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September 6, 2005

Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu HI 96813

Subject: Final Environmental Assessment and FONSI for Pohoiki Bypass

The Hawai'i County Department of Public Works has reviewed the comments received during the 30-day public comment period that began on July 8, 2005. Our agency has determined that this project will not have significant environmental effects and has issued a FONSI. We respectfully request publication of the Final EA in the next available edition of the *OEQC Environmental Notice*. Attached please find the following items:

- Four copies of the Final EA
- A completed OEQC Environmental Notice Publication Form
- A distribution list for the Final EA
- A hardcopy of the project summary (a version has been e-mailed to your office)
- A sample "Dear Participant" letter

If you have any questions, please call Ben Ishii at 961-8423, or consultant Ron Terry at 982-5831.

Bruce C. McClure, P.E.
Director

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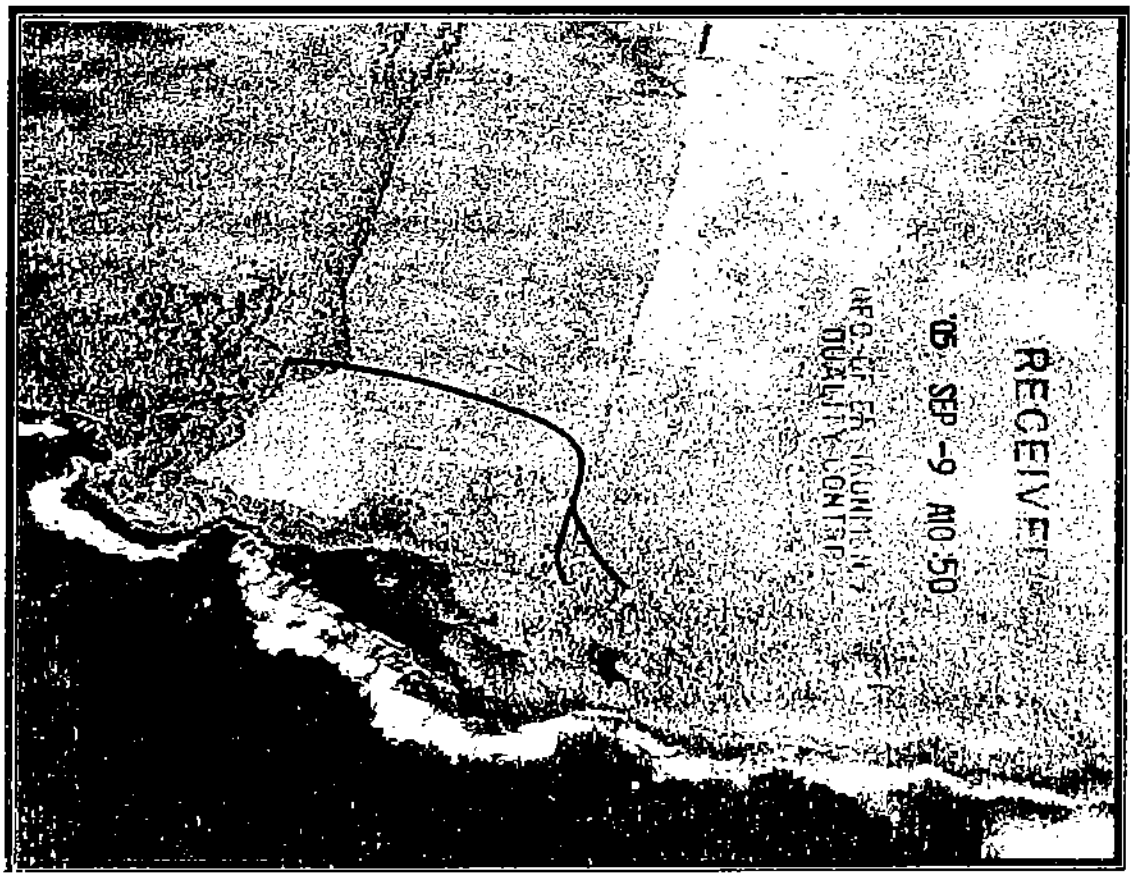
OFC. OF ENVIRONMENTAL QUALITY CONTROL

