alignment between the two heiau through the use of stone lamps provided the outline of Wailua Bay (see above, Flores 2000:II-6).

Ms. Diego-Josselin contends that there has been a "[f]ailure to provide adequate Parking for those wishing to visit Kukui Heiau for traditional customary practices." Ms. Diego-Josselin also contends that Kukui Heiau should be included within the Wailua Complex of Heiau:

> I feel it is a responsibility of Corporations and Persons such as Kahele makalae a.k.a. PATH Inc., Cultural Surveys Hawaii and Hallett Hammatt Ph.D. to **correctly** identify renowned SACRED historical areas such as areas included and surrounding Wailua Complex of Heiau. These areas are LISTED on the

> NATIONAL REGISTRY OF HISTORICAL SITES. Cultural Surveys Hawaii Inc. should refrain from dissecting Wailua's landscape and plundering –inadvertent" artifacts and human remains.

Moreover, she decries the –Failure to identify and preserve _what remains' of MAHUNAPU_UONE, KAWELOS Heiau and Ali_i Ohana Burials, Makai of Kūhiō Highway."

Historically, there were more heiau in Wailua than in other ahupua_a on Kaua_i (Bennett 1931). This fact is significant for the community participants. Mr. Ching, during his interview, noted this genealogical, cultural and psychological link between the people of Waipouli and Olohena and the heiau of Wailua:

> Genealogy is really important because it goes with the land.... In the old days, there was different classes of people. We all know of the ali_i, etc. but there was a lot of people who were working class, maka_āinana. A lot of the old Hawaiian names that used to live there [Waipouli] also had a connection with the heiau found in Wailua, and also the Hawaiian village that used to be across the Uhelekawawa Canal over here [indicates Project area].

Historically and today, heiau offer a larger cultural and psychological link to for communities of these ahupua_a. OHA's response stresses that, –It is critical that the CIA address the cumulative impacts of the overall project (as opposed to the relatively narrow scope of Phases C and D) will have on traditional and customary practices." These heiau, as the focal point of the Wailua through Waipouli community, helps expand the context for discussion of cultural impacts.

8.7 Ilina

Ilina are the main concern of the community participants interviewed in this study. Ilina offer a substantive genealogical link to the ancestors and the land. Mr. Ching stresses that he wants to make sure that that the different individuals and families who lived in different ahupua_a, who grew taro and worked and lived together, are all recognized. He describes the canoe village that is immediately north of the Project area. It is an ancient village, and during the construction of Waipouli Beach Resort, a number of bodies were exhumed and put in a special burial place at the back of the hotel. Mr. Ching believes that there must be more bodies that were not found.

When asked his mana_o about the proposed Project, Mr. Ching states his preference for preserving burials. Noting that he does not agree with some decisions made by the Kaua_i/Ni_ihau Burial Council, Mr. Ching shares the following: –I am really for preserving Hawaiiana. I always like them to preserve the burials, I don't like when...for example, the Kaua_i Burial Council. They determined the ancient burial, they want to move it. I think the burial should always be left in place. That was the intention of those who buried that person. You can never remove it."

Ms. Lovell-Obatake recommends –SHPD and PW [State of Hawai_i, Public Works Division] require that the applicant have a certified archaeologist on site during any and all ground/underground disturbances; such as extracting of trees and relocating them. I am concerned about Native Hawaiian burials and funerary objects connected to Native Hawaiian burials."

Both Mr. Ako and Mrs. Muraoka discuss the likelihood of finding iwi in sandy areas along the shoreline, as well as in Coco Palms. Referring to the presence of iwi in Coco Palms, Mrs. Muraoka states that –it is most likely." Mr. Ako also cautions that more iwi will be found in the current Project area.

> You are not going to find them on the top. Those kūpuna were buried over 400 years ago. And that type of Hawaiian was not an ordinary Hawaiian. They were giants. If you put a Hawaiian skull on the table, it rocks. But this other Hawaiian, the one I found, its skull was extra large. If you put it on the table, it stays flat.

Mr. Ako believes that there will likely be graves found in the sandy areas of the Project area. –Westerners don't realize that our kūpuna did not have metal implements to dig for their graves. So that's why they moved all the graves near the ocean, sand, so they can dig it by hand." He advises the project proponents to stay above the water line.

Mr. Ako emphasizes that iwi found in the ahupua_a must stay in that ahupua_a. –The moment that you take the iwi and put it in another ahupua'a, that's when you get the problems," Mr. Ako stresses. If iwi are discovered, he recommends finding a place in the ahupua'a where they were found, a place not too obvious, and then hold a good burial service. For Mr. Ako, the proper burial and the service are critical, which explains why no problems occurred in Coco Palms.

OHA cautions against the discovery of bones along the beach: –The potential for encountering iwi kūpuna and cultural resources within beach sand deposits along the coastal portions of the project is clearly identified in the FEA." SHPD is also –concerned with any ground disturbance work which may uncover burials or burial sites in sandy areas such as this project." Ms. Diego-Josselin criticizes the –[f]ailure to identify and preserve _what remains' of MAHUNAPU_UONE … and Ali_i Ohana Burials."

Besides the burial ground at Coco Palms, previous archaeological studies (see Table 1) indicate that in the last 20 years at least 69 burials have been uncovered in the Wailua to Waipouli makai areas. Most of these burials have been found in sand. Archaeological research and participant interviews suggest that burials may be found along the route of the Project area.

Section 9 Summary and Recommendations

At the request of Kimura International, Inc., Cultural Surveys Hawai_i (CSH) conducted a Cultural Impact Assessment (CIA) for Lydgate Park–Kapa_a Bike and Pedestrian Path, Phases C and D, CMAQ-0700(49). The County of Kaua_i will construct, own and maintain the multi-use path. The project will be funded in part by the U.S. Department of Transportation, Federal Highway Administration. The following sections offer a summary of the information contained in this report, as well as recommendations for mitigation measures.

