

**Final Integrated Ka'ena Point
Action Plan**



**Department of Land and Natural Resources
2011**

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FINAL INTEGRATED KA'ENA POINT ACTION PLAN

SIGNATURE PAGE

Administrator's approval: I have reviewed the enclosed Final Integrated Ka'ena Point Action Plan and concur with the recommendations herein. I agree that resource management implementation will follow those specified in the Action Plan for Ka'ena Point.



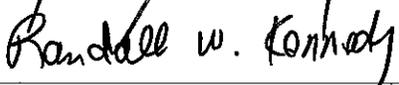
Dan Quinn – State Parks Administrator

7/22/11
Date



Randy Awo – Acting Enforcement Chief

8/16/11
Date



fr Paul J. Conry – DOFAW Administrator

7/22/11
Date

Department of Land and Natural Resources Board approval: This plan is consistent with or will be subject to the criteria established for State lands as mandated by Hawai'i Administrative Rules Chapters 13-7, 121, 122, 123, 124, 130-28, 146, 183, 208, 209, 221, 275, and 300; and Hawai'i Revised Statutes Chapters 6E, 171-6, and 199.



William Aila Jr. – BLNR Chairperson

7/22/11
Date

Acknowledgements

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I. Introduction

The Hawai‘i Ocean Resources Management Plan (ORMP), first published in 1991, was developed by a multi-agency, cabinet-level council which included private sector and non-governmental representatives. The ORMP set forth guiding principles and recommendations for the State of Hawai‘i to achieve comprehensive and integrated ocean and coastal resources management. In addition to overall recommendations for a new governance structure and a comprehensive management system, the Plan included a series of specific policies and implementing actions for ten resource sectors. The Legislature adopted the ORMP in 1994 and enacted legislation in 1995 to incorporate the plan into the Coastal Zone Management (CZM) Program. A review of the ORMP was conducted in 1998, revealing a need for a revised ORMP to address declining funds and personnel, changing priorities and new concerns relating to ocean resources management. Section 205A-62, Hawai‘i Revised Statutes (HRS), charges the Office of Planning (OP) with the review and periodic update of the ORMP, as well as coordination of overall implementation of the plan. On December 28, 2006, an updated ORMP was submitted to the 24th Regular Session of the Hawai‘i State Legislature in fulfillment of Senate Concurrent Resolution No. 137, H.D. 1, Regular Session of 2005, and Section 205A-62, HRS.

The Revised ORMP: A Three-Perspective Framework

The 2006 ORMP involved extensive outreach and input-gathering with participation of various stakeholder groups, government agencies, and the public over a period of eighteen months. The culmination was the December, 2006, updated ORMP. The updated Plan is an integrated, place-based approach to management of ocean resources, based on land–sea links, the role of human activities, and improved collaboration in governance. Each of the framing perspectives are accompanied by concrete management goals and strategic actions to address the goals in five-year implementation phases over the next 30 years.

Perspective 1: Connecting Land and Sea

Careful and appropriate use of the land is required to maintain the diverse array of ecological, social, cultural, and economic benefits we derive from the sea. Strategic actions recommended in the plan for Perspective 1 include reducing soil erosion and pollutant loads, developing beach management plans, and protecting priority coastal areas and communities from coastal hazards.

Perspective 2: Preserving Our Ocean Heritage

A vibrant and healthy ocean environment is the foundation for the quality of life valued in Hawai'i and the well-being of its people, now and for generations to come. Management goals for this perspective emphasize the improvement of coastal water quality, strengthening of marine protected area management, enhancing the ability of communities to restore and operate Hawaiian fishponds, and promoting sustainable ocean-based tourism.

Perspective 3: Promoting Collaboration and Stewardship

Working together and sharing knowledge, experience, and resources will improve and sustain our efforts to care for the land and sea.

This perspective highlights the need for community participation in cultural and natural resources management and the exploration of place-based approaches, including traditional Hawaiian principles of land division such as *ahupua'a*.

DLNR Implementation of ORMP

Given these varied perspectives, in January of 2008, Laura Thielen, Chairperson of the Department of Land and Natural Resources (DLNR), tasked the DLNR Divisions to collaboratively devise strategies to better manage four focus areas throughout the State. These areas include: Hā'ena on Kaua'i, Ka'ena Point on O'ahu, Ahihikināu on Maui, and Kealahou Bay on the island of Hawai'i. The Division of Conservation and Resources Enforcement (DOCARE) was tasked with leading the DLNR Stewardship group for Ka'ena with support from Land, Aquatic Resources, State Parks, Forestry and Wildlife, and Historic Preservation (Appendix 1 DLNR Staff List). On April 30, 2008,

the Stewardship Group submitted an Integrated Resource Stewardship – Moku Management Ka‘ena Point ORMP Draft Action Plan to the Chairperson.

At its public meeting for the Ocean Recreation Management Plan (ORMP) for Ka‘ena Point on November 18, 2008, the Department of Land and Natural Resources (DLNR) Ka‘ena Point Stewardship Team discussed the creation of an Advisory Group to encourage public involvement, facilitate discussion, and provide recommendations related to the ORMP. The purpose of this group was to advise the Department and the Board of Land and Natural Resources on the management of Ka‘ena Point through recommendations developed through communication and involvement with the public and neighboring communities and users.

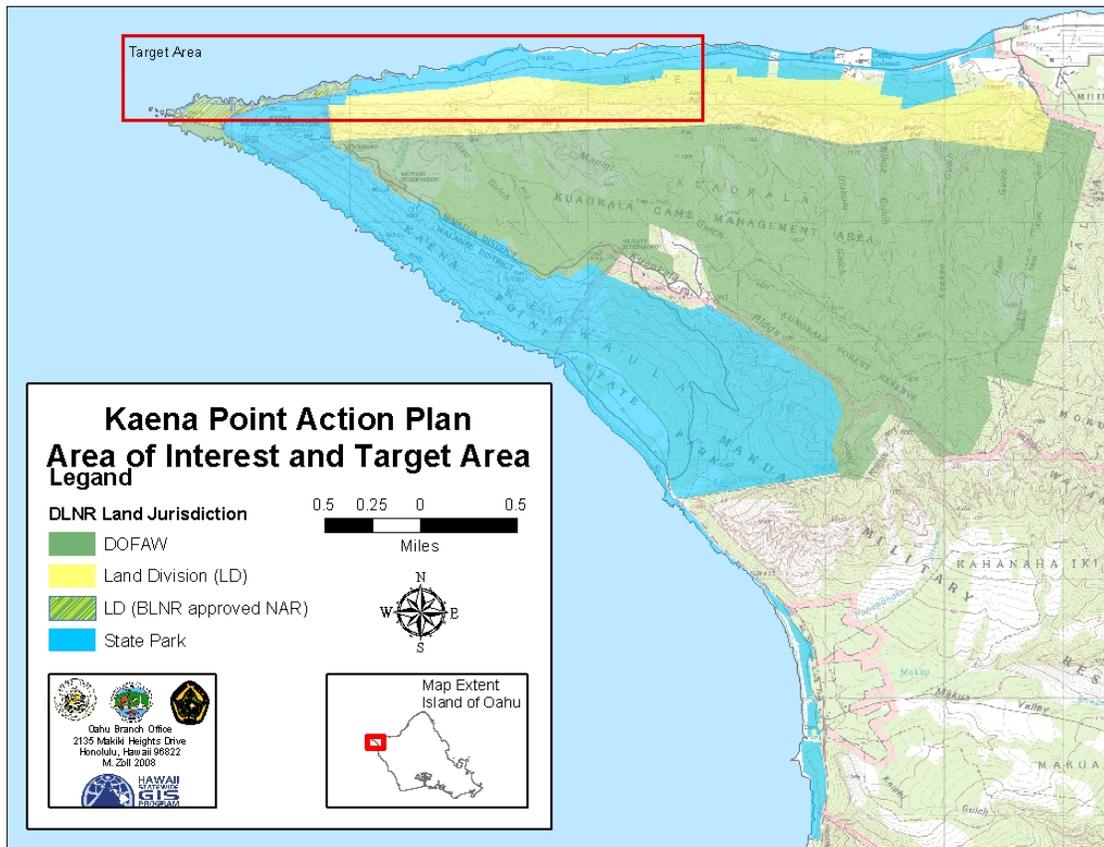
In April 2009, DLNR formed the Ka‘ena Point Advisory Group (KPAG) with representatives from fishers, cultural practitioners, conservationists, the O‘ahu Burial Council, Waianae and North Shore Neighborhood Boards, Friends of Ka‘ena Point, Office of Hawaiian Affairs, and YMCA Camp Erdman (Appendix 2 KPAG Member List). The Advisory Group reached consensus on five recommendations on management at Ka‘ena Point State Park: protection of the Leina A Ka ‘Uhane; protection and restoration of the sand dunes; management and prevention of erosion, especially in areas such as Manini Gulch; a designated road or roads; and the creation and implementation of a permitting system for vehicle use in the area beyond the paved road. The DLNR Stewardship Group has incorporated all of the recommendations from KPAG in this Final Action plan.

II. Scope of Plan

This management plan addresses the state lands that extend from the end of the paved road past Dillingham Airfield on the North Shore to Ka‘ena Point and includes the Ka‘ena Point State Park Reserve, Land Division TMKs (1) 6-9-001:003 and (1) 6-9-001:004, and the Ka‘ena Point NAR, referred to as the "target area" (Map 1). The target area is a subset of a larger area of interest that encompasses the western tip of the

island of O‘ahu, including State Park lands starting at the end of Dillingham Air Field on the North Shore, across the Waianae Mountain Range to Kaneana Cave on the west side (including all of State Parks lands on the west side). DLNR lands encompassed in this plan include: State Parks (Ka‘ena Point Reserve), DOFAW (Ka‘ena Point Natural Area Reserve, Kuaokala Forest Reserve, and Kuaokala Game Management Area), and Land Division parcels (TMKs (1) 6-9-001:003 and (1) 6-9-001:004).

Map 1: Area of Interest and Target Areas



III. Applicable Hawai‘i Revised Statutes, Hawai‘i Administrative Rules and Executive Orders governing DLNR Divisions

All DLNR lands are covered by the HAR Chapter 13-7. The Division of Forestry and Wildlife implements HAR Chapters 13-208 and 209 (Natural Area Reserve System), HRS Chapter 13-183 (Forestry Reserve), HAR Chapters 13-121, 13-122, 13-123 (Game

Management Area), HAR Chapter 13-124 (Threatened and Endangered Wildlife), and HAR Chapters 13-130-28 (Na Ala Hele). State Parks implements by HAR Chapter 13-146. Land Division implements HAR Chapters 13-221 and HRS 171-6. Historic Preservation implements HRS Chapters 6E and HAR Chapter 13-300, 13-275. Aquatic Resources implements HAR Chapter 13-124 and Conservation and Resource Enforcement implements HRS Chapter 199.

Approval of this Plan by the Chairperson of the Board of Land and Natural Resources may trigger the following actions:

1. Implementation of emergency actions described in the plan including but not limited to delineation of the existing primary and shoreline access roads, repair and maintenance of existing primary access road and establishment of a State Park vehicle access permit.
2. Prioritized implementation of plan objectives by DLNR.
3. DLNR efforts to secure operational and planning funding for plan objectives.
4. Preparation of regulatory compliance documents as needed for implementation of management actions as outlined in the plan.
5. Periodic solicitation of requests for proposals or bids for implementation of plan objectives, including issuance of licenses or contracts in accordance with applicable Hawaii Administrative Rules, as necessary.
6. Issuance of permits with applicable Hawaii Administrative Rules, as necessary.

Executive Orders

The following Executive Orders (EO) pertain to the scope of this plan:

- EO 3162, dated January 12, 1983, setting aside 12.464 acres "for Natural Area Reserve ... and designated as Ka'ena Point Natural Area Reserve..."
- EO 3338, dated May 12, 1986, setting aside 457 acres "for State Park purposes..."
- EO 3574, dated November 20, 1992, setting aside 695.701 acres "for State Park purposes..."

- EO 4091, dated November 21, 2004, setting aside 0.24 acres together with an easement for 2,600 square feet "for addition to the Ka‘ena Point Natural Area Reserve..."
- EO 4141, dated December 15, 2005, setting aside 341.597 acres "for State Park Reserve..."
- In addition, an EO is pending for addition to the Ka‘ena Point Natural Area Reserve of the following parcels: TMKs (1) 6-9-002: 1, 3, 4, 5, 9 and 13.

IV. Past and Current Planning Efforts in the Action Area

Ka‘ena Point has been the target of many planning efforts over the past 30 years. Plans initiated by the State include the 1978 Ka‘ena Point State Park Conceptual Plan, 1997-1998 Sustainability Hotspot initiative, 1992 NARS management plan, and an interdepartmental and community group planning effort lead by DLNR Deputy Director Bob Masuda in 2006-2007. Currently, the largest scale management effort is the Ka‘ena Point ecosystem restoration project at the NAR. In addition, the Army has included portions of this area in their Implementation Plan and a number of community groups are interested in participating in management of the area.

Many of the management goals identified in even the oldest plans remain relevant today. Common throughout all of these plans is balancing conservation of the natural and cultural resources while providing access and recreational opportunities for residents and visitors. It is the intent of this group to build upon past planning efforts and to implement many of the goals identified in these plans. Specifically, the Stewardship Group will be building off the draft 2006-2007 Masuda budget for line items and funding estimates (Appendix 4).

V. Findings

Although there is a strong interest in managing this area for the public good, the Department has had difficulty implementing management actions and enforcing rules and regulations at Ka'ena Point. The Stewardship Group found the following constraints have lead to the current situation in the action area:

- Lack of communication, collaboration, and resource sharing among Divisions,
- Lack of funding for staff and supplies,
- Lack of leadership in making this a priority management area, and
- Community opposition to management changes.

State Parks would like to implement major elements of the 1977 Conceptual Plan and Environmental Impact Statement but it has not had the level of funding and resources required. Achieving some of the recreational and environmental goals of the plan may require amending administrative rules (i.e., prohibit unlicensed vehicles on State Parks lands), Land Board action, (i.e., designate wilderness camping in park), and establishing procedures for special use permits particular to this park (i.e., allows oversight of recreation uses and use number when warranted). Community opposition to enforcement actions and suspicion of change have inhibited State Parks from moving forward with many actions proposed in the 1977 Plan. Off-road vehicle (ORV) use in State Parks parcels currently occurs with few constraints and only periodic enforcement of regulations.