POHOIKI BYPASS
PUNA, HAWAI'I

FINAL ENVIRONMENTAL ASSESSMENT



September 2005

Submitted Pursuant to the Hawai'i Environmental Policy Act (HEPA),
Chapter 343, Hawai'i Revised Statutes (HRS)

County of Hawai'i
Department of Public Works
101 Pauahi Street, Suite 7
Hilo, HI 96720-3043

POHOIKI BYPASS
PUNA, HAWAI'I

FINAL ENVIRONMENTAL ASSESSMENT

TMKs: 1-3-8:016, 1-4-2:009 & 013

Submitted Pursuant to the Hawai'i Environmental Policy Act (NEPA),
Chapter 343, Hawai'i Revised Statutes (HRS)

County of Hawai'i, Department of Public Works

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

Mr. Ben Ishii, Project Engineer
Hawai'i County Dept. of Public Works
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(808) 961-8327

SUMMARY

The project involves the realignment of an approximately 0.55-mile section of the Kaimu-Kapoho Road in order to bypass an area that regional subsidence of almost an inch per year has rendered increasingly flooded during high tides. Many vehicles currently have difficulty passing at high tide, and the salty water creates excessive wear and tear on vehicle wheels, brakes and undercarriages. This situation is exacerbated during heavy surf. There is no "easy" way around the flooded area, as wetlands are present on both sides. The road is also difficult and costly for the County to maintain. Furthermore, the presence of a road within this expanding wetlands is environmentally undesirable. A sudden episode of catastrophic subsidence, such as occurred in the November 1975 earthquake, could depress the road to a level so low that it would be completely impassable. The project will relocate this section of the road approximately 800 feet mauka (northwest), thereby bypassing Isaac Hale County Park.

Beneficial effects include perpetuation and improvement of a vital transportation link and evacuation route in the sparse road network of Puna, enhancement of the safety and quality of Isaac Hale Park, and decreased effects of a road on a wetlands. Most of the corridor length has highly degraded alien vegetation and no threatened or endangered species or valuable habitat are present. However, at least a few native and Polynesian trees of species considered culturally important would require removal. Construction of one intersection would require removal of a mango tree from a grove of about ~~200~~ 600 trees declared scenic in a County ordinance, although a slightly less satisfactory intersection avoiding effects to the tree is also feasible. Landscaping with native trees, transplanting some native trees that require removal, and wood salvage is recommended for mitigation. Short-term impacts to water quality, air quality, traffic congestion and noise can be mitigated to minor levels by proper adherence to construction permits and other mitigation.