9.1 Results of Background Research

Background research for this Project yielded the following results:

1. Although Waipouli and Olohena (north and south) hold significance individually, it is their proximity to Wailua Ahupua_a, which helps to define their importance. Because Wailua was the religious and political center of Kaua_i, mo_olelo (story, history) abound related to the area. Using illustrative place names of Waipouli, Wichman introduces the notion of a Mokuna-hele**,** or ―traveling district" (Wichman 1998:82). While the scope of this CIA is focused primarily on Olohena (North and South) and Waipouli, Wailua is of such significance that many of the mo_olelo pertaining to the wahi pana (legendary place) of Wailua are included herein, such as the story of Kaumuali_i, the legend of Kawelo, and the story of Māui.

2. The place names of the area also refer to water resources. Waipouli means the ―dark water" (Pukui, Elbert, and Mookini 1974; Wichman: 1998; Thrum 1922). The boundary between Waipouli and Kapa_a is **Ka-lua-pā-lepo**, ―pit for dirty dishes;" between Waipouli and Olohena is **Kaunana-wa'a**, ―mooring place for canoes" (bold in original; Wichman 1998:82). Waipouli is also noted for Mākaha-o-Kūpānihi, ―a deep pool set aside for the ali_i (chief) to bathe in" (Wichman 1998:83). Farther down the coast is Wailua.

   The most popular and literal meaning of the place name Wailua is ―two waters," perhaps referring to the two main forks (north and south) that flow together to form the Wailua River. However; as Lyle Dickey forcefully clarifies (1917:15), ―this explanation never seems to occur to a native Hawaiian." Instead, Dickey and Kamakau refer to the chief, Wailua-nui-haono, as the source for the name (1917:14). Other meanings include ―water pit" referring to the pools at the bottom of several waterfalls along the river's course (Damon 1934:360). The social, religious, and political importance of Wailua, in part, appears to be related to the water resources of the river and nearby area.

3. Wailua (particularly coastal Wailua) was known as a pu_uhonua or place of refuge (Smith 1955:15). Pu_uhonua were places of peace and safety for transgressors and non-combatants in times of strife. _I_i (1959: 138) specifically states that Holoholokū was a pu_uhonua, a place ―to which one who had killed could run swiftly and be saved." Wichman (1998:70) asserts that the pu_uhonua was at Hikina-a-ka-lā while Dickey (1917:15) maintains that the pu_uhonua was actually at neighboring Hauola.

4. A portion of the mo_olelo of Kawelo relates to Waipouli, as well as North and South Olohena. In Green and Pukui's account, Kawelo's brother, Kamalama, distributes the

lands in the ―plain between Waipouli and Wailua which Ka-ma-la-ma had selected as s suitable place" for settlement.

5. Maps from the 1800s indicate that that a shoreline trail once crossed all four ahupua a (land division, usually from the uplands to the sea). As early as 1833, a map by Ursula Emerson shows a coastal trail near the Project area (Figure 11; Emerson 1833:107). An 1878 Government Survey Map by C. S. Kittredge, shows that this trail just mauka of the Project area has perhaps become a road (Figure 12). By 1910, the course of this trail appears to have become a road, the contours of which closely match the current Kūhiō Highway (Figure 13).
6. Kukui Heiau lies very close to the Project area: ―Kukui, ―candlenut tree" or ―enlightenment," was a huge walled heiau (shrine, temple) located on the headland of Lae- ala-kukui, ―point of the scent of kukui" (Wichman 1998:83). Flores, in his *Historical Research of the Coco Palms Property* (2000), describes a connection between Kukui Heiau and Hikinaakalā Heiau in Wailua: ―Although this site is in the *ahupua'a* of Olohena, it provides an alignment with Hikinaakalā in delineating the confines of this safeguarded bay" (Flores 2000:II-6). Kukui Heiau was placed on the National Register of Historic Places on May 18, 1987 (NRIS #8600027: National Register).
7. Archaeological research shows that burials are likely to be found in the sandy areas near the beach. Besides the burial ground at Coco Palms, previous archaeological studies (see Table 1) indicate that in the last 20 years at least 69 burials have been uncovered in the makai Wailua to Waipouli area.

   Five studies lie directly north of the Project area, on the Golding property (SIHP # 50-30-08-1836): Folk et al. 1991, Hammatt 1992, Hammatt et al. 2000, Ida et al. 2000, McCurdy and Hammatt 2008 (Figure 16). Burials, artifacts, and features were found during these studies. According to Hammatt (1992) and McCurdy and Hammatt (2008), a total of 50 burials were unearthed at this site. Nearly four hundred artifacts (396) were recovered, and the site assigned SHIP # 50-30-08:1836 (Figure 10).

   In 1991, Cultural Surveys evaluated the site as ―being culturally significant (Criterion E) because of the association of humans [sic] burials in *makai* areas of the site" (Hammatt 1991b:52). The Rosendahl and Kai study (1990), directly under a portion of the Project area, also found a cultural layer and burials. In addition, the Perzinski et al. study (2001), further south, but still under the Project area, also found a cultural layer and burials.
8. R. Lane's 1929 map, traced from a M. D. Monsarrat map based upon an 1886 survey, charts the disposition of the ten Land Commission Awards (LCAs) of Waipouli (Figure 19). Eight of the awards included separate āpana (parcels) for taro lo i (Irrigated terrace, especially for taro) and pāhale (house lots). Kula (pasture) and lo i associated with these awards were located within and adjacent to the extensive swamp. No one in the claims mentions sweet potatoes, although Handy and Handy (1972:424) suggested they would have been grown along the coastal plain.
9. The 1893 C. J. Willis Map (Figure 20), along with the Lane's 1929 LCA map of a portion of Olohena (Figure 19), and the LCAs on the 1996 US Geological Survey Map (Figure

17) together show North Olohena made up mostly of Kiaimoku's grant, and South Olohena of Grant 5264 to R. P. Spaulding for Lihue Plantation (419 Acres). The one LCA claimed and granted is inland on Konohiki Stream (LCA 3831; see Table 3 and Figure 17, Figure 19 and Figure 20).