The number of park users and types of uses (fisherman, hikers, recreation vehicles, picnicking, sight-seeing, etc.) have increased significantly since 1977 and their cumulative impacts continue to degrade the park's natural resources (native plants, soil cover, shoreline geological features, and sand dunes) and have left its cultural resources vulnerable (cultural deposits, burial sites, fishing shrines, traditional cultural properties, salt-collecting features, and canoe landings). The recreational experience of park users

will continue to diminish in quality as these uses intensify and become increasing incompatible.

Enforcing State Park regulations regarding Off-Road Vehicle (ORV) activity at Ka'ena Point State Park Reserve is hampered by a combination of vague regulatory verbiage and the geographic make-up of the Park itself. This Park Reserve contains neither paved nor otherwise clearly delineated trails or roads. As such, this has created a condition ripe for differing interpretations of State Parks administrative rules by DOCARE officers and Hawaii district courts, clearly not an optimum situation. State Park HAR 13-146-40 Motorized vehicle operation is comprised of four subparts. Subpart (a) states "*...no person shall drive or operate any motorized vehicles...except on designated trails and roads that are managed for motorized use...*". This verbiage is problematic because there currently exists no trail or road in the Park designated for this purpose. Subpart (b) states in part: "*...no person shall drive or operate any motorized vehicles...in a reckless manner...or in a manner that endangers any person or property or damages park resources...*". Although there are many indications ORV activity in Ka'ena Point State Park is indeed *damaging park resources*, no court precedent has been set as to just what type of activity, and what type of documentation or evidence is needed, to actually prove an activity does indeed damage park resources. Burden is left to the State to prove this has occurred. Subpart (d) says in part: "*...no person shall drive or possess unlicensed vehicles and off highway vehicles in any park area except for use on trails, roads and in other areas designated for off highway vehicle use by appropriate signage...*". However, there currently is no signage within Ka'ena State Park that designates which, if any, trails and roads can be used for ORV use, making enforcement of this subpart problematic as well. In addition, multiple land jurisdictions and a myriad of other associated governing rules continues to cause confusion for the public and make enforcement of administrative rules at Ka'ena Point State Park difficult, at best, for DOCARE officers. To provide for increased enforceability of State Parks administrative rules, DOCARE recommends State Parks clearly designate and delineate all roads and trails within the park, clearly define those activities which have been determined to damage park resources, and gain management purview over the unencumbered lands at the waters edge.

DOFAW feels that there is a lack of appreciation and understanding of the natural resources that occur between the end of the paved road and the NAR boundary. DOFAW is interested in effective management of the natural resources in the State Park because the area acts as a gateway to the NAR. DOFAW can contribute information about the distribution of native and invasive species, expertise in management techniques that could be used in the State Park, and resources to maintain the access road and to protect native resource elements in the State Park.

Land Division plays a largely supportive role in this area. The main focus of Land Divisions' interest is in the area under lease or permit, and hazard mitigation (rock fall, fire). The following major easements impact the designated roadway leading to Ka'ena Point from Mokulei'a: LOD28400 is a 58 year term easement, from August 11, 1970 to August 10, 2028, originally issued to Hawaiian Telephone Company and American Telephone and Telegraph Company. The easement is 10 feet wide and runs generally along the mauka length of the upper road. Corporate name changes and sales affecting the easement holder have occurred over the years; a formal consent to assignment of the easement by the Department is pending as of this writing.

The Division of Aquatic Resources (DAR) has developed shallow-water benthic habitat maps; however, Aquatic Resources has a lack of information regarding the marine resources and the limiting factors in this area. Ocean conditions in this area make in-water assessments difficult and DAR has prioritized O'ahu resource assessments within and near marine managed areas. DAR is interested in conducting surveys in the Ka'ena Point area to gain a better understanding of the existing resources and threats.

Historic Preservation Division (SHPD) has a regulatory and support function in addressing management of the focus area. SHPD must be given the opportunity to review all proposed actions that may affect historic properties in the area and give its written concurrence before these actions can proceed (§6E-8, HRS, and chapter 13-275, HAR). It is also the official repository of the State's inventory of historic properties and

of archaeological and historical documents prepared to fulfill the requirements of the State's historic preservation law. As such, SHPD's records can provide valuable background information on the known and probable distribution of historic sites and culturally important places within or near the focus area. SHPD needs to be notified immediately if any burial sites or human remains are uncovered by natural forces or during improvement or restoration projects and will determine the disposition and long-term treatment of any that are over 50 years old.

The target area contains Resource (R), Limited (L), and Undesignated (C) conservation district zoned lands. State Park Reserve and Land Division lands along the north shore are zoned C, NAR lands are zoned R, and State Park Reserve land at the tip of the island above the NAR is zoned L. The Stewardship Group will consult with OCCL to determine if a CDUP or OCCL approval or permit is needed for proposed actions.

The Stewardship Group found that unrestricted motor vehicle use is currently the source of the greatest negative impact to the environment and other park users. Therefore, limiting and regulating such activity is the highest priority of this plan. The current state of the access road inhibits land managers and authorized vehicles from implementing management actions in this area. Repair of the road is the second highest priority of this plan. Other high priority actions include: implementing surveys and monitoring for current historic site/natural resource protection and future restoration; and developing community support, information base, and financial means to improve low impact recreational opportunities for the area.

As no single Division contains all of the skills or authorities to carry out all of the proposed goals of this plan, sustained coordination and collaboration between the Divisions is essential to the successful implementation of this multi-jurisdictional plan. Each Division will identify a contact person on staff to coordinate its interest in implementation of this plan. The Divisions will collaborate to seek funding for plan implementation.

VI. Community Involvement

Community involvement and buy-in is essential to the long-term success of this plan. It is the intent of the Department to continue to work with advisory and other community groups interested in implementing the action plan as appropriate.

Ka'ena Point Advisory Group

On February 25, 2009, DLNR held a public workshop to select the members of the Ka'ena Point Advisory Group (KPAG). The purpose of this meeting was to identify and select representatives and alternates for three user groups at Ka'ena Point. These user groups are the fishing community, cultural practitioners, and conservationists. Several organized interest groups with representatives were already identified as potential KPAG Members. These groups included the O'ahu Burial Council, Waianae and North Shore Neighborhood Boards, Friends of Ka'ena Point, Office of Hawaiian Affairs, and YMCA Camp Erdman (Appendix 2 KPAG Member List).

This advisory group was tasked with providing recommendations to finalize the Ka'ena Point Stewardship Plan and assist with its implementation, and provide recommendations on a pilot project for overnight wilderness camping and assist with its implementation.

KPAG began meeting on April 14, 2009. They established ground rules for the group and identified their purpose and scope of involvement with DLNR and its ORMP. The Advisory Group developed the following vision statement to guide their recommendations: **Ka'ena is a sacred place filled with natural beauty, fragile ecosystems and past responsible human use and shall remain so.** For the past two years, KPAG met to discuss the ORMP, management of Ka'ena Point State Park Reserve and develop recommendations to the Board of Land and Natural Resources. KPAG also conducted several site visits to the park to observe users, familiarize them with the area, and conduct work days to protect sand dunes with the assistance of DLNR staff. On July 27, 2010, the Advisory Group held an informational meeting to the public during a North Shore Neighborhood Board Meeting. At this meeting, the group presented their recommendations and gathered public comment using paper surveys and an electronic

online survey. With this information, KPAG finalized their recommendations and drafted a report for DLNR (Appendix 3 KPAG Report to BLNR).

VII. Integrated Management Goals

The mission and goals developed by the Ka‘ena Pont Stewardship Group seek to fulfill the three goals of the ORMP: connecting land and sea, preserving our ocean heritage, and promoting collaboration and stewardship. The ORMP goals that this Action Plan most directly addresses are as follows:

Perspective 1:

- Improve coastal water quality by reducing land based sources of pollution;

Perspective 2:

- Improve the health of coral reef resources for sustainable traditional, subsistence, recreational, and commercial uses;
- Enhance public access and appropriate coastal-dependent uses of the shoreline;
- Promote appropriate and responsible ocean recreation and tourism that provide culturally informed and environmentally sustainable uses for visitors and residents; and

Perspective 3:

- Apply integrated and place-based approaches to the management of natural and cultural resources; and
- Improve the existing legal, regulatory, and intuitional framework for integrated natural resources management based on scientific data, traditional knowledge, and field experience.

The Stewardship Group also sought to keep the three overarching priorities of the Department (resource protection, recreation, and commercial use) as a guide to prioritize actions. The Divisions are in agreement that the following mission and goals require immediate attention.

Mission Statement:

To better utilize integrated natural and cultural resources management approaches to increase protection and restoration of coastal areas at Ka‘ena Point while supporting sustainable, low impact recreational opportunities for the public that retain the natural feel of the area and honor its cultural significance.

Goals:

In an effort to develop a plan that has a high likelihood of successful implementation, the Stewardship Group divided the goals into Emergency (0-2 years), mid-term (0-5 years) and long-term (5-15 years) timeframes. Goals for each time period listed below are in order of priority.

Emergency Actions (0-2 years):

Emergency actions focus on addressing immediate negative human impacts and repairing basic existing management infrastructure needs of the area. Emergency actions fall under the environmental compliance exemption list for State Parks and DOFAW.

- 1) Establish State Park vehicle access permit;
- 2) Increase DOCARE presence and enforcement;
- 3) Delineate the existing primary and shoreline access roads (Appendix 3);
- 4) Install signage on appropriate use of the area (i.e. Leina A Ka ‘Uhane);
- 5) Continue public outreach (through DLNR staff and community outreach);
- 6) Repair the existing primary access road (Appendix 3);
- 7) Conduct emergency dune protection and restoration;
- 8) Install entrance signs on both sides of Ka‘ena Point State Park;
- 9) Initiate emergency erosion control measures; and
- 10) Identify land jurisdictional issues;

Measures of Success for Emergency Action Goals:

- 1) State Park vehicular access permit in place;
- 2) Number of enforcement actions taken and contacts made;
- 3) Length of road delineated and marked;

- 4) Number of signs installed;
- 5) Number of outreach events held and staff time spent on outreach;
- 6) Length of road repaired;
- 7) Area of dune protected and restored;
- 8) Area mitigated for erosion; and
- 9) Number of land jurisdictional issues addressed.

Mid-term (0-5 years):

Mid-term goals will be initiated concurrently with emergency action goals. These goals focus on basic natural and cultural resources management and recreational needs of the public.

- 1) Establish State Park camping permit conditions;
- 2) Conduct natural and cultural resources surveys (terrestrial and marine) and identify management units;
- 3) Conduct threat abatement and restoration in high priority active management units and continue erosion control;
- 4) Install high priority interpretive materials; and
- 5) Expand volunteer management program with partner organizations and community groups.

Measures of success for mid-term goals:

- 1) Camping permit system in place, permits being issued;
- 2) Number of surveys conducted and land area covered, and management units identified;
- 3) Area covered by threat abatement activities, number of management units actively managed;
- 4) Number of interpretive materials installed; and
- 5) Number of volunteer events and efforts conducted.

Long-term (5-20 years)

Larger and/or more involved infrastructure improvements, resource management, public recreation, and commercial activity goals are included in this section. As these goals are long term in nature, measures of success were not identified in this plan.

- 1) Prepare a State Park Masterplan and EIS for implementation of the plan that incorporates all long-term goals;
- 2) Designate primitive campsites;
- 3) Establish a park entry point;
- 4) Expand threat abatement and restoration to all management units;
- 5) Expand interpretive material installation;
- 6) Consider commercial use and fee based activities in order to support management needs;
- 7) Develop an educational center; and
- 8) Establish a residential DOCARE officer on site.

VIII. Action Plan Matrix

The table below describes management actions, agency leads, and estimated costs associated with the above stated goals divided by timeline.

Goal	Priority	Agency Lead	Action	Estimated Cost	Environmental Compliance
Emergency Actions					
1) Establish State Park vehicle access permit	1a	SP	Draft permit and seek BLNR approval for implementation.	In house	N/A
	1b	SP	Create online permit application	In house	N/A
2) Increase DOCARE presence and enforcement	2a	DOCARE	Seek additional funding to support increase in officer presence at Kaena Point area (each position costs \$60,000/yr)	\$120,000/yr	N/A
	2b	DOCARE	Seek additional funding to support new staff positions.	\$200,000 start up; 10,000/yr	N/A
	2c	DOCARE/LD/SP	Review and amend existing rules and laws so that they are more ‘enforceable’, i.e., include criminal sanctions (Senate Bill 1891 S.D. 1 makes violation of chapter 171, relating to public lands and rules adopted there under a petty misdemeanor.)	In house	N/A
	2d	DOCARE/LD/SP	Examine existing laws and identify changes or new laws (i.e., SP/LD adopt Na Ala Hele Trail’s HAR 13-130-28 to address unlicensed off road vehicles)..	In house	N/A
	2e	SP/DOFAW	Consider adding road and trail to Na Ala Hele inventory	In house	N/A

Goal	Priority	Agency Lead	Action	Estimated Cost	Environmental Compliance
	2f	SP	Amend and/or harmonize existing laws related to the action area	In house	N/A
3) Delineate the existing primary and shoreline access roads	3a	SP/DOFAW/LD	Delineate existing main road corridor with visual markers	\$50,000	SP and DOFAW exemption lists
	3b	SP/DOFAW/LD	Initiate installation of road barriers with rocks/pilings along road corridors as necessary to prevent vehicles from driving off-road.	\$300,000	SP and DOFAW exemption lists
	3c	SP	Select and delineate a subset of shoreline access roads from the network of existing roads with input from recreational users for authorized 4WD vehicle use (i.e., fishing and camping).	\$200,000	SP exemption list
4) Install signage on appropriate use of the area (i.e., Leina A Ka 'Uhane)	4a	SP/DOFAW	Fabricate and install signs	\$25,000	SP and DOFAW exemption lists
5) Continue public outreach (through DLNR staff and community outreach)	5a	SP/DOFAW	Expand on and maintain public outreach effort started with the predator fence project to devise and implement an effective outreach strategy	\$10,000	N/A
	5b	SP/DOFAW	Present management planning efforts at Neighborhood Board meetings	In house	N/A
	5c	SP/DOFAW	Post informational signs at key locations (i.e., end of pavement and beginning of NAR)	\$5,000	SP and DOFAW exemption lists
	5d	SP/DOFAW/DOCARE	Issue standard talking points to on-the-ground staff	In house	N/A
	5e	SP/DOFAW	Issue public information bulletins via our outreach staff.	\$1,000	N/A