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1 INTRODUCTION AND PURPOSE AND NEED FOR PROJECT

1.1 Project Location and Description

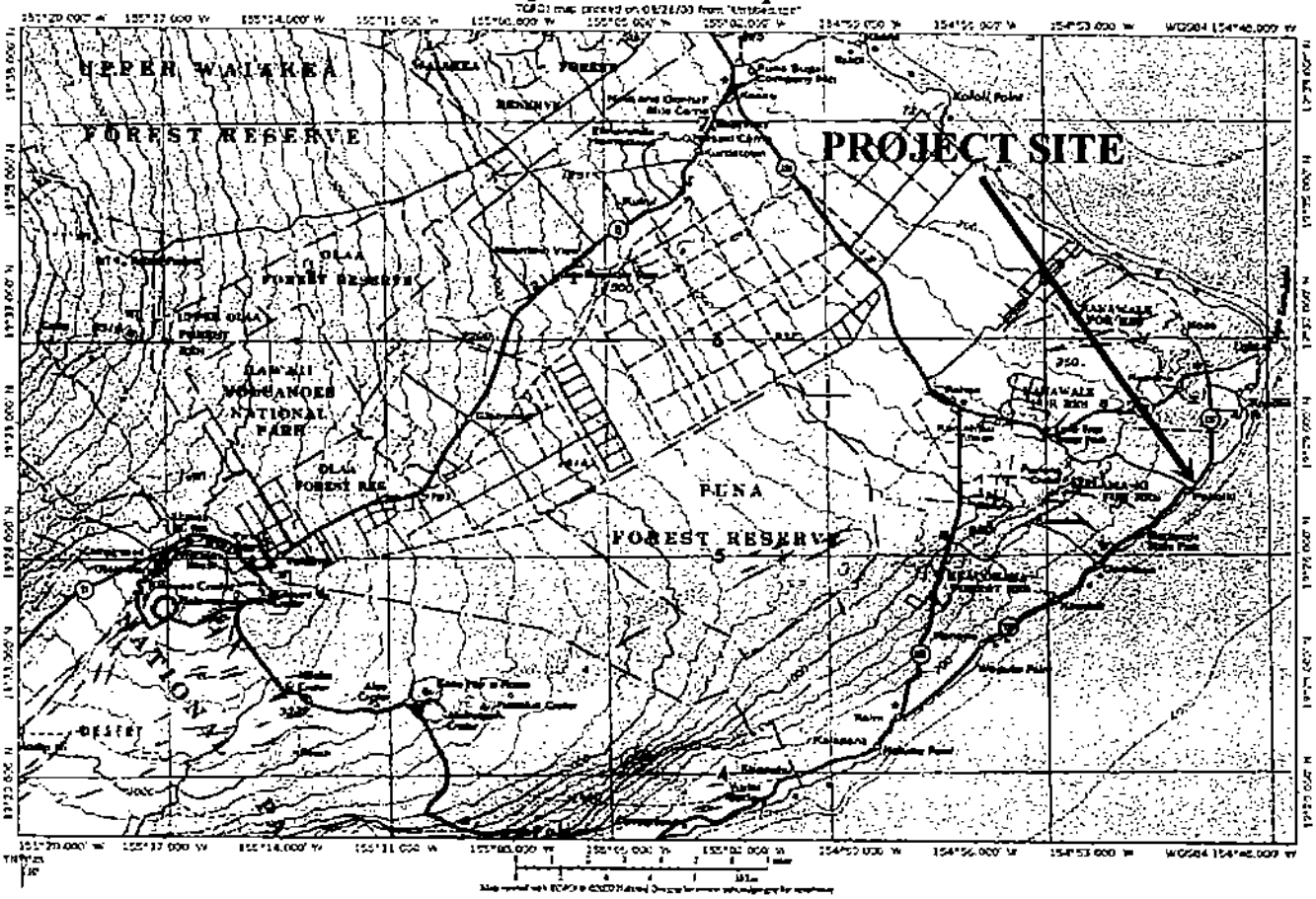
The proposed project involves the realignment of an approximately 0.55-mile section of the Kaimu-Kapoho Road (County Road 137) in order to bypass an area that regional subsidence has rendered increasingly flooded during high tides (Figs. 1-1 to 1-3). The subsided area is approximately 0.3 miles northeast of Isaac Hale County Park. The project will relocate this section of the road approximately 800 feet mauka (northwest), thereby bypassing Isaac Hale County Park and directly meeting the existing Kaimu-Kapoho Road at its intersection with the Pahoa-Pohoiki Road. Three properties are involved: TMK 1-3-08:16, owned by the County of Hawai'i, TMK 1-4-02:09, which belongs to the Kealoha Trust, and TMK 1-4-02:13, owned by A&O International. The two Build Alternatives differ slightly in the location of their point of departure from the existing Kaimu-Kapoho Road on the northeastern end of the project area. ~~The bypassed portion of the existing coastal road would remain open for the foreseeable future.~~ As part of coordination during the Draft EA comment period, the Hawai'i County Department of Public Works (DPW) discussed the management of the bypassed portion of the coastal road with the Hawai'i County Department of Parks and Recreation (P&R), representatives from the Hawai'i County Police and Fire Department, and local boaters, surfers and park supporters. The County's current plans are to install a gate on the northeast boundary of the park, and a turnaround at the northeast (Kapoho) side of the gate, closing the road at night. DPW will continue to consult with P&R, local residents, park users, and the Police and Fire Departments on this issue during final design.