10. By 1935, Handy (1940:67) found no kalo (taro) being cultivated. The terraces had been taken up by rice, sugar cane, sweet potato and pasture. However, Handy (1940) explains that, "Waipouli, Olohena (North and South), and Wailua are ahupua_a with broad coastal plains bordering the sea, any part of which would be suitable for sweet potato plantings; presumably a great many used to be grown in this section. There are a few flourishing plantations in Wailua at the present time" (Handy:153).
11. After 1898, with the influx of American citizens to Hawai_i, according to Edward Joesting, in *Kaua'i: A Separate Kingdom*, real estate values rose and sugar plantation increased. By the mid-1900s, with greater interisland plane travel, development continued on Kaua_i. By the 1970s, there was "a Kaua_i-wide rule banning high-rise development" (Beacon:20). By the 1990s, "the backshore of Waipouli Beach is lined with long rows of tall ironwood trees. A shoreline pedestrian trail is used by strollers and joggers…. Although most of the Waipouli shoreline is developed or privately owned, six public rights of way provide access to the beach. They are all marked and easy to locate" (Clark 1990:9).

9.2 Results of Community Consultation

Kama_āina (Native-born, one born in a place) and kūpuna (elders) with knowledge of the proposed Project and study area participated in semi-structured interviews for this CIA in February 2011. CSH attempted to contact 41 individuals for this CIA report, of which 14 responded via email or phone, five provided written statements (two of which are OHA and SHPD responses), four participated in formal, individual interviews and ten participated in a group interview. As of this writing, the group interview has not been approved for this report. Thus, 17 people were interviewed for this report.

A summary of the information gathered from the community consultation is presented below with a breakdown of specific cultural resources:

1. The Project area and environs, in particular the shoreline, has a long history of use by Kānaka Maoli (Native Hawaiians) and other kama_āina (Native-born) groups for a variety of past and present cultural activities and gathering practices. Several participants discussed the spiritual nature of Wailua and its numerous wahi pana, sharing mo_olelo about heiau, pōhaku (rock), iwi (bones), and the activities of spirit people. Community interviewees noted the importance of wai or water and abundance of marine resources such as tilapia, mullet, spiny lobster and a_ama crab, traditional fishing methods and the preparation of chum, the need to respect iwi kūpuna (bones of ancestors) and other cultural resources, and the observance of correct protocol and attitude in beginning a project.
2. **Wahi Pana.** The responses regarding wahi pana and mo_olelo relate primarily to Wailua Ahupua_a. As Mr. Milton K. C. Ching explains: "In the old days, there were no

boundaries. Although there were boundaries in maps that say this is Waipouli, this is Wailua, this is Kapa_a, Hawaiians that lived here traversed back and forth for fishing and stuff. There wasn't really a boundary. They survived and lived." Thus, the wahi pana and mo_olelo of the area draw few distinctions between Waipouli, Olohena (North and South), and Wailua Ahupua_a. Both OHA and SHPD letters suggest that cumulative impacts of the Project on both known and unknown traditional practices and cultural resources should be addressed due to the spiritual nature and fragile character of the Project area.

For this Project, the specificity regarding phases C and D of this multi-use path does not seem to resonate with many of those consulted for this study. Some describe the cumulative impact of projects as an atmosphere of unresolved sadness, indicated specifically in OHA's letter. There are individual _ahupua_a and separate wahi pana, but some responses (OHA, SHPD, Mr. Diego-Josselin, Mr. Ako, Mr. Ching) draw connections between wahi pana, linking Waipouli, Olohena and Wailua into one larger context.

3. **Wai (Water, Liquid).** In one interview, Makaīwa and Papaloa are the off-shore resources specifically identified as impacted by the Lydgate Park–Kapa_a Bike and Pedestrian Path, Phases C and D. Ms. Sophronia Noelani Diego-Josselin, in her reference to the *Declaration on the Rights of Indigenous Peoples*, further mentions the right of Indigenous Peoples ~~to~~ maintain and strengthen … waters and coastal seas and other resources." SHPD, in its statement, discusses the need for access to water resources: ~~T~~The department is mindful that traditional access in the project area to cultural places mauka for resources in the general ahupua_a and/or to the ocean should be considered in your study that may impact the general community as well as cultural practitioners."

   Mr. Ching, in his interview, describes Uhelekawawa Canal and the fish, like tilapia and mullet, in that shallow waterway. The Project would pass directly over this canal.

   The importance of these water resources may be summarized in the Kawalo mo_olelo, which is an account regarding the protection of fishermen and fishing. Smith explains the advice from the old man who saw Kawalo turn into a shark once he learned from passersby of their intent to go fishing: ~~H~~He [the old man] said that from then on, never to tell anyone when they were going fishing. If anyone asked, they were to say they were going awana (also auana, auwana: wandering), or going wandering, but never to say they were going fishing" (Smith 1955:8). The advice is that fishing, and water resources, should be kept secret for fear that others may use that information. Though all may not be known of these water resources, the maintenance of these areas is important for the Project and for the community that lives near this Project.

4. **Historical and Cultural Properties.** The responses from OHA, SHPD, Ms. Diego-Josselin, as well as archaeological sites and studies in the area, all indicate that historic properties are a primary concern for this Project. Ms. Diego-Josselin summarized the cultural concerns regarding these sites in the following paragraph:

   Native Hawaiian's religion and spirituality are rooted in the land or AINA. Sacred sites provide the physical foundation for mo'olelo or stories, that connect each new generation to their ancestors and weaves them into their culture and defines their identity. The

protection of sacred sites, and defending the ability to conduct rituals and ceremonies at these sites in **privacy and without disruption**, are therefore vital to maintaining and passing from generation to generation the distinct identities, traditions, and histories of our people.