Goal	Priority	Agency Lead	Action	Estimated Cost	Environmental Compliance
	5f	SP/DOFAW	Seek funding to hire staff to implement Action Plan goals (i.e., 2 dedicated staff)	\$134,000/yr; \$43,800 start up	N/A
6) Repair the existing primary access road	6a	SP	Design and environmental compliance for existing road repair and maintenance.	In house	SP exemption list
	6b	SP/DOFAW/LD	Repair and maintain road (scrape and repair pot holes) <ul style="list-style-type: none"> Identify pot holes to be repaired (In house) Reserve heavy equipment for 2 weeks at a time (In house) Price quote on rock/gravel material Reserve Forestry heavy equipment operator (In house) In-house Engineering heavy equipment operator (In house) 	\$500,000	SP and DOFAW exemption lists
7) Conduct emergency dune protection and restoration	7	SP/DOFAW	Designate dunes slated for protection and restoration; remove invasive weeds and restore common native plants with staff and community service trips;	\$50,000	SP and DOFAW exemption lists
8) Install entrance signs on both sides of Ka'ena Point State Park	8a	SP	Fabricate and install signs	\$20,000	SP exemption list
9) Initiate emergency erosion control measures	9a	SP/DOCARE	Limit human activities that cause erosion	In house	N/A
	9b	SP/DOFAW	Consider erosion control devices (mats, logs, etc.) and restore target areas with native vegetation	\$100,000	SP and DOFAW exemption lists

Goal	Priority	Agency Lead	Action	Estimated Cost	Environmental Compliance
10) Identify land jurisdictional issues	10a	SP/DOFAW/LD	Consider revising the land use designations through the EO process (i.e., set aside currently unencumbered land to SP or DOFAW),	In house	N/A
	10b	SP/DOFAW/LD	Complete the executive order process for TMKs (1) 6-9-002: 1, 3, 4, 5, 9 and 13.	In house	N/A
	10c	SP/DOFAW	Pursue land purchase of in-holdings (4 parcels)	\$200,000	N/A
	10d	LD	Identify/describe all easements (HECO, and military water line) and explore options for assistance.	In house	N/A
Mid-Term Goals					
1) Establish State Park camping permit	1a	SP/DOCARE	Establish a camping permit conditions that is consistent with SP rules and is supported by DOCARE.	In house	SP exemption list
2) Conduct natural and cultural resources surveys (terrestrial and marine) and identify management units	2a	SP/DOFAW	Conduct biological inventory survey	In house	SP and DOFAW exemption lists
	2b	SP/DOFAW	Identify areas for habitat protection.	In house	SP and DOFAW exemption lists
	2c	SP/DOFAW	Plant common native plant species in protected areas.	\$100,000	SP and DOFAW exemption lists
	2d	SP/DOFAW	Protect nesting areas if bird colony expands.	\$10,000	SP and DOFAW exemption lists
	2e	SP/DOFAW	Monitor habitat to track environmental changes.	In house	SP and DOFAW exemption lists
	2f	SP	Identify known historic and cultural sites and areas of high probability	In house	SP exemption list
	2g	SP/DOFAW	Conduct resource surveys	In house	SP and DOFAW exemption lists

Goal	Priority	Agency Lead	Action	Estimated Cost	Environmental Compliance
	2h	SP	Identify cultural resource locations by conducting literature research and interviews.	In house	SP exemption list
	2i	SP/DOFAW	Protect sites and sensitive areas by limiting access and delineating use areas.	\$10,000	SP and DOFAW exemption lists
	2j	SP/DOFAW	Seek input from cultural practitioners on ways to manage cultural resources appropriately.	In house	SP and DOFAW exemption lists
3) Conduct threat abatement and restoration in high priority active management units and continue erosion control	3a	SP/DOFAW	Expand Wildlife Services contract to include the SP up to Manini Gulch.	\$5,000	SP and DOFAW exemption lists
	3b	SP/DOFAW	Establish a new rock barrier near the end of the NAR	\$20,000	To be determined
	3c	SP/DOFAW	Implement fire presuppression activities along road corridor (readiness planning and fire breaks).	In house	SP and DOFAW exemption lists
4) Install high priority interpretive materials	4a	SP	Develop and install interpretive materials (i.e., guide book/pamphlet, signs) at scenic overlooks and points of interest along the hiking trail.	\$50,000	SP exemption list
5) Expand volunteer management program with partner organizations and community groups	5a	SP/DOFAW/LD/ DOCARE	Work with community groups to form and implement volunteer programs.	In house	SP and DOFAW exemption lists

Goal	Priority	Agency Lead	Action	Estimated Cost	Environmental Compliance
Long-Term Goals					
1) Prepare a State Park Masterplan and EIS	1a	SP	Contract preparation of Plan and EIS	\$400,000	SP exemption list
2) Designate primitive campsites	2a	SP	Establish designated primitive campsites at appropriate locations with input from park users.	\$10,000	EIS
3) Establish an a Park entry point	3a	SP	Build access control point.	\$15,000	EIS
4) Expand threat abatement and restoration to all management units	4a	SP/DOFAW/LD/DOCARE	Explore and promote options for establishing alternative 4WD recreation areas on O‘ahu .	In house	SP exemption list
	4b	SP/DOFAW	Conduct vertebrate control from the end of the paved road through the NAR.	\$40,000	SP exemption list
	4c	SP/DOFAW	Monitor for ecosystem modifying weeds.	In house	SP exemption list
	4d	SP/DOFAW	Control target weed species working from the NAR towards the pavement.	In house	SP exemption list
	4e	SP/DOFAW	Control incipient populations of target weed species throughout target area.	In house	SP exemption list
5) Expand interpretive material installation	5a	SP/DOFAW	Evaluate interpretive needs and address as necessary	In house	SP exemption list

Goal	Priority	Agency Lead	Action	Estimated Cost	Environmental Compliance
6) Consider commercial use and fee based activities in order to support management needs	6a	SP	Determine if commercial activities are appropriate for the area. If so, establish proactive guidelines for the appropriate commercial activities (guided hikes, food vendors, leased campsites, other permitted activities).	In house	EIS
7) Develop an educational center	7a	SP/DOFAW/LD/ DOCARE	Design, seek funding, and build visitor orientation/interpretive center and ranger station.	\$1,000,000	EIS
8) Establish a residential DOCARE officer on site	8a	SP/DOFAW/ DOCARE	Seek approval from the Legislature to create and fill position.	\$100,000/year	N/A

Appendix 1

Staff List

(bold name indicates lead)

Name	Division	Phone	E-Mail
Thomas Tanaka	DOCARE	587-0007	Thomas.M.Tanaka@hawaii.gov
Randy Awo	DOCARE	587-0068	Randy.K.Awo@hawaii.gov
Guy Chang	DOCARE	453-6786	Guy.L.Chang@hawaii.gov
David Nichols	DAR		(no longer with DLNR)
Randy Kennedy	DOFAW	587-0054	Randall.W.Kennedy@hawaii.gov
Brent Liesemeyer	DOFAW		(no longer with DLNR)
Talbert Takahama	DOFAW	453-6111	Talbert.K.Takahama@hawaii.gov
Betsy Gagne	DOFAW	587-0063	Betsy.H.Gagne@hawaii.gov
Tanya Rubenstein	DOFAW	587-0051	Tanya.Rubenstein@hawaii.gov
Yumi Miyata	DOFAW	453-6111	Yumi.K.Miyata@hawaii.gov
Ati Jeffers-Fabro	DOFAW	973-9788	Ati.R.Jeffers-Fabro@hawaii.gov
Walt Keale Mix	DOFAW	295-4721	Walt9@hawaii.edu
Marigold Zoll	DOFAW	453-6111	Marigold.S.Zoll@hawaii.gov
Steve Molmen	LAND	587-0419	Steve.Molmen@hawaii.gov
Dan Quinn	SP	587-0290	Dan.Quinn@hawaii.gov
Eric Kato	SP	733-9104	Eric.K.Kato@hawaii.gov
Holly McEldowney	SP	587-0307	Holly.McEldowney@hawaii.gov
Paul Sensano	DOBAR	637-8246	DLNR.BD.HaleiwaHarbor@hawaii.gov
Phyllis Coochie Cayan	SHPD	692-8015	Phyllis.L.Cayan@hawaii.gov

Appendix 2

Ka'ena Point Advisory Group List

(bold name indicates Chair)

Name	Representative
Jeff Alameida	North Shore Neighborhood Board
Jo Jordan	Waianae Neighborhood Board
Josh Heimowitz	Camp Erdman (resigned 2011)
Moana Bjur	Camp Erdman (as of 2011)
Vicky Lyman	Friends of Ka'ena Point
Bobby Titcomb	Friends of Ka'ena Point
Leimaile Quitevas	O'ahu Burial Council
Keola Lindsey	Office of Hawaiian Affairs
Dennis Park	Fisher (resigned 4/2010)
Sandra Park	Fisher Alternate (resigned 4/2010)
Sandi Arakaki	Fisher (as of 5/2010)
Pat Chang	Fisher Alternate (as of 8/2010)
William Aila	Cultural Practitioner (resigned 2011)
Tom Shirai	Cultural Practitioner (Alternate to Rep as of 2011)
Jennifer Metz	Conservationist
Cynthia Rezentes	Conservation Alternate

Appendix 3 KPAG Report to BLNR

State of Hawai'i
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of State Parks
Honolulu, Hawai'i 96813

September 9, 2010

KA'ENA POINT ADVISORY GROUP FINDINGS AND RECOMMENDATIONS TO THE BOARD OF LAND AND NATURAL RESOURCES

Ka'ena Point is a special place filled with natural beauty, culturally important sites, and a strong spiritual presence. These qualities that make Ka'ena Point special are now threatened by irresponsible uses. Four wheel drive vehicles drive thru sensitive coastal sand dune ecosystems, many containing important Hawaiian cultural resources. These same operators create mud bogs and serious soil erosion problems in the Ka'ena Point Park Reserve. Uninformed visitors mistakenly climb on top of the Leina A Ka 'Uhane causing damage to this sacred Hawaiian site. Ka'ena Point State Park Reserve and its resources are in trouble and in need of improved management. This report outlines a number of recommendations to the Board for implementation. We are confident that these recommendations will continue to allow for continued responsible use of the area and reduce destructive activities.

A brief history of the Ka'ena Point Advisory Group (KPAG) is described in the cover letter of this report. The members of KPAG have put in many volunteer hours in meetings, site visits, and work days. Discussions have been emotional at times but civil, with each group advocating for their perspective. Consensus was the goal and was achieved most of the time. If not achieved it was agreed that a minority opinion would be reported out.

Recommendations

1. The Department of Land and Natural Resources through its assigned Division's, take appropriate action to protect the Leina A Ka 'Uhane. Protections should include Signage as to the cultural importance of the site, including specific language instructing visitors not to climb on top of it and to refrain from any other actions that could cause damage to it. We encourage DLNR and Office of Hawaiian Affairs to collaborate on funding, wording, and installation of the signage.

This recommendation was approved unanimously.

2. The Department of Land and Natural Resources through its assigned Division's take appropriate actions to protect the sand dune ecosystems. Protections should consider the use of boulders, pilings, fencing, and any other reasonable manner to a physical barrier to vehicles.

This recommendation was approved unanimously.

3. The Department of Land and Natural Resources through its assigned Division's, take appropriate actions to protect areas within the Ka'ena Point State Park Reserve from continuing degradation and soil erosion caused by irresponsible vehicular access. The Manini Gulch area should be a priority site. Protection should consider the use of boulders, pilings, fencing, and any other reasonable manner to provide a physical barrier to the areas. Once barriers are in place additional measures should be implemented to reduce erosion.

This recommendation had consensus but fishermen expressed concern about vehicular access to fishing spots.

4. The Department of Land and Natural Resources through its assigned Division's, take appropriate steps to designate an appropriate road in the Ka'ena Point State Park Reserve. This would provide clarity to the existing Administrative Rule governing where vehicles should be operated. There are two options put forth for consideration. A majority position that only the upper road be designated, and a minority position that the upper road with a network of extensions to the ocean be designated. Once a road is designated the demarcation of the road could include the use of boulders, pilings, fencing, signage, and any other reasonable manner to provide guidance to vehicle operators as to where they should be operating. Signage and maps of the location of the designated road should be made available to Ka'ena Point State Park Reserve users.