1.2 Summary of Regulatory Requirements

The Hawai'i County Department of Public Works (DPW) is serving as the proposing/approving agency in the preparation of this Environmental Assessment (EA). This EA is meant to comply with the Hawai'i Environmental Policy Act (HEPA) requirements under Chapter 343, HRS.

HEPA was enacted by the State of Hawai'i to require State and County agencies to consider the environmental impacts of their actions as part of the decision-making process. The Office of Environmental Quality Control (OEQC) is mandated with implementing Chapter 343, HRS, and has developed guidelines that specify how State and County agencies must carry out the requirements of HEPA. These regulations require State and County agencies to prepare an EA that investigates alternatives, discloses impacts and develops measures that mitigate adverse impacts. An important part of the process is the evaluation of the significance of impacts according to thirteen specific criteria. Part 6 of this EA lists these criteria and the current findings of the agency. These findings will be finalized in consideration of comments received on the Draft EA, and the Final EA will contain the determination. If DPW determines that there are no significant impacts, it will issue the determination of a Finding of No Significant Impact (FONSI). If DPW determines that there are significant impacts, and decides to proceed with the project as planned, it is required to prepare an Environmental Impact Statement (EIS).

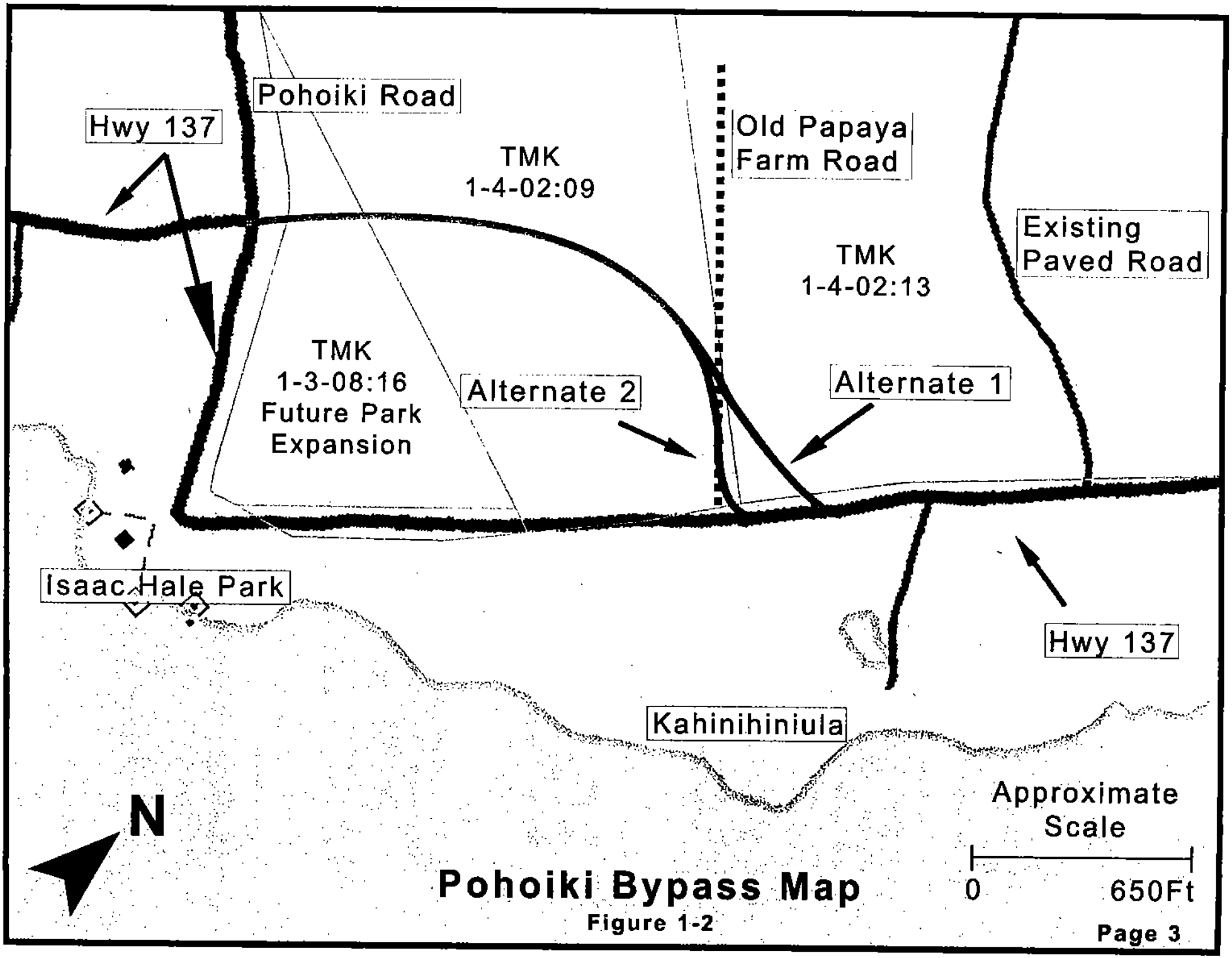
Figure 1-1
Project Location Map



1.3 Background and Problem

Kaimu-Kapoho Road (County Road 137) provides vehicular access along a 16-mile stretch of the coastline of southeast Puna, linking the settlements of Kapoho, Pohoiki, Opihikao and Kaimu, as well as MacKenzie State Recreation Area, Isaac Hale County Park, and Ahalanui County Park (Fig 1-1). It connects to four "mauka-makai" roads – the Pahoa-Kalapana Road (State Route 130), Kamaili Road, the Pahoa-Pohoiki Road, and Pahoa-Kapoho Road (County Route 132). The section of roadway proposed for realignment, between Oneloa and Pohoiki, is a critical link between the Kapoho/Puala'a area, which contains Kua O Ka Lā Public Charter School and Ahalanui County Park, and the State boat ramp, surf sites and public park at Pohoiki, along with all points southwest.

Kaimu-Kapoho Road was built in the early 20th century to then-current standards. Although it has been widened in spots and patched in the intervening years, it remains in many locations a one-lane road with narrow or non-existent shoulders, and does not meet current design standards for County roads. Various projects funded by the County or with federal aid are gradually improving certain sections of the roadway.