5. **Heiau.** The heiau closest to the Project area is Kukui Heiau. Ms. Diego-Josselin asserts that there has been a ~~[~~f]ailure to provide adequate Parking for those wishing to visit Kukui Heiau for traditional customary practices." Ms. Diego-Josselin also contends that Kukui Heiau should be included within the Wailua Complex of Heiau, echoing studies that show the alignment of heiau such as Kukui Heiau to others like Hikinaakalā in Wailua (Flores 2000:II-6).

   Historically, there were more heiau in Wailua than in other ahupua_a on Kaua_i (Bennett 1931). This fact is significant for some community participants. Mr. Ching, during his interview, noted this genealogical, cultural and psychological link between the people of Waipouli and Olohena and the heiau of Wailua.

   Heiau offer a larger cultural and psychological link to for many people in this study and for communities of these ahupua_a. These heiau, as the focal point of the Wailua through Waipouli community, help expand the context for discussion of cultural impacts.

6. **Ilina (Grave).** Ilina are the main concern of the community participants interviewed for this study. Ilina offer a substantive genealogical link to the ancestors and the land. At least five participants in this CIA specifically mention the possibility of finding burials within the Project area.

   Noting that he does not agree with some decisions made by the Kaua_i/Ni_ihau Burial Council, Mr. Ching states his preference for preserving burials in place. Ms. Cheryl Lovell-Obatake recommends ~~S~~HPD and PW [Kaua_i County, Public Works Division] require that the applicant have a certified archaeologist on site during any and all ground/underground disturbances; such as extracting of trees and relocating them. I am concerned about Native Hawaiian burials and funerary objects connected to Native Hawaiian burials."

   Both Mr.Valentine Ako and Mrs. Beverly Muraoka caution that more iwi (bones) will be found in the current Project area. Mr. Ako believes that there will likely be graves found in the sandy areas of the Project area and Mrs. Muraoka relates the same concern. Both of them note the possibility of finding more iwi in Coco Palms. Mr. Ako emphasizes that iwi found in the ahupua_a must stay in that ahupua_a. If iwi are discovered, he recommends keeping them in place in the ahupua'a where they were found, preferably in an inconspicuous place and then holding a good burial service.

   OHA similarly cautions about the discovery of bones along the beach. And SHPD is ~~c~~oncerned with any ground disturbance work which may uncover burials or burial sites in sandy areas such as this project."

7. ***Ala Hele* (Pathway, Route, Road).** Regarding the course of the multi-use path, there were varying opinions. Mr. Ako contends that the area by the Coconut Marketplace will need a stoplight there or an overpass, ~~b~~ecause traffic is so heavy, that there could be

accidents." He believes the traffic should be on Papaloa Road before it goes down to Kauai Sands Hotel. Mr. Ching remains skeptical about the viability of the proposed multi-use path, noting lack of users in a previous path near the beach. Mrs. Sally Jo Manea has specific recommendations for the multi-use path, calling for buffers in areas where the cars and people are going to be sharing the same route. She calls for the path to be kept on the coast, as it would offer both ~~"p~~hysical and mental therapy" and be ~~"a~~ wonderful way to keep healthy!"

9.3 Recommendations

Based on the information gathered from archival documents, previous archaeological reports, and community consultation detailed in this CIA report, CSH recommends the following measures to mitigate potentially adverse impacts on cultural, historical, and natural resources, practices, and beliefs:

1. In light of statements made by several of the participants in this study including OHA, SHPD, Mr. Ako, Mr. Ching, and Ms. Diego-Josselin about the connections between wahi pana and the ahupua_a of Waipouli, Olohena and Wailua, CSH recommends that discussions of the Lydgate Park–Kapa_a Bike and Pedestrian Path, Phases C and D, CMAQ-0700(49) include the larger context of the many projects within the Wailua area and the consideration of the cumulative impacts of the overall Project.
2. Makaīwa and Papaloa are the off-shore resources specifically identified as impacted by the Lydgate Park–Kapa_a Bike and Pedestrian Path, Phases C and D, CMAQ-0700(49) Project. In addition, SHPD and other participants discussed the need to protect access to cultural resources in the ahupua_a a including water and marine resources in the ocean. Therefore, CSH recommends that the Project continue to provide access to these vital water resources.
3. As there continues to be Native Hawaiians and other kāma_āina residents who are culturally active in the area, CSH recommends that ongoing cultural practices for plant gathering, fishing, surfing and ceremonial reasons, including visits to the Project area and vicinity, continue to be recognized, protected and accommodated.
4. Keeping in mind that the closest heiau to the Project area is Kukui Heiau which is listed on the National Register of Historic Places, CSH recommends that Kukui Heiau continue to be protected and preserved.
5. Besides the burial ground at Coco Palms, previous archaeological studies (see Table 1) indicate that in the last 20 years, at least 69 burials have been uncovered in the Wailua to Waipouli makai areas. Most of these burials have been found in sand. Archaeological research and participant interviews suggest that burials may be found along the route of the Project area. CSH recommends that cultural and archaeological monitors be present during any ground disturbance. CSH also recommends that kūpuna are consulted prior to ground disturbance so that a comprehensive agreement is established regarding burials in the vicinity of the Project area.
6. Due to community consultation results where participants like Mrs. Manea suggested the use of buffers if the multi-use path will be located by the highway and will be shared by both cars and people, CSH recommends that in the event that such a route is considered, buffers should protect those on the path from cars on the road.
7. Based on community consultation results where participants like Mrs. Muraoka urges for the observance of correct protocol to be followed, CSH recommends that community members with longstanding connections to the area should be consulted regarding the Project and the preservation, restoration and interpretation of the cultural resources of the area.

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Appendix A Glossary

To highlight the various and complex meanings of Hawaiian words, the complete translations from Pukui and Elbert (1986) are used unless otherwise noted. In some cases, alternate translations may resonate stronger with Hawaiians today; these are placed prior to the Pukui and Elbert (1986) translations and marked with ―(common)."