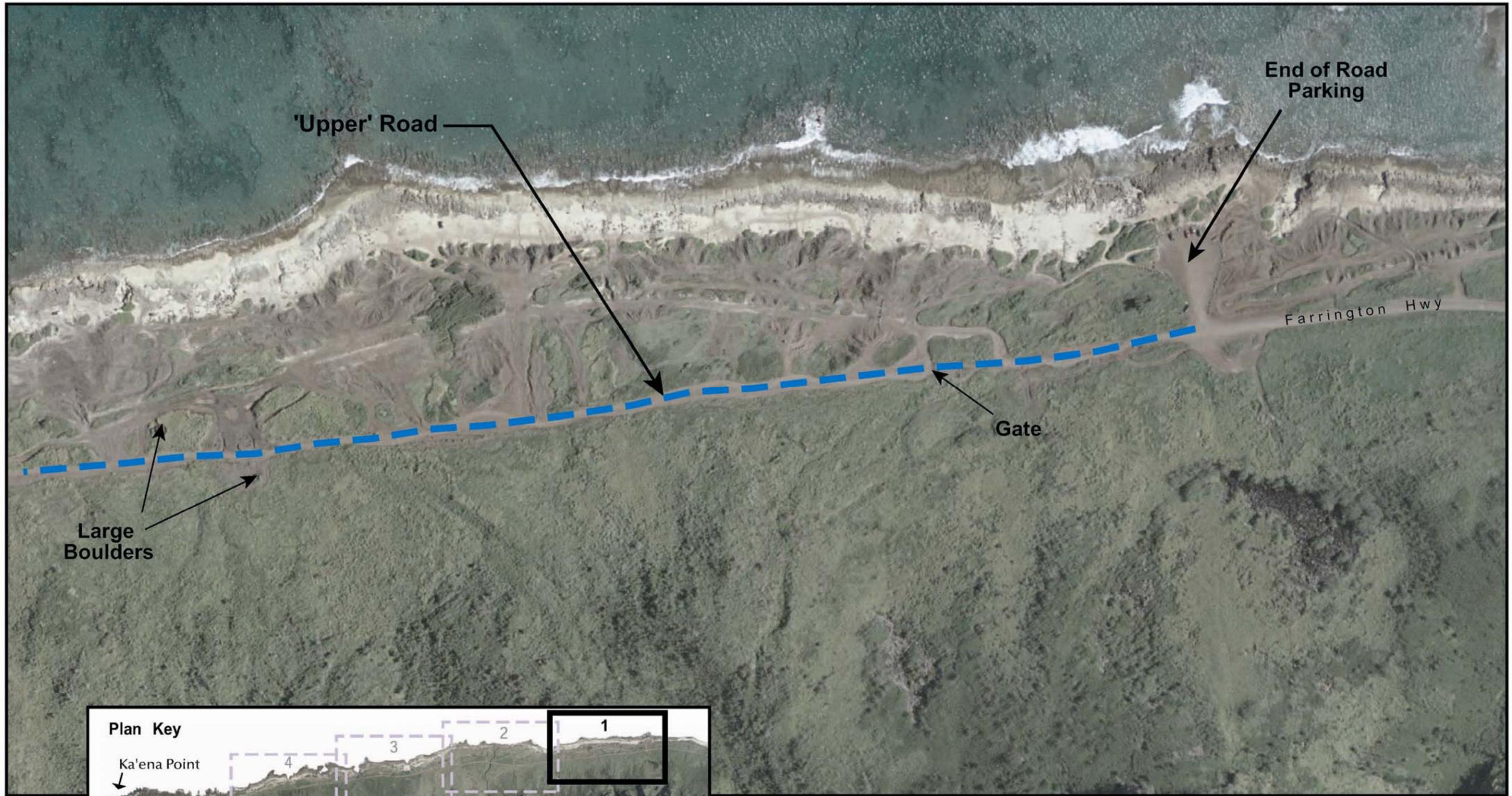
The upper road recommendation will minimize the impacts of vehicle use.

The upper road and network recommendation was favored by fishermen who desired continued vehicular access close to the ocean

5. The Department of Land and Natural Resources through it assigned Division's, secure the gate at the end of the paved road with a combination lock. Create an entry permit system, providing permittee's with access to the combination, which would be changed at a frequency determined by the Division. The access permit should have a vehicle registration component allowing for cross referencing the vehicle with the permittee. Other suggested conditions of the permit should include the acknowledgement of receipt and understanding of the Ka'ena Point State Park Reserve Administrative Rules, and a provision to revoke the permit for any violation of the rules. The Division should also consider any other reasonable conditions to the permit that allow for safe efficient management of Reserve.

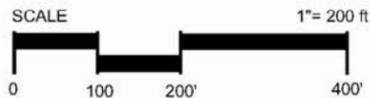
This recommendation was supported by the majority of the group with the exception of the fishermen.

The Ka'ena Point Advisory Group respectfully submits these recommendations to the Board of Land and Natural Resources for consideration in the management of Ka'ena State Park Reserve. We will continue to meet and make further recommendations in the future. Mahalo, for your consideration.



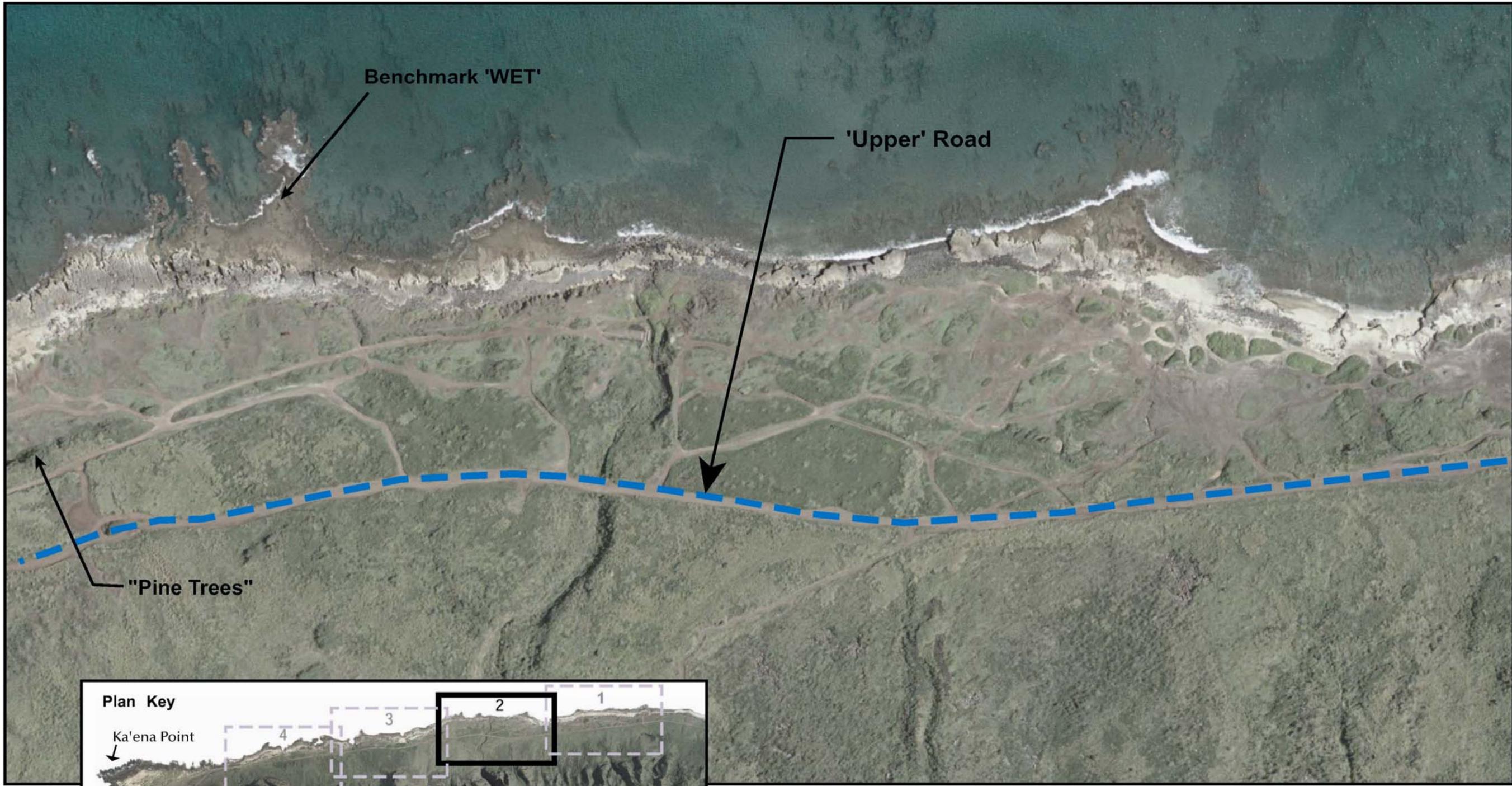
"Upper Road" Alternative - area 1
 Ka'ena Point State Park Reserve

Mokuleia, Waialua District,
 Oahu, Hawaii



Prepared for: State of Hawaii
 Dept. of Land and Natural Resources
 Division of Forestry and Wildlife

Prepared by: Helber Hastert & Fee Planners
 21 June 2010

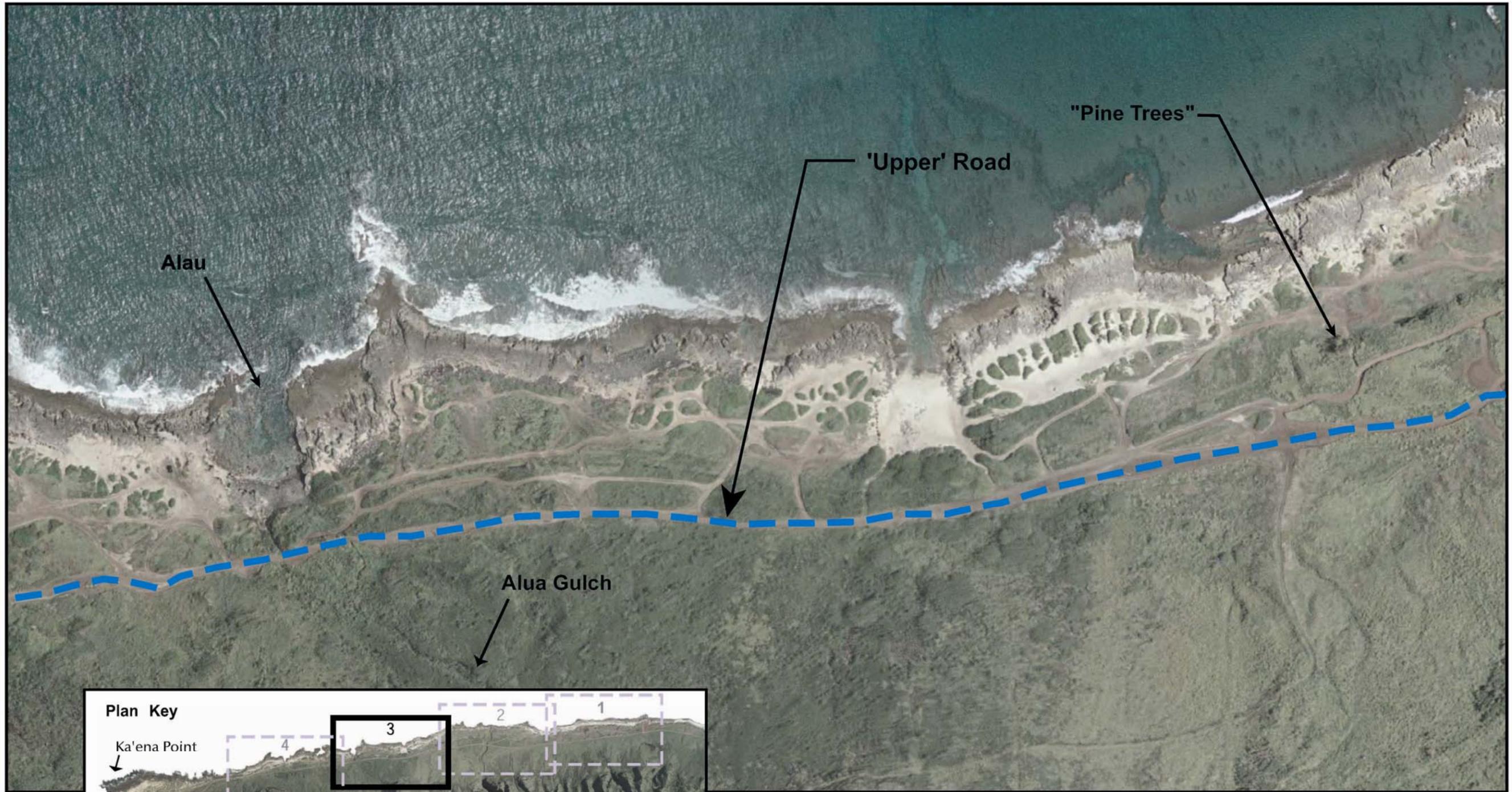


"Upper Road" Alternative - area 2
Ka'ena Point State Park Reserve
 Mokuleia, Waialua District,
 Oahu, Hawaii

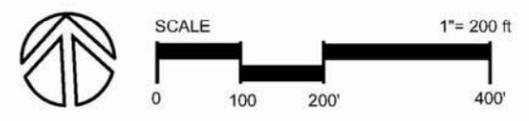


Prepared for: State of Hawaii
 Dept. of Land and Natural Resources
 Division of Forestry and Wildlife

Prepared by: Helber Hastert & Fee Planners
 21 June 2010

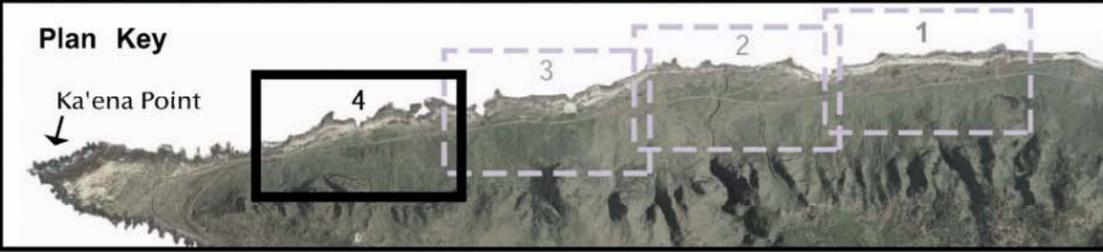
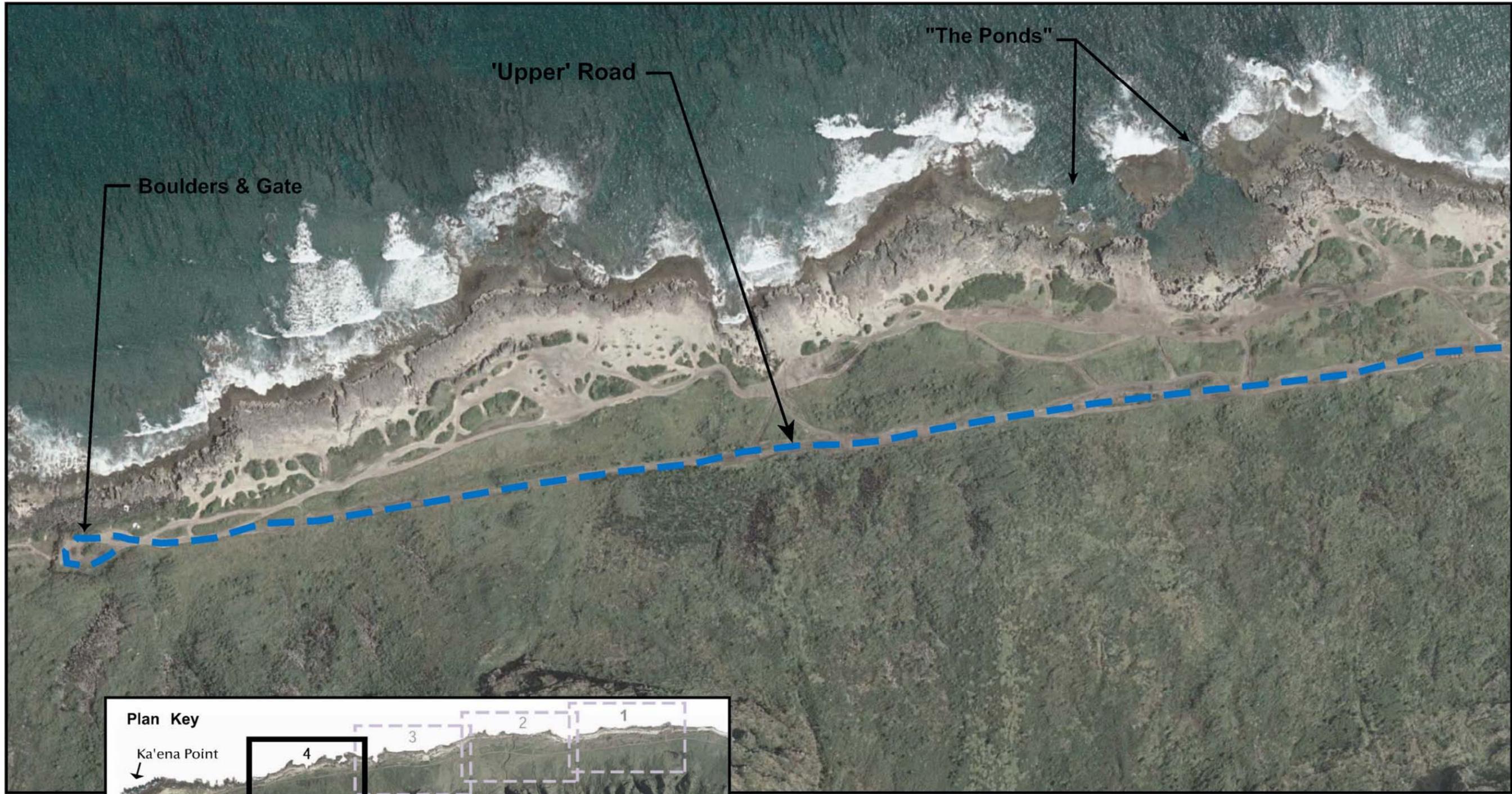