Pohoiki Bypass Map

Figure 1-2

FIGURE 1-3A – AERIAL VIEW OF PROJECT AREA

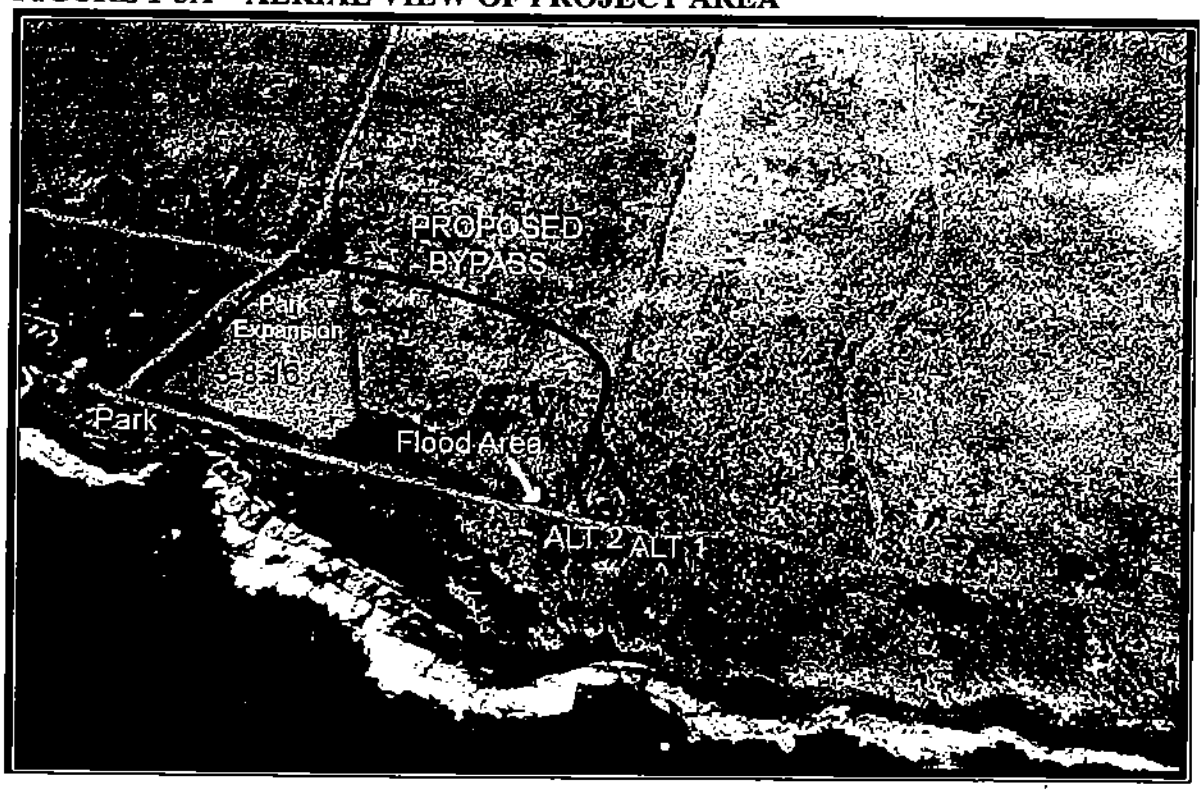


FIGURE 1-3B – FLOODED AREA, MODERATELY HIGH TIDE

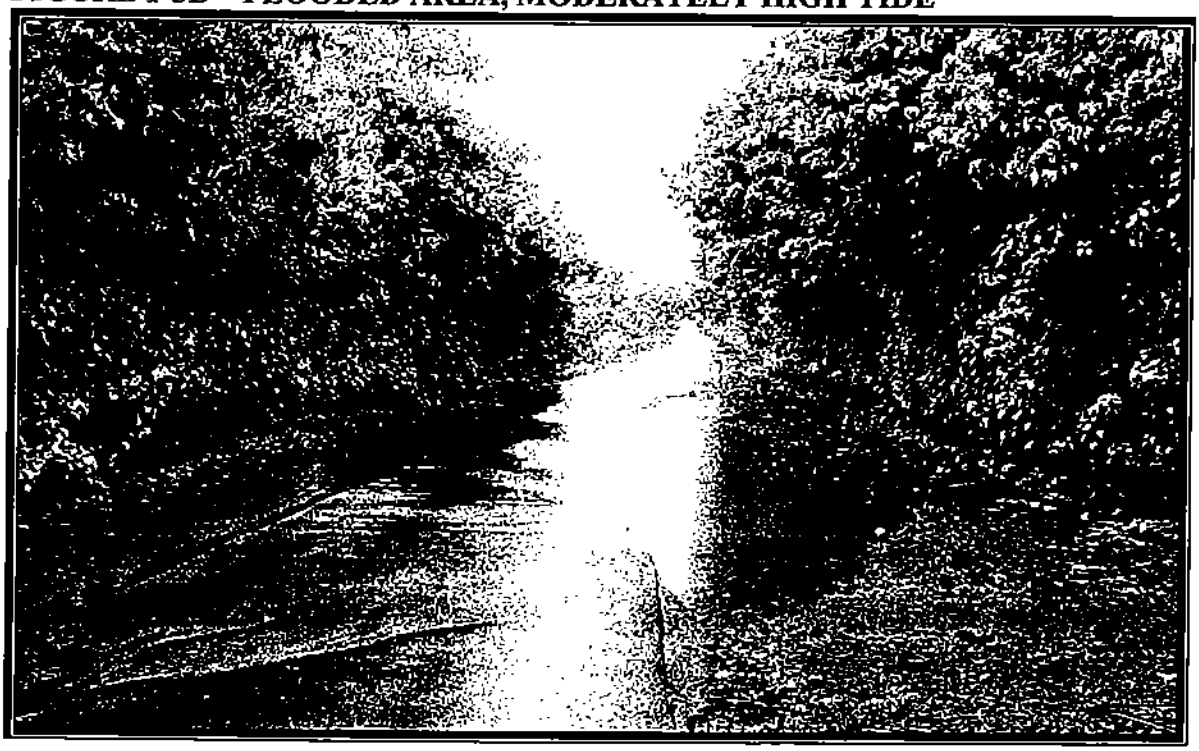


FIGURE 1-3C – TYPICAL VEGETATION IN FORMER PAPAYA FIELDS

FIGURE 1-3D – INTERSECTION PAHOA-POHOKI AND KAIMU-KAPOHO ROADS

Pohoiki, whose name means "little depression", has experienced considerable subsidence and coastline recession over the past century. The elevation of the road between Isaac Hale County Park and Oneloa currently ranges from sea level to about five feet above sea level. Ongoing subsidence combined with this already low elevation has resulted in inundation of a growing length (currently about 100 yards) of the roadway about 0.3 miles northeast of Isaac Hale County Park during high tides (see Figure 1-3b, photograph of area during high tide). This situation is exacerbated during heavy surf. Many vehicles currently have difficulty passing at high tide, and the salty water creates excessive wear and tear on vehicle wheels, brakes and undercarriages. There is no "easy" way around the flooded area, as wetlands are present on both sides. The road is also difficult and costly for the County to maintain. Furthermore, the presence of a road within this expanding wetlands is environmentally undesirable.

It is clear that the situation is likely to worsen in the coming decades. In a letter of May 30, 1997, Dr. Donald A. Swanson of the U.S. Geological Survey's Hawaiian Volcano Observatory stated that the project area appeared to be sinking at a rate of almost an inch per year, or over 3 feet in 50 years (see Appendix 1b for copy of letter). A sudden episode of catastrophic subsidence, such as occurred in the November 1975 earthquake, could depress the road to a level so low that it would be completely impassable.