Diacritical markings used in the Hawaiian words are the _okina and the kahakō. The _okina, or glottal stop, is only found between two vowels or at the beginning of a word that starts with a vowel. A break in speech is created between the sounds of the two vowels. The pronunciation of the _okina is similar to saying ―oh-oh." The _okina is written as a backwards apostrophe. The kahakō is only found above a vowel. It stresses or elongates a vowel sound from one beat to two beats. The kahakō is written as a line above a vowel.

Hawaiian Word	English Translation
ahupua_a	Land division usually extending from the uplands to the sea, so called because the boundary was marked by a heap (ahu) of stones surmounted by an image of a pig (pua_a), or because a pig or other tribute was laid on the altar as tax to the chief
_alae	Mudhen or Hawaiian gallinule
ala hele	Pathway, route, road, way to go, itinerary, trail, highway, means of transportation
ali_i	Chief, chiefess, officer, ruler, monarch, peer, headman, noble, aristocrat, king, queen, commander
āpana	Land parcel, lot, district, sector, ward, precinct
awana (_auana, _auwana)	Wander, drift, ramble
_auwai	Ditch, canal
_awa	Kava
awana (awana, auwana)	To wander, drift, ramble
_eha	Hurt, in pain, painful
heiau	Pre-Christian place of worship, shrine; some heiau were elaborately constructed stone platforms, others simple earth terraces. Many are preserved today

holoholo (holo holo)	To go for a walk, ride, or sail; to go out for pleasure, stroll, promenade
holua	Sled, especially ancient sled used on grassy slopes; the sled course
ho_okupu	Ceremonial gift-giving as a sign of honor and respect
ho_opāpā	Debate, argue
hui	Club, association, society, corporation
_ili	Land section, next in importance to ahupua_a and usually a subdivision of an ahupua_a
ilina	Grave, tomb, sepulcher, cemetery, mausoleum, plot in a cemetery
iwi	Bones
iwi kūpuna	Ancestral bone remains (common)
kahakai	Beach, seashore
kahuna	Priest, sorcerer, magician, wizard, minister, expert in any profession. Kāhuna—plural of kahuna
kalana	Division of land smaller than a moku or district; county
kalo	Taro
kilu	An ancient game where the player chanted as he tossed the *kilu* gourd towards an object placed in front of one of the opposite sex; if he hit the goal he claimed a kiss
kama_āina	Native-born, one born in a place, host; native plant; acquainted, familiar, Lit., land child
kapu	Taboo, prohibition
kaumaha	Heavy; weight, heaviness. Fig., sad, wretched
ko_a	Coral, fishing grounds
kona	Leeward sides of the Hawaiian Islands; leeward
kōnane	Ancient game resembling checkers, played with pebbles placed in even lines on a stone or wood board called *papa konane*, to play

	kōnane
konohiki	High chief
ko_olau	Windward sides of the Hawaiian Islands
kuhina nui	Regent
kula	Plain, field, open country, pasture
kuleana	Right, privilege, concern, responsibility, title, business, property, estate, portion, jurisdiction, authority, liability, interest, claim, ownership, tenure, affair, province
kumu hula	Hula teacher (see kumu)
kupuna (pl.kūpuna)	Grandparent, ancestor, relative or close friend of the grandparent's generation, grandaunt, granduncle. Kūpuna—plural of kupuna
lehua	The flower of the _ohi_a tree
limu	A general name for all kinds of plants living under water, both fresh and salt, also algae growing in any damp place in the air, as on the ground, on rocks, and on other plants; also mosses, liverworts, lichens
loa	Distance, length, height, long
lo_i	Irrigated terrace, especially for taro, but also for rice; paddy
loko i_a	Fishpond (common)
loko pu_uone	Pond near the shore, as connected to the sea by a stream or ditch
lū_au	Hawaiian feast
mahina_ai	Farm
makai	Ocean-side
maka_āinana	Commoner, populace, people
makana	Gift, present
makua	Parent, any relative of the parents‘ generation

mana_o	Thought, idea, belief
mauka	Inland
mele	Song, anthem, or chant of any kind; poem, poetry; to sing, chant
menehune	Legendary race of small people
moku	District, island, islet, section
mo_o	Lizard, reptile, dragon
mo_olelo	Story, tale, myth, history, tradition, literature, legend, journal, log, yarn, fable, essay, chronicle, record, article; minutes, as of a meeting. (From mo_o _ōlelo, succession of talk; all stories were oral, not written)
muliwai	River, river mouth; pool near mouth of a stream, as behind a sand bar, enlarged by ocean water left there by high tide; estuary
nā	Plural definite article. Nā lani, the chiefs
_ohana	Family, relative, kin group; related
_ohi_a lehua	See lehua above; flower of the _ohia tree
_ōlelo no_eau	Proverb, wise saying, traditional saying
oli	Chant that was not danced to, especially with prolonged phrases chanted in one breath, often with a trill at the end of each phrase; to chant thus
_ōpae ula	Small, endemic reddish shrimp used for _ōpelu bait
_ōpū	Belly, stomach, abdomen
papa	Flat surface, plain, reef
pāhale	Home lot, yard, fence
pala_ai	Original name for pumpkin
pōhaku piko	Lit. birthing stone
poi	Poi, the Hawaiian staff of life, made from cooked taro corms, or

	rarely breadfruit, pounded and thinned with water
pono	Goodness, uprightness, morality, moral qualities, correct or proper procedure
pule	Prayer
puka	Hole (perforation; cf. lua, pit); door, entrance, gate, slit, vent, opening, issue
pu_uhonua	Place of refuge
_uala	Sweet potato
_ūkēkē	A variety of musical bow, 40 to 60 cm long and about 4 cm wide, with two or commonly three strings drawn through holes at one end. The strings were strummed
_ulu	Breadfruit
wai	Water, liquid
wahi pana	Storied place (common), legendary place
wauke	Paper mulberry