"Upper Road" Alternative - area 3
Ka'ena Point State Park Reserve
 Mokuleia, Waialua District,
 Oahu, Hawaii

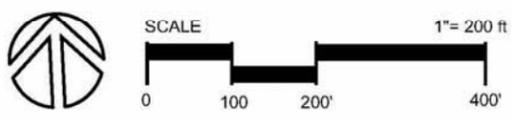


Prepared for: State of Hawaii
 Dept. of Land and Natural Resources
 Division of Forestry and Wildlife
 Prepared by: Helber Hastert & Fee Planners
 21 June 2010

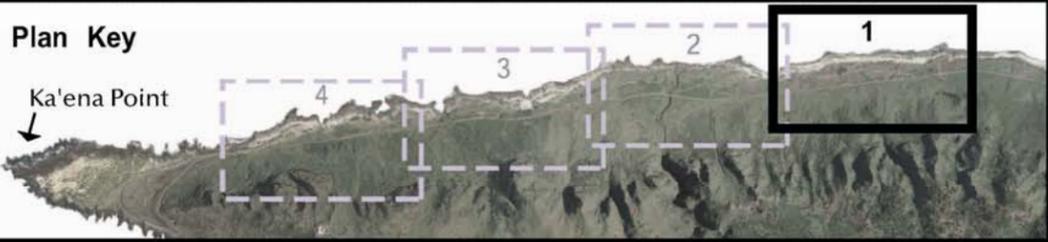
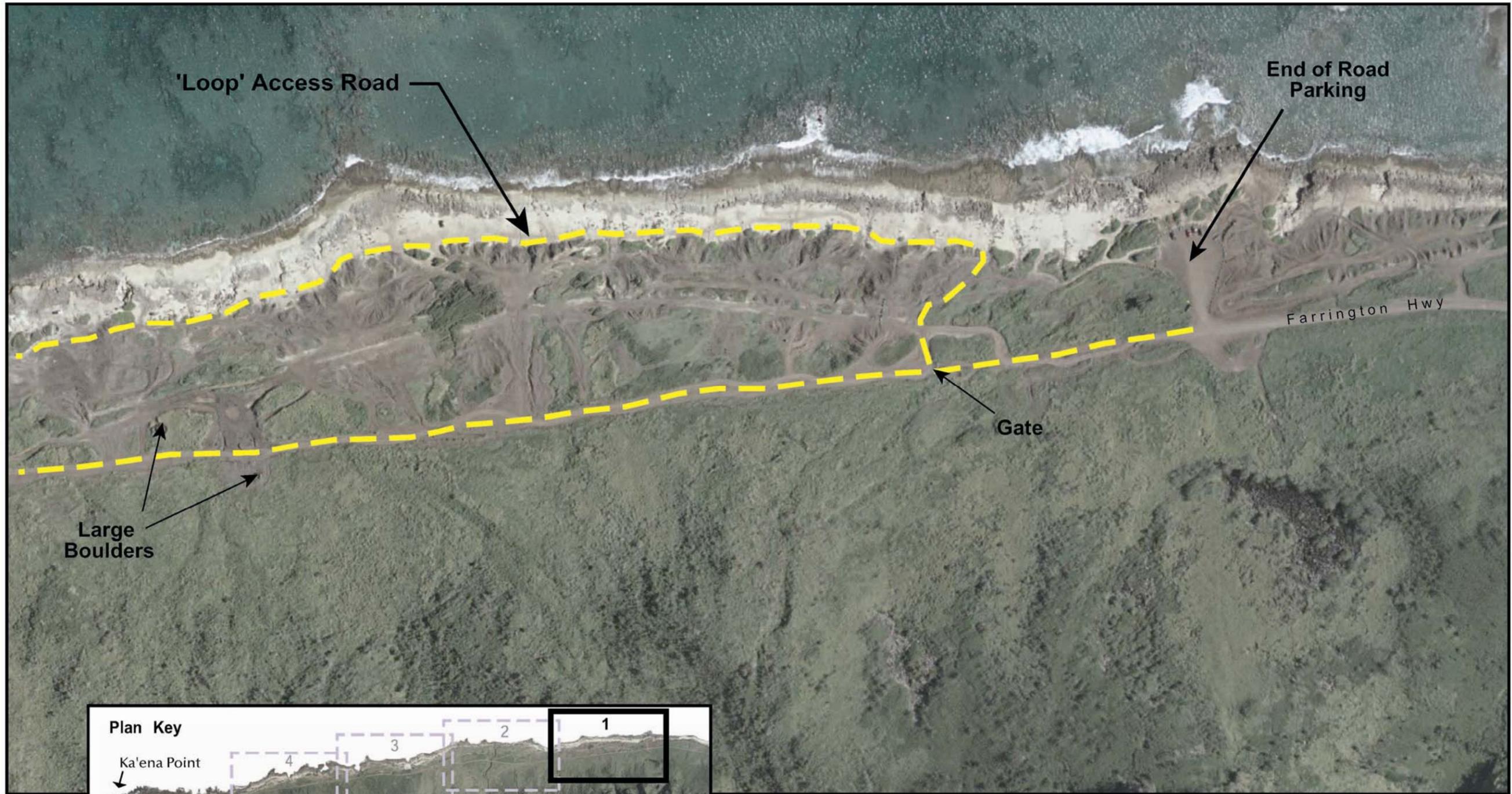




"Upper Road" Alternative - area 4
Ka'ena Point State Park Reserve
 Mokuleia, Waialua District,
 Oahu, Hawaii



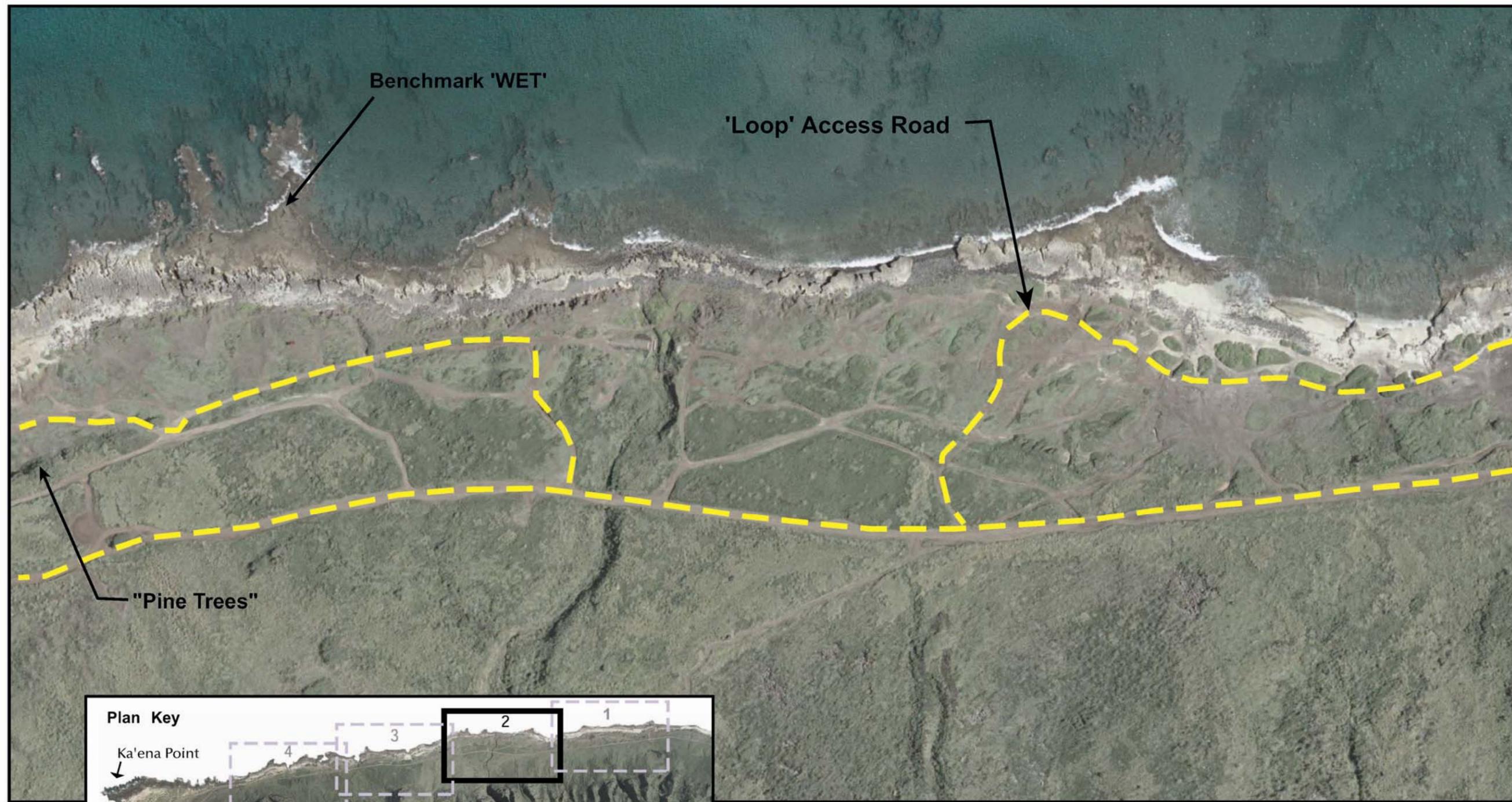
Prepared for: State of Hawaii
 Dept. of Land and Natural Resources
 Division of Forestry and Wildlife
 Prepared by: Helber Hastert & Fee Planners
 21 June 2010



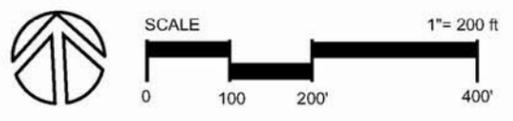
"Loop" Alternative - area 1
Ka'ena Point State Park Reserve
 Mokuleia, Waialua District,
 Oahu, Hawaii



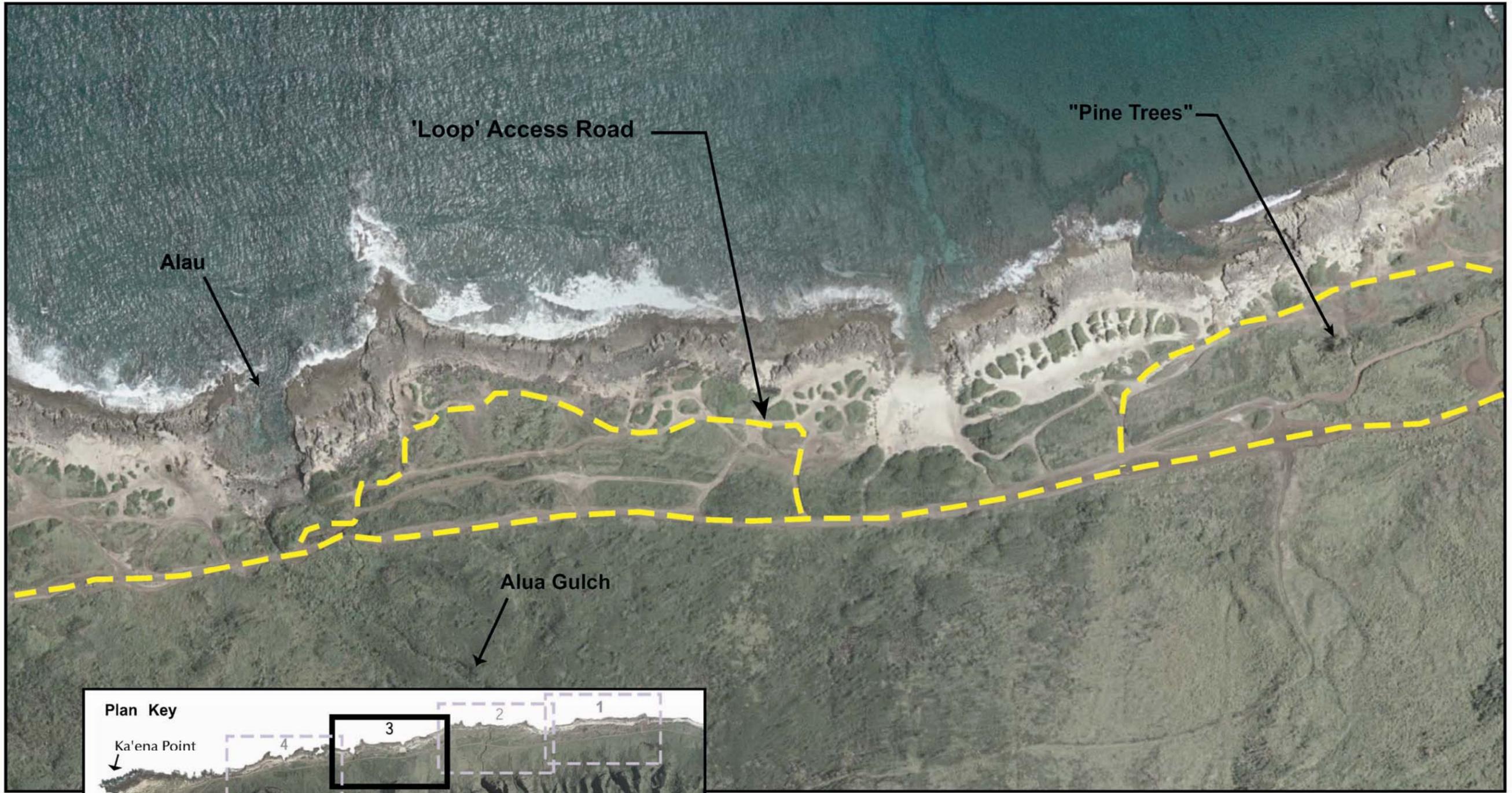
Prepared for: State of Hawaii
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 21 June 2010