It is vital for the socioeconomic well-being of Puna that the road remain open. Although traffic along the road is generally light, and alternate routes are available to Pahoa and Hilo (the main employment, shopping, and educational centers for area residents), many motorists traverse the road daily on their way to jobs, friends' and relatives' homes, and recreational sites. Access to the boat ramp at Pohoiki, which is a major commercial and recreational launch site, is important for fishermen from Kapoho. Kua O Ka Lā Charter School has facilities, staff and students on both sides of the road. Severing the road would add more than six miles to the four-mile trip between Kapoho to Pohoiki. Furthermore, given the setting downslope from the East Rift Zone of Kilauea Volcano, as well as the potential for tsunami, the roadway should be maintained as an emergency access route. The current roadway traverses the middle of the planned expansion of Isaac Hale County Park, which will include most of TMK 1-3-08:16. Re-routing the roadway to bypass the park could enhance the public safety and improve the quality of the park.

1.4 Project Purpose

Based on the background and problem discussed above, the purpose of the project consists of a realignment of the Kapoho-Kaimu Road between Oneloa and Pohoiki that will:

- Bypass the subsiding and low-elevation area northeast of Isaac Hale County Park;
- Provide a half mile-long section of the road that meets County standards;
- Minimize long-term road maintenance costs to the County of Hawai'i;
- Minimize disruption to motorists during construction;
- Minimize degradation of wetlands, botanical and archaeological resources; and
- Enhance the recreational value of the existing (bypassed) road as an internal park road and as a bike and pedestrian route within and adjacent to Isaac Hale County Park.