Appendix B Common and Scientific Names for Plants and Animals

Common Names		Possible Scientific Names		Source
Hawaiian	**Other**	**Genus**	**Species**	
_a_ama	black crab	*Grapsus*	*grapsus*	Pukui and Elbert 1986
āholehole	juvenile āhole (Hawaiian flagtail)	*Kuhlia*	*xenura*	Hoover 2003
aku	bonito, skipjack	*Katsuwonus*	*pelamis*	Hawaii Seafood Council 2010
akule	big-eyed scad	*Selar*	*crumenophthalmus*	Hoover 2003
_ama_ama	striped mullet	*Mugil*	*cephalus*	Hoover 2003
_āweoweo	bigeye	*Heteropriacanthus*	*cruentatus*	Hoover 2003
_āweoweo	Bigeye	*Priacanthus*	*meeki*	Hoover 2003
kalo		*Colocasia esculenta*	*esculenta*	Pukui and Elbert 1986
kukui	candlenut	*Aleurites*	*moluccana*	Wagner et al. 1999
haole koa		*Leucaena*	spp. *	Wagner et al. 1999
laua_e		*Phymatosorus*	*grossus*	Imada et al. 2005
limu_ele_ele	seaweed, algae	*Entermorpha*	*prolifera*	Abbott and Williamson 1974

Common Names		Possible Scientific Names		Source
Hawaiian	**Other**	**Genus**	**Species**	
limu ogo	seaweed, algae	*Gracilaria*	*parvispora*	Guiry and Guiry 2010
mahimahi	dolphin fish	*Coryphaena*	*hippurus*	Hawaii Seafood Council 2010
māmaki		*Pipturus*	spp.*	Wagner et al. 1999
manini	convict tang	*Acanthurus*	*triostegus*	Hoover 2003
nehu	smelt	*Stolephorus*	*purpureus*	Titcomb 1972
_ōhi_a lehua (or lehua)		*Metrosideros*	spp.	Pukiu and Elbert 1986
ono	wahoo	*Acanthocybium*	*Solandri*	Hawaii Seafood Council2010
_ōpae	shrimp	general name for shrimp		
_ōpelu	mackeral scad	*Decapterus*	*macarellus*	Hoover 2003
_opihi	Limpet	*Cellana*	spp.	Pukui and Elbert 1986
pala_ai	Original name for pumpkin	*Cucurbita*	*pepo*	Pukui and Elbert 1986
pueo	Hawaiian short eared owl	*Asio*	*flammeus sandwichensis*	Hawai_i DLNR 2005
tī		*Cordyline*	*fruticosa*	Wagner et al. 1999

Common Names		Possible Scientific Names		Source
Hawaiian	**Other**	**Genus**	**Species**	
_uala	sweet potato	*Ipomoea*	*Bbatatas*	Wagner et al. 1999
_ulu	breadfruit	*Artocarpus*	*altilis*	Imada et al. 2005
_ū_ū	menpachi, soldierfish	*Myripristis*	spp.*	Randall 1996
_uhaloa	American weed	*Waltheria*	*indica*	Wagner et al. 1999
	Guava	*Psidium*	*guajava*	Wagner et al. 1999

* spp. = multiple species

Appendix C Community Contact Letter

Cultural Surveys Hawai'i, Inc.
Archaeological and Cultural Impact Studies
Hallett H. Hammatt, Ph.D., President

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February 2011

Aloha SAMPLE,

At the request of Kimura International, Inc., Cultural Surveys Hawai'i, Inc. (CSH) is conducting a Cultural Impact Assessment (CIA) for the Phase C and D of the Lydgate Park/Kapa'a Bike Path Project, South Olohena, North Olohena and Waipouli Ahupua'a, Kawaihau District, Kaua'i Island, TMKs ([4] 4-3-02 and [4] 4-3-07). The County of Kaua'i will construct, own and operate the facility. The project will be funded in part by the U.S. Department of Transportation, Federal Highway Administration.

The CIA will be used for a Supplemental Environmental Assessment. The EA will focus on a preferred alternative that extends from Papaloa Road, between Kauai Sands and Islander on the Beach, then north through the County's beach reserve and along the coastal bench *makai* (ocean side) of the undeveloped parcels and Courtyard Kauai Coconut Beach (formerly Kauai Coconut Beach Resort). The preferred alternative continues just *mauka* of Mokihana of Kaua'i and the Bull Shed Restaurant (currently a parking lot) and along the southern bank of Uhelekawawa Canal (currently a landscaped strip) to Kuhio Highway. The preferred alignment crosses Uhelekawawa Canal as a cantilevered attachment to the existing highway bridge or an independent single span bridge, where it will connect to the existing bike path at Waipouli Beach Resort. On the northern end of the project area, the EA will also assess use of an existing beach access located south of Kapaa Missionary Church, as well as a stretch adjacent to and *makai* of Kuhio Highway between the beach access and Uhelekawawa Canal (approximately 580 feet).

The Project requires compliance with the State of Hawai'i environmental review process (Hawai'i Revised Statutes [HRS] Chapter 343), which requires consideration of a proposed Project's effect on cultural practices and resources. This CIA investigation may be used to support the National Historic Preservation Act (NHPA) Section 106 and the National Environmental Policy Act (NEPA) consultation, but does not, in itself, satisfy the cultural consultation requirements of either Section 106 or NEPA.

The purpose of this cultural study is to assess potential impacts to cultural practices as a result of potential development in South Olohena, North Olohena and Waipouli Ahupua'a. We are seeking your *kōkua* and guidance regarding the following aspects of our study:

- **General history and present and past land use of the project area.**
- **Knowledge of cultural sites which may be impacted by future development of the project area - for example, historic sites, archaeological sites, and burials.**
- **Knowledge of traditional gathering practices in the project area, both past and ongoing.**
- **Cultural associations of the project area, such as legends and traditional uses.**
- **Referrals of *kūpuna* or elders and *kama'āina* who might be willing to share their cultural knowledge of the project area and the surrounding *ahupua'a* lands.**

- **Any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the project area.**

I invite you to contact me, Kūhiō Vogeler at (808) 262-9972 or send me an e-mail at kvogeler@culturalsurveys.com if you have any information you would like to share.