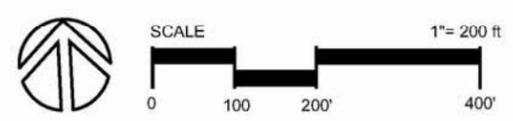
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Ka'ena Point State Park Reserve
 Mokuleia, Waialua District,
 Oahu, Hawaii



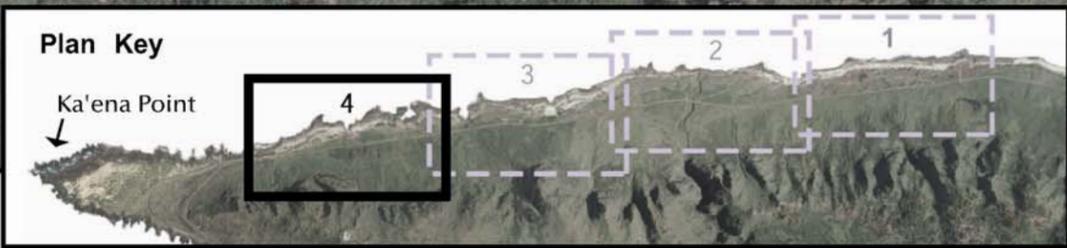
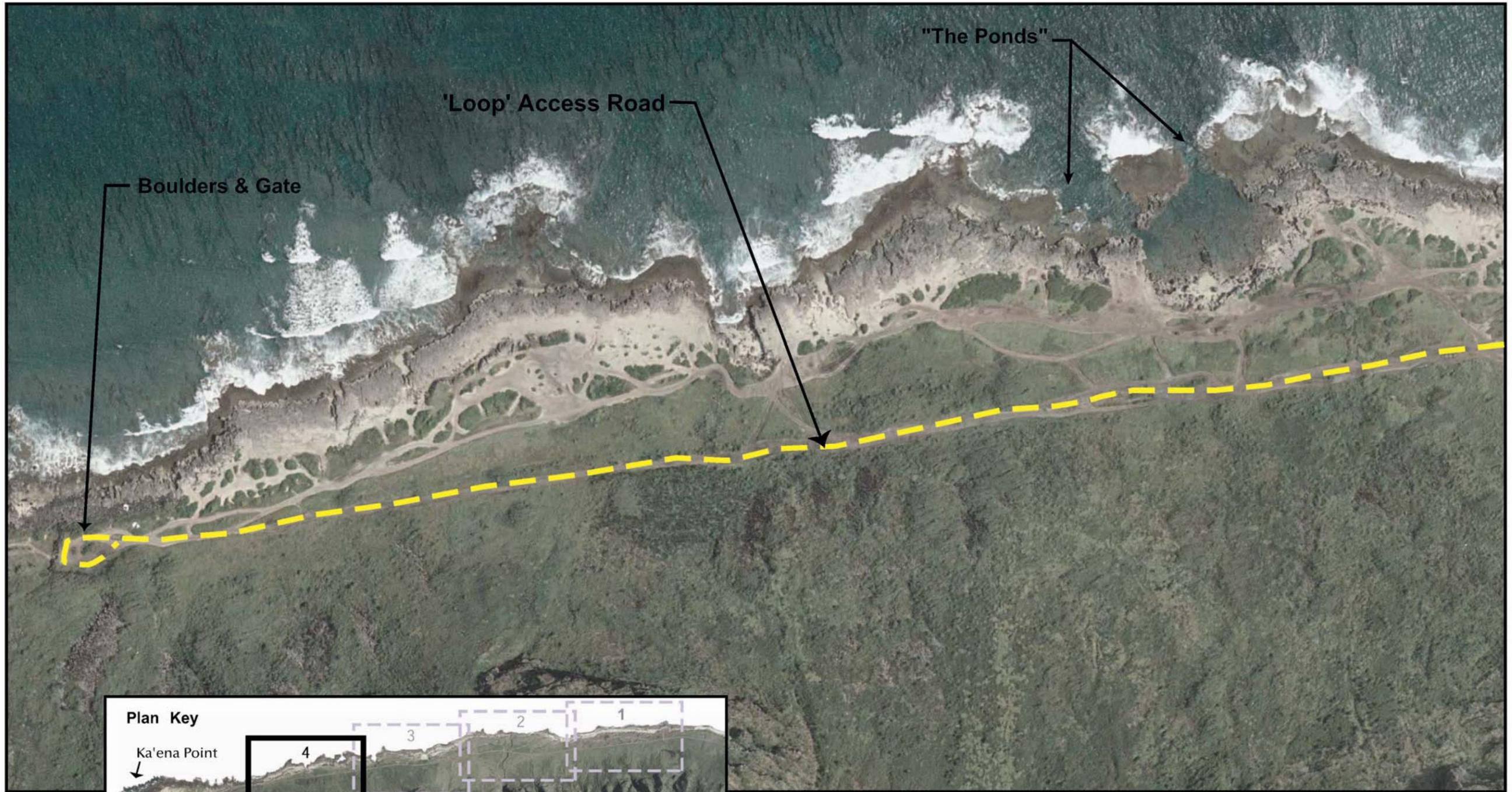
Prepared for: State of Hawaii
 Dept. of Land and Natural Resources
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 21 June 2010



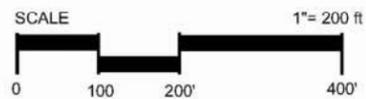
"Loop" Alternative - area 3
Ka'ena Point State Park Reserve
 Mokuleia, Waialua District,
 Oahu, Hawaii



Prepared for: State of Hawaii
 Dept. of Land and Natural Resources
 Division of Forestry and Wildlife
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 21 June 2010



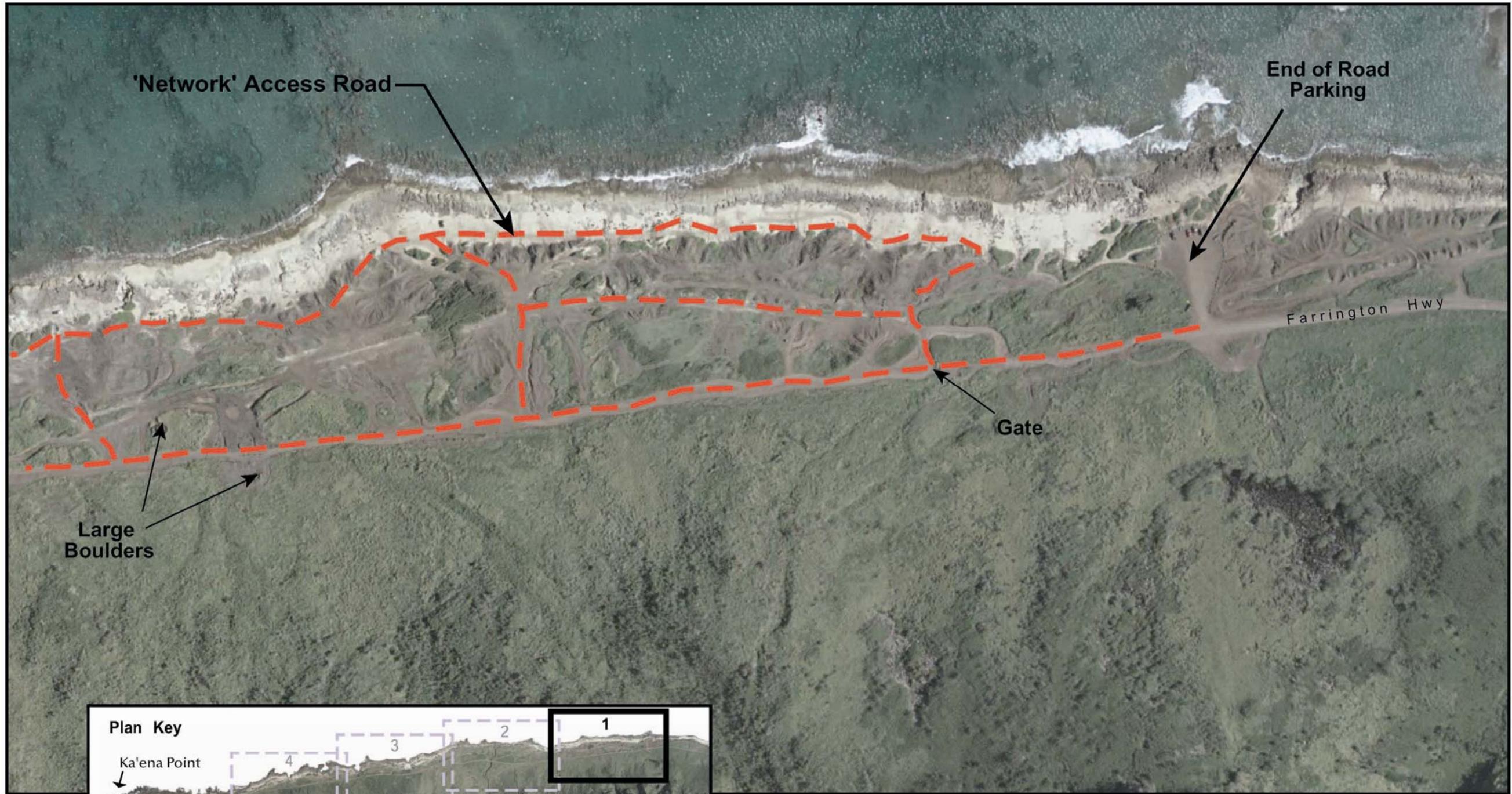
"Loop" Alternative - area 4
Ka'ena Point State Park Reserve
 Mokuleia, Waialua District,
 Oahu, Hawaii



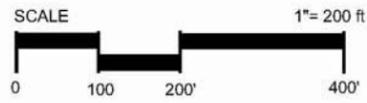
Prepared for: State of Hawaii
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 Division of Forestry and Wildlife

Prepared by: Helber Hastert & Fee Planners
 21 June 2010



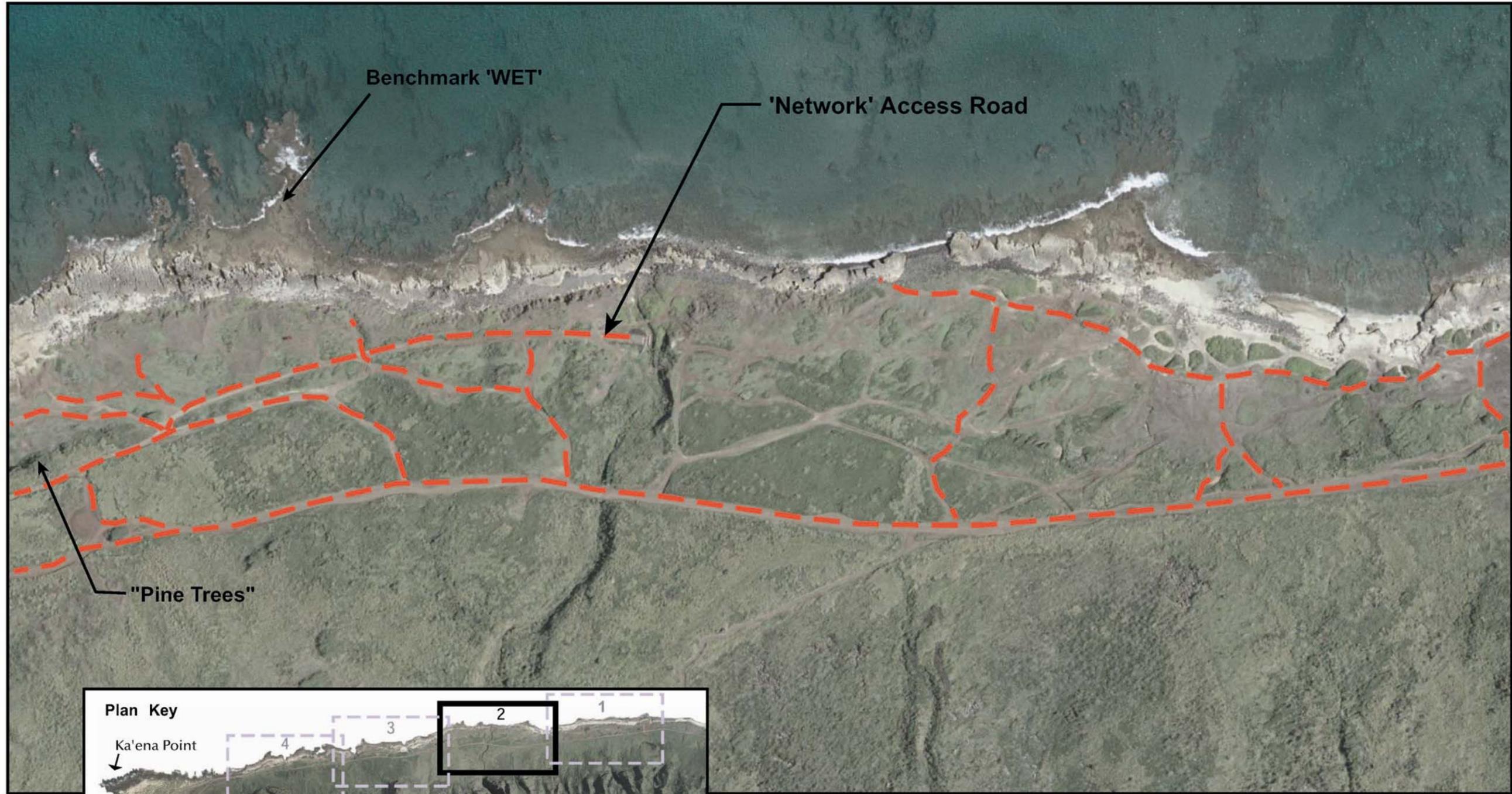


"Network" Alternative - area 1
Ka'ena Point State Park Reserve
 Mokuleia, Waialua District,
 Oahu, Hawaii