2 ALTERNATIVES

2.1 Alternative Formulation

The County of Hawai'i undertook a systematic process to evaluate any alternatives that could accomplish the purpose of the project specified above.

Various realignment paths were considered during early formulation of the project. Constraints included the existing road network, the future expansion of the Isaac Hale County Park onto TMK 1-3-08:16, a wetlands that was present on TMK 1-4-02:09, and sensitive archaeological and biological resources on TMK 1-4-02:13. Given these considerations, the logical terminus for the southwestern end of the project was the western junction of the Kaimu-Kapoho Road and the Pohoiki-Pahoa Road, as it avoided both the park and the wetlands and provided a sensible tie-in to an existing road.

In response to public input concerning whether a slightly different terminus could avoid impacts to a protected mango tree and still provide a safe and efficient intersection, various options were explored. These included creating an intersection that forked around the mango tree, with one lane north and one lane south. Another alternative was to route the terminus about two hundred feet to the south, which would create two three-legged intersections instead of one four-legged one. This involved land that had not been yet surveyed for the road but had been studied as part of the Isaac Hale County Park expansion, and indeed would have displaced some planned park uses. Both of these alternatives were rejected as unsuitable for efficiency, safety and practicality. A final alternative involved a slightly skewed intersection that missed the mango tree to the north and stayed within the studied corridor. All these options were presented at the public meeting on July 28, 2005. The general consensus among the audience, which included commercial and subsistence fishermen who trailer their boats along this road, surfers, and members of groups seeking to preserve the mango tree, was that the intersection originally proposed in the EA was preferable. It should be noted that some members of the audience believed that preserving the tree (along with not establishing a precedent to allow removal of other trees) was more important than optimizing the intersection. As discussed below in Section 3.1.5, it is uncertain whether the County's Arborist Committee and the County Council will approve removal of the tree; if such approval is not granted not, DPW believes that the alternative routing the road around the north of the mango tree would provide an acceptable if somewhat less efficient intersection. As this alternative has been fully evaluated in this EA, DPW is prepared to construct it if necessary.

As long as the realigned road stayed above 40 feet in elevation on its way east towards Kapoho, it would be traversing old papaya fields and would not affect the wetlands, natural vegetation or park plans. Various northeastern termini from Puala'a to Pohoiki were considered. A path that descended soonest to the Kaimu-Kapoho Road created a road with a sharp bend that terminated in an area of fairly low elevation; those that terminated further east (e.g., in Puala'a or near the Puala'a side of Oneloa) ran the risk of disturbing valuable botanical areas and archaeological sites that had been deemed for preservation in planning for the Oneloa Resort. In addition, such routes would be longer. In the end, two alternatives, described in detail below, were selected for

advancement, based on minimization of both distance (and therefore cost) as well as disturbance of environmental resources.

Also initially considered was arching the flooded area with a bridge structure. Although such a strategy might appear preferable based on the relatively short section of road that would initially require disturbance, it has considerable disadvantages. Construction would require dredge and fill in a tidal wetlands, which is environmentally less preferable than building on uplands and would require an extensive permit process from the U.S. Army Corps of Engineers, a process whose outcome would be highly uncertain. Although the current minimum area to be bridged might be less than 100 yards, planning for continuing subsidence over the next few decades would dictate a much longer section, perhaps stretching the entire 0.3 mile length to Isaac Hale County Park. Such a structure would be highly expensive because of the need for multiple culverts. Furthermore, construction in the existing road footprint would completely shut down traffic during the construction period of up to six months. This would cause hardship for motorists, unless a temporary bypass road were built. Considering that the proposed project would essentially consist of such a bypass road, the bridge would be redundant. Therefore, the idea of bridging the flooded area was dismissed from further consideration.

2.2 Alternatives Advanced to the EA