Mahalo nui,

Kūhiō Vogeler, Researcher
Cultural Surveys Hawai'i

Appendix D Interview Questions

Cultural Surveys Hawai'i, Inc.
Archaeological and Cultural Impact Studies
Hallett H. Hammatt, Ph.D., President

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INTERVIEW QUESTIONS

Cultural Impact Assessment
for Lydgate Bike Path Phase C and D Project

Part I: Contact information

1. Name
2. Where were you born?
3. Where did you grow up?
4. When were you born?
5. Parents. Mother. Father.
6. Occupation/Affiliation
7. Area of residence
8. How long have you lived here?
9. Personal and/or family connection to *ahupua'a*
10. Referrals

Part II: Historical information

11. Is there anything you would like to say about the general history of the area, or past and present land use?
12. Do you have any memories of what existed in that area or cultural events that were practiced?
13. How about personal and/or family history in the area?
14. Past land use? Past agricultural, fisheries or other uses of the area?

Part III: Cultural and historic sites

15. Are there any cultural, archeological, historic, and/or burial sites in or around the proposed project area (e.g., *heiau, hale, kū'ula, ilina*)?

Part IV: Gathering/hunting/fishing/etc. practices

16. Are you, or is anyone you know, involved in any cultural practices in the project area – for example plant gathering, fishing, hunting, surfing, etc.?

17. If you are, how did you learn the activity/ies and how long have you engaged in _____?
18. Can you tell me about any cultural practices from the past?
19. Knowledge of past or present cultural protocols observed

Part V: Legends, stories and place, and sense of place

20. Is there anything you would like to say about legends, or stories about the project area?
21. Are there any names, traditions, or practices associated with the area and features of the landscape? Origin stories…?
22. Trails ancient or contemporary in the area? Who used/uses them?
23. *Mauka-makai* relationships?

Part VI: What else?

24. Do you have any, or do you know of any concerns the community might have related to Hawaiian or other cultural practices within or in the vicinity of the project area?
25. Do you have any recommendations regarding site management or protection, and development in the proposed project area?
26. Did CSH miss anything? Is there anything else you would like to add?
27. Is there anyone else we should talk to about this cultural study?
28. If so, may I say that you referred CSH to him/her?

Appendix E Authorization and Release

Cultural Surveys Hawai'i, Inc.
Archaeological and Cultural Impact Studies
Hallett H. Hammatt, Ph.D., President

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AUTHORIZATION AND RELEASE FORM

Cultural Surveys Hawai'i (CSH) appreciates the generosity of the *kūpuna* and *kama'āina* who are sharing their knowledge of cultural and historic properties, and experiences of past and present cultural practices for the Cultural Impact Assessment for the *ahupua'a* of Pa'ala'a.

We understand our responsibility in respecting the wishes and concerns of the interviewees participating in our study. Here are the procedures we promise to follow:

1. The interview will not be tape-recorded without your knowledge and explicit permission.
2. If recorded, you will have the opportunity to review the written transcript of our interview with you. At that time you may make any additions, deletions or corrections you wish.
3. If recorded, you will be given a copy of the interview notes for your records.
4. You will be given a copy of this release form for your records.
5. You will be given any photographs taken of you during the interview.
6. We will only use the information you provide (i.e., interview, photographs) for the purposes of our reports.

For your protection, we need your written confirmation that:

1. You consent to the use of the complete transcript and/or interview quotes for reports on cultural sites and practices, historic documentation, and/or academic purposes.
2. You agree that the interview shall be made available to the public. Although CSH will always contact you first before using information you provide to us, we cannot monitor third parties' activities or how they use information in the reports.
3. If a photograph is taken during the interview, you consent to the photograph being included in any report/s or publication/s generated by this cultural study.

I, _____, agree to the procedures outlined above and, by my
(Please print your name here)
signature, give my consent and release for this interview to be used as specified.

_____
(Signature)

_____
(Date)

Appendix F Sophronia Noelani Diego-Josselin Response Letter

February 15, 2011

Sophronia Noelani Diego-Josselin

4549 Panihi Road

Kapaa, Hawaii 96746

Kuhio Vogeler

Cultural Surveys Hawaii Inc.

P.O Box 114

Kailua, Hawaii 96734

Cultural Impact Assessment

For Lydgate Bike Path Phase C and D Project

Job Code Waipoli 4

Aloha Kuhio Vogeler,

Mahalo for Allowing me to contribute my mana'o to the Cultural Impact Assessment for Lydgate Bike Path Phase C and D Project, Job Code Waipoli 4.

Why is this C.I.A. is being conducted AFTER the notification was sent out to begin construction on Lydgate Bike Path Phase C and D Project? And WHY were we not contacted or notified to participate in previous bike path C.I.A's, ?

For the record, I was born in 1962, raised by my grandparents in the village of Hana, Maui. In 1987 we moved to Kaua'i. My husband was hired as the new executive Chef for Coco Palms. Our family was housed on property for almost a year. During this time I believed my spirit connected to those of my ancestors in the Wailua area. Since, I lived and worked in Wailua, where I raised my family for over 24 years.

I, through my Grandmother Lupinehae Kala-Diego am a direct lineal descendant of Kamuali'i and, Mano O Kalanipo, who were decendants of ali'i nui, KUKONA.

I have studied design, feng shui as well as marketing and merchandising which I hold an AA degree in. I have owned, designed and built numerous commercial restaurants, coffee shops, and organized the very first TASTE OF HAWAII which originated in the Sacred Wailua Coconut Grove, which was adopted by the Kapaa Rotary Club as their main annual fundraiser.

I feel it is a responsibility of Corporations and Persons such as Kahele makalae aka PATH Inc., Cultural Surveys Hawaii and Halmatt Hamet PhD. to **correctly** identify renown SACRED historical areas such as areas included and surrounding Wailua Complex of Heiau . These areas are LISTED on the NATIONAL REGISTRY OF HISTORICAL SITES. Cultural Surveys Hawaii Inc. should refrain from dissecting Wailua's landscape and plundering "inadvertent" artifacts and human remains. In your initial reports, that allowed for archeological permitting, CSHI considered these sacred sites to be FONSI! By refusing to allow Native Hawaiians to participate in prior consultations that directly affect Wailuanuiahoano , it's coastline, land, cultural artifacts , burials, places of worship and spiritual places of cultural practices you are breaking not only state laws but **international laws** . I pray that you take these concerns into consideration, and make right the HEWA of your "surveys" and "assessments", Starting with the **mitigation** of;

1. The blockage of the KINGS PATH for religious practices with a vertical concrete wall and "tourist" scenic point.

2. Failing to Identify and preserve numerous "KI'I" that were identified and described in various testimonies by Ms. Sharon Pomroy who is a direct lineal decendant of this Pu'u honua area, to be beautifully carved.

3. Failing to identify and protect the demarcation line of HAUOLA pu'u honua area, indicated with a line of submersed boulders located under the south end of the new bridge embankment,.

4. Failure to identify and protect KANE IE Cave which was sealed, but might have been damaged during construction.

5. Failure to identify and protect HUI KI'I and KI'I PAE MAHU, all in the general vicinity of the HISTORICAL CANE HAUL BRIDGE !

6. Failure to identify and preserve" what remains" of MAHUNAPU'UONE, KAWELOS Heiau and Ali'i Ohana Burials, Makai of Kuhio Highway. I find this to be s grossly irresponsible to the culture that you make your living from..

7. Failure to provide parking for those wishing to visit sacred Papaloa reef for fishing, giving Ho'okupu, etc..

8. Failure to provide adequate Parking for those wishing to visit Kukui Heiau for traditional customary. practices

I pray that **WE** can move forward with this project. Understand that in order for this project "Job Code Waipoli 4" to be PONO, Cultural Surveys Hawaii Inc. must take into account and apply all of the information that you have gathered for your reports, FONSI are unacceptable,

Native Hawaiian's religion and spirituality are rooted in the land or AINA. Sacred sites provide the physical foundation for mo'olelo or stories, that connects each new generation to their ancestors and weaves them into their culture and defines their identity. The protection of sacred sites, and defending the ability to conduct rituals and ceremonies at these sites in **privacy and**

without disruption, are therefore vital to maintaining and passing from generation to generation the distinct identities, traditions, and histories of our people.

The use and protection of sacred sites is not merely a cultural or spiritual concern. It is a human right that has been identified and protected by international law. Article 25 of the UN Declaration on the Rights of Indigenous Peoples provides that:

> "Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard."

Mahalonuiloa,

Noelani Josselin

Appendix G Cheryl Lovell-Obatake Response Letter

Cheryl Lovell-Obatake
P.O. Box 366
Lihue, Hawaii 96766

Phone: (808) 245-8783

February 14, 2006
Resubmit August 28, 2006

County of Kauai
Planning Department
4444 Rice Street Suite A 473
Kapule Building
Lihue, Hawaii 96766

Attention: Chairman Nishimura & Members of the Planning Commission

Subject: SMA(U)-2006-5, P.D. U-2006-7 & Z-IV-2006-10 = Coconut Plantation Holdings, LLC.

The following are my comments and concerns on the text compiled by CM & D and Group 70 International:

1.) Pg. 2-2 - Valuation of Development

"Upon the construction, the estimated value of the proposed residential-resort condominium development will be approximately $100 million."

I question the formula on the real estate market value compared to the County's Real Property Division's evaluation based on real property taxes.

Will this project enhance property value and property taxes for surrounding properties in the area?

2.) Pg. 2-6 - Drainage

Exhibit G. - A water lily pond and a huge swimming pool is located makai of the project site; and a water lily/lotus/taro pond located mauka of the proposed project.

Where will the overflow of the ponds and chlorinated pool water be discharged?

3.) Pg. 2-6 - Coastal Waters and Marine Ecology

Appendix I. an assessment of Marine Water Quality conducted by Steve Dollar of Marine Research Consultants.

(Apply to Coconut Beach Development LLC)

Did the State of Hawaii, Division of Aquatic Resources submit comments and /or recommendations to this application?

It is obvious to me that a National Pollutant Discharge Elimination System permit will be applied when drainage water discharges into the ocean. Already the Marine Research Consultants established a baseline set of conditions to evaluate potential changes to near shore water quality that may result from the proposed project.

4.) Pg. 2-6 9th paragraph Marine Ecology

"Marine life in the near shore region includes a benthic reef ecology and a typical Hawaiian reef fish community. The section of coast line fronting the subject property is a popular shoreline fishing area for species such as oama. Other species include Akule, Omilu, Taape, Manini, Ulua, Aholehole, and Moana."

I am uncertain if all the different fishes (resources) coral, and reef are accounted for at this time. Please inquire with the State Aquatics Division for their comments and knowledge.

(Apply to Coconut Beach Development LLC.)

5.) Pg. 2-8 4th paragraph

"The grove of existing mature coconut palms on the property is recognized as and protected by the Exceptional Tree Act listing for Kauai."

I understand that the County Council and the County Arborist Advisory Committee determines which trees are to be designated "exceptional trees".

I recommend that SHPD and PW require that the applicant have a certified archaeologist on site during any and all ground/underground disturbances ; such as the extracting of trees and relocating them. I am concerned about Native Hawaiian burials and funerary objects connected to Native Hawaiian burials.

Sec. 22-5.3 County Arborist Advisory Committee compose of five (5) members.

Is the Advisory Committee available? Who are they?

6.) Hurricane shelters and Tsunami evacuation areas need planning.

A.) Emergency traffic plan
B.) Proper signage - directing
C.) Hotel evacuation plans etc..

(Apply to Coconut Beach Development LLC.)

I kanalua (doubtful)..

Sincerely I remain,

_____

Cheryl Lovell-Obatake