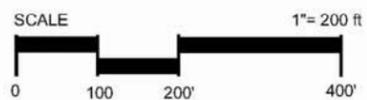


Prepared for: State of Hawaii
 Dept. of Land and Natural Resources
 Division of Forestry and Wildlife

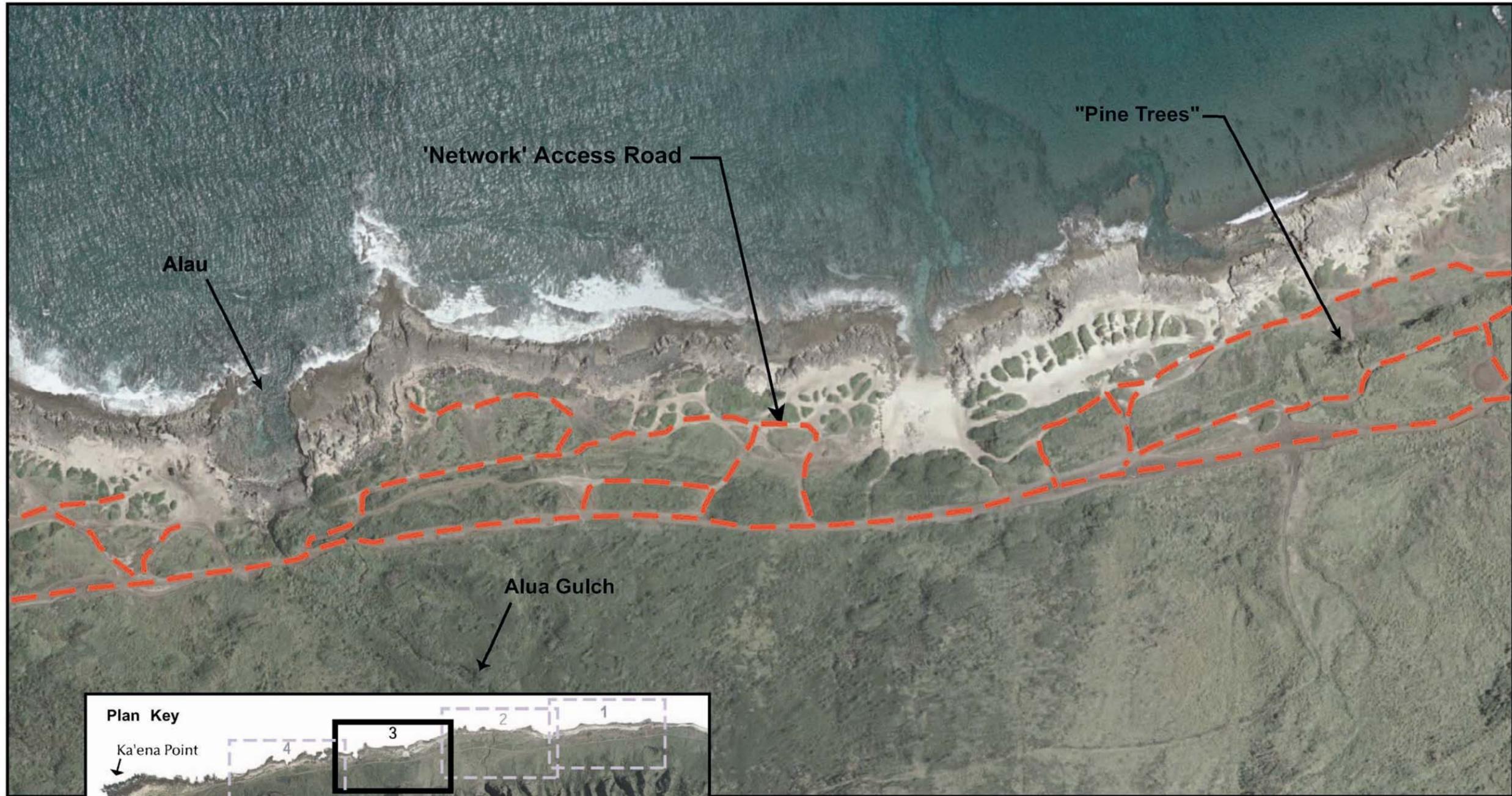
Prepared by: Helber Hastert & Fee Planners
 07 July 2010



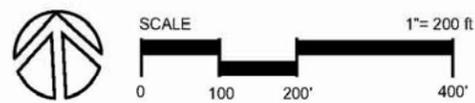
"Network" Alternative - area 2
Ka'ena Point State Park Reserve
 Mokuleia, Waialua District,
 Oahu, Hawaii



Prepared for: State of Hawaii
 Dept. of Land and Natural Resources
 Division of Forestry and Wildlife
 Prepared by: Helber Hastert & Fee Planners
 07 July 2010

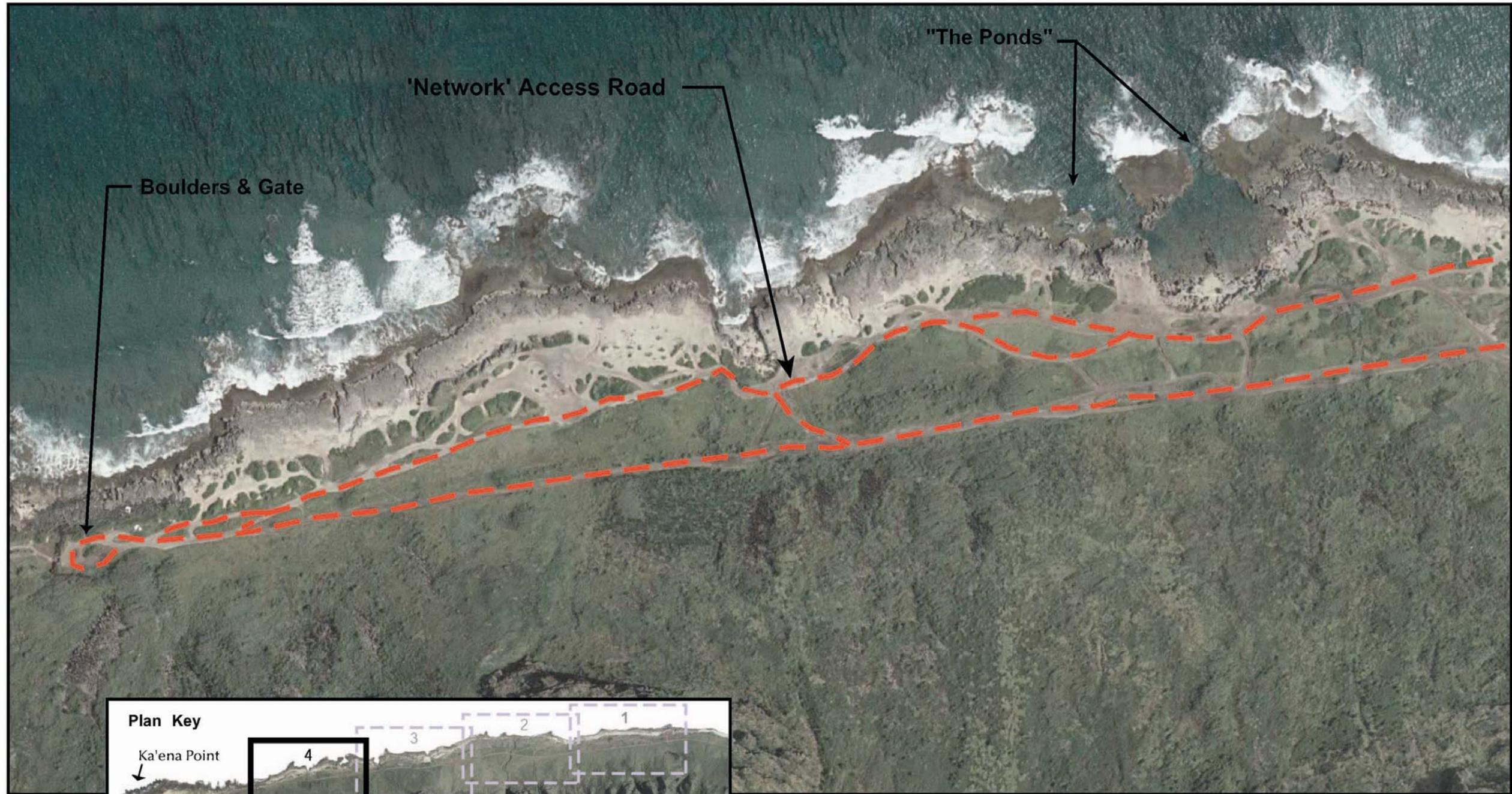


"Network" Alternative - area 3
Ka'ena Point State Park Reserve
 Ka'ena, Waialua District,
 Oahu, Hawaii



Prepared for: State of Hawaii
 Dept. of Land and Natural Resources
 Division of Forestry and Wildlife
 Prepared by: Helber Hastert & Fee Planners
 07 July 2010





"Network" Alternative - area 4
Ka'ena Point State Park Reserve
 Ka'ena, Waialua District,
 Oahu, Hawaii



Prepared for: State of Hawaii
 Dept. of Land and Natural Resources
 Division of Forestry and Wildlife
 Prepared by: Helber Hastert & Fee Planners
 07 July 2010



PROBLEMS

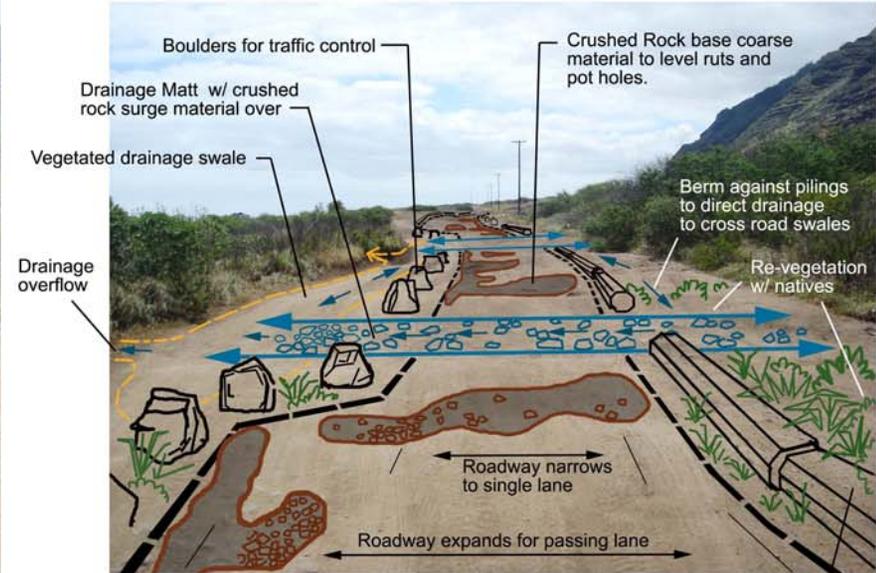
1. Ruts in roadway hold water and create muddy conditions during rain. This encourages vehicles to drive on the outer areas resulting in excessive widening of roadway and damage to vegetation.
2. During rain events, dust turns to slick mud, making vehicles prone to sliding across roadway with loss of control.
3. Excessively wide roadway creates stronger water run-off into ocean and shoreline areas, with increased erosion and siltation.
4. Excessively wide roadway increases windblown dust which reduces the quality of experience for hikers.



Existing Conditions

EXAMPLE TREATMENT

1. Reduce width and repair and re-grade roadway.
2. Use boulders and pilings as a temporary boarder to control traffic. Pilings can also help to direct drainage.
3. Install French Drain "Mattresses" across roadway at low spots to control and enhance drainage.
4. Create shallow drainage revetments on downhill side of roadway in occasional locations to contain water and slow down runoff into ocean and to control overflow locations.
5. Reclaim and re-vegetate outer areas of roadway for native plantings.
6. Remove pilings one to two years after installation (to be utilized in next phases). Replace with occasional boulder for traffic control.



Example Treatment

Pilings placed for traffic control and drainage control. To be removed after vegetation establishment.



Prepared by:
**HELBER HASTERT & FEE
 PLANNERS**
 733 BISHOP STREET, SUITE 2500
 HONOLULU, HAWAII 96813
 PHONE: (808) 545-2055

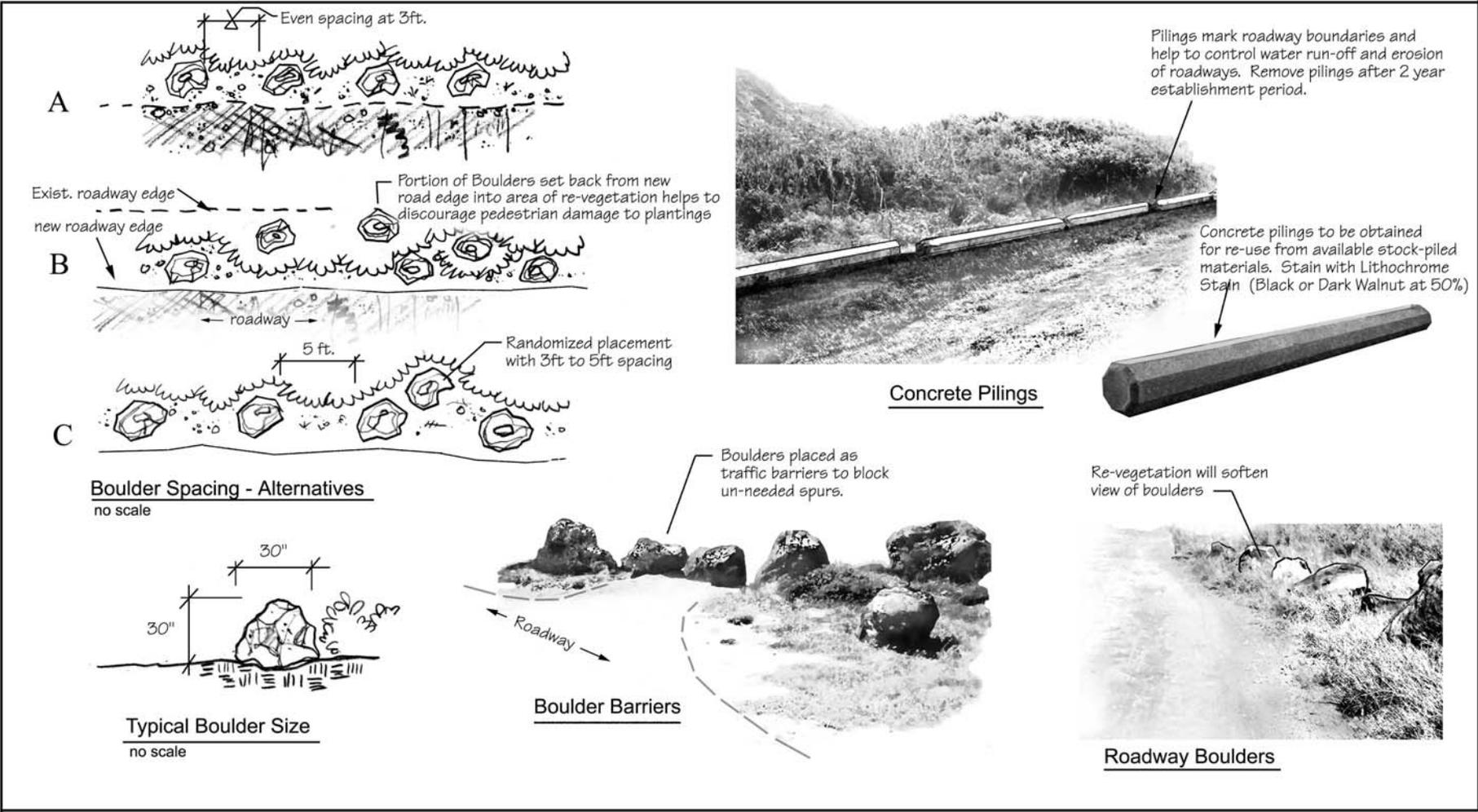
Roadway - Example Treatment
Ka'ena Point State Park Reserve

Mokuleia, Waialua District,
 Oahu, Hawaii

DRAFT



Prepared for:
 State of Hawaii, Dept. of Land
 and Natural Resources,
 Division of Forestry and Wildlife
 Date: June 15, 2010



Prepared by:
**HELBER HASTERT & FEE
PLANNERS**
733 BISHOP STREET, SUITE 2500
HONOLULU, HAWAII 96813
PHONE: (808) 545-2055

Roadway - Width Control Alternatives
Ka'ena Point State Park Reserve

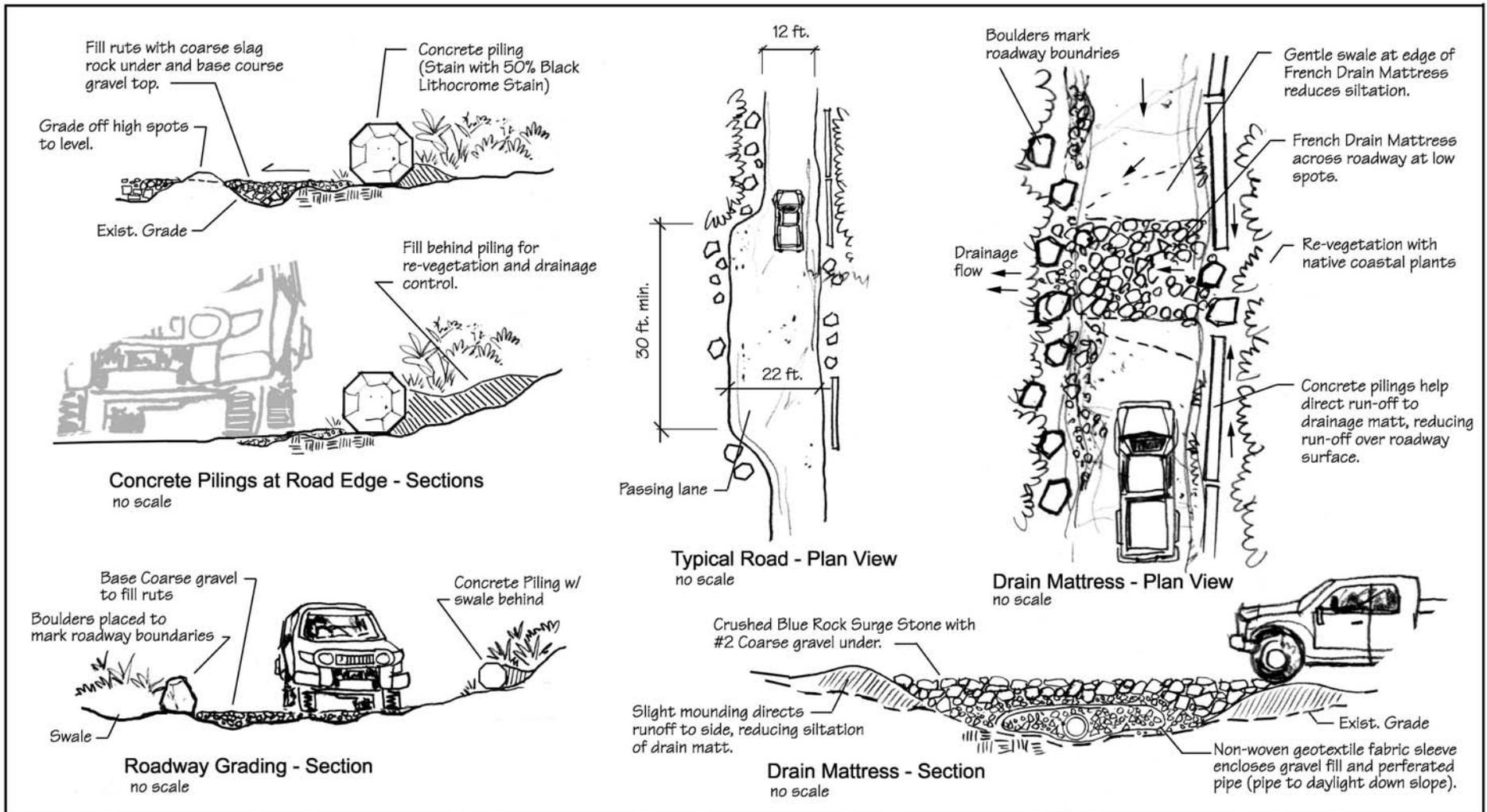
Mokuleia, Waialua District,
Oahu, Hawaii

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Prepared for:
State of Hawaii, Dept. of Land
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Division of Forestry and Wildlife

Date: June 15, 2010



Roadway - Conceptual Grading and Drainage
 Ka'ena Point State Park Reserve

Mokuleia, Waialua District,
 Oahu, Hawaii

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Prepared for:
 State of Hawaii, Dept. of Land
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 Date: June 15, 2010



Prepared by:
 HELBER HASTERT & FEE
 PLANNERS
 733 BISHOP STREET, SUITE 2690
 HONOLULU, HAWAII 96813
 PHONE: (808) 545-2055



Ohai (*Sesbania tomentosa*)



Koali (*Ipomea indica*)



Mau'u 'aki'aki



Kipukai (*Heliotropium curassavicum*)



'Akulikuli (*Sesuvium portulacastrum*)



Ilima papa (*Sida fallax*)



Naupaka kahahai (*Scaevola sericea*)



Pa'u o Hi'i aka (*Jacquemontia ovalifolia*)



Prepared by:
**HELBER HASTERT & FEE
PLANNERS**
733 BISHOP STREET, SUITE 2590
HONOLULU, HAWAII 96813
PHONE: (808) 545-2055

Images - Potential Outplantings Ka'ena Point State Park Reserve

Mokuleia, Waialua District,
Oahu, Hawaii

DRAFT



Prepared for:
State of Hawaii, Dept. of Land
and Natural Resources,
Division of Forestry and Wildlife
Date: June 15, 2010

OUTPLANTING LIST

mauka / makai	Name	Botanical name
●	Ma'o	Abutilon incanum
●	Round Chaff-flower	Achyranthes splendens v. rotundata
	Hinahina kuakiwi	Artemisia australis
	Alena	Boerhavia repens
	Ka'ena 'akoko	Chamaesyce celastroides v. kaenana
	Kawelu (Emoloa)	Eragrostis variabilis
●	Wiliwili	Erythriana sandwicensis
	Mau'u 'aki'aki	Fimbristylis cymosa
●	Ma'o	Gossypium tomentosum
	Hinahina ku kahahai	Heliotropium anomalum v. argenteum
	Kipukai	Heliotropium curassavicum
●	Ma'o hau hele	Hibiscus brackenridgei
	Koali	Ipomea indica
	Pa'u o Hi'i aka	Jacquemontia ovalifolia
	Ohelo kai	Lycium sendwicense
●	Naio	Myoporum sandwicense
●	Kulu'i	Nototrichium humile
●	Carter's panicgrass	Panicum fauriei v. carteri
●	Ala'ala wai nui	Peperomia leptostachya
●	Ilie'e	Plumbago zeylanica
●	Alahe'e	Psyrdrax odorata
●	Iliahi a lo'e	Santalum ellipticum
	Naupaka kahakai	Scaevola sericea
	Ohai	Sesbania tomentosa
	'Akulikuli	Sesuvium portulacastrum
	Ilima papa	Sida fallax
	Aki'aki	Sporobolus virginicus
	Milo	Thespesia populnea
	Pohinahina	Vitex rotundifolia
●	Nehe	Wollastonia intergrifolia



Ma'o
(Abutilon incanum)



Iliahi a lo'e (Santalum ellipticum)



Ma'o (Gossypium sp.)



Nehe (Wollastonia intergrifolia)



Milo (Thespesia populnea)



Naio (Myoporum sandwicense)



Prepared by:
**HELBER HASTERT & FEE
PLANNERS**
733 BISHOP STREET, SUITE 2500
HONOLULU, HAWAII 96813
PHONE: (808) 545-2055

Outplanting List - Plant Images
Ka'ena Point State Park Reserve

Mokuleia, Waialua District,
Oahu, Hawaii

DRAFT



Prepared for:
State of Hawaii, Dept. of Land
and Natural Resources,
Division of Forestry and Wildlife
Date: June 15, 2010

Appendix 4 Estimated Costs

**DRAFT Ka'ena Coastal Reserve Estimated
Development Costs Breakdown**

Description	Quantity	Units	Unit Price	Amount
1. Design and Permit Processing				\$100,000
2. Land purchase of in-holding	5	parcels		\$200,000
3. Trail, Road and Drainage Improvements				
Trail, Unpaved Roads/Spur Roads and Parking Areas		LF		\$100,000
Drainage Improvements, including siltation basins, headwalls, culverts				100,000
Main park Gates	2	units		\$15,000
Barrier Installation (blue rock walls)	600	LF	\$60	\$36,000
4. Mini-Baseyard including grading, paving, fencing, structure with toilets, electricity, and water. Old quarry behind Dillingham is a possible site.				\$200,000
Caretakers residence				\$100,000
5. Restoration of native coastal vegetation				\$500,000
6. Safety Improvements				
Emergency Helipad (near baseyard) 10,000 sq. Ft graded, 900 sq. ft. Hardened				
Emergency Cell Telephones	3	units	\$10,000	\$30,000
Barriers at Railroad Bridge Abutments	10?	units	\$1,000	\$10,000
7. Signage & Interpretation				
Park Entrance Sign	3(1+2 backups)	signs	\$2,000	\$6,000
Information Kiosk	1	unit	\$15,000	\$15,000

**DRAFT Ka'ena Coastal Reserve Estimated
Development Costs Breakdown
(continued)**

Park Brochures (design and printing)	5000	brochure	\$2,500	\$2,500
Interpretive Signage	5	signs	\$1,000	\$5,000
ADA Equipment				\$10,000
8. Operating equipment				
Vehicles				
4 x 4 Half-Ton Lift Gate P/U	1	unit	\$25,000	\$25,000
One Ton Dump Truck	1	unit	\$30,000	\$30,000
Equipment				
Weedeaters	2	units	\$450	\$900
Chainsaws	2	unit	\$400	\$800
Misc. Hand Tools				\$1000
9. Comfort Station	1	unit		\$30,000
Clivis decomposing toilet.	2	units	\$10,000	\$20,000
TOTAL DEVELOPMENT AND START-UP COSTS				\$1,537,200

**DRAFT Ka'ena Coastal Reserve Estimated
Operating Costs Breakdown**

Item	Number	Monthly Costs	Annual Total
1. Personnel			
Reserve Ambassador	1	\$2,916	\$34,992
Reserve Caretaker II	1	\$2,518	\$30,222
Overtime		\$900	\$10,800
	Total	\$5,434	\$76,014
2. Equipment			
Weedeaters	2	\$200	\$2,400
Chainsaw	1	\$50	\$600
Misc. Hand Tools	total	\$100	\$1,200
	Total	\$350	\$4,200
3. Vehicles			
4 x 4 Half Ton Lift Gate P/U	1	\$200	\$2,400
One Ton Dump Truck	1	\$200	\$2,400
4. ADA Equipment Maintenance			
	2	\$200	\$2,400
	Total	\$600	\$7,200
5. Garbage pickup			
		\$400	\$4,800
6. Utilities			
Electricity		\$500	\$6,000
Water		\$500	\$6,000
Sewage Treatment	pump	\$500	\$6,000
	Total	\$1500	\$18,000
7. Repair and maintenance			
		\$1,000	\$12,000
	TOTALS	\$10,184	\$122,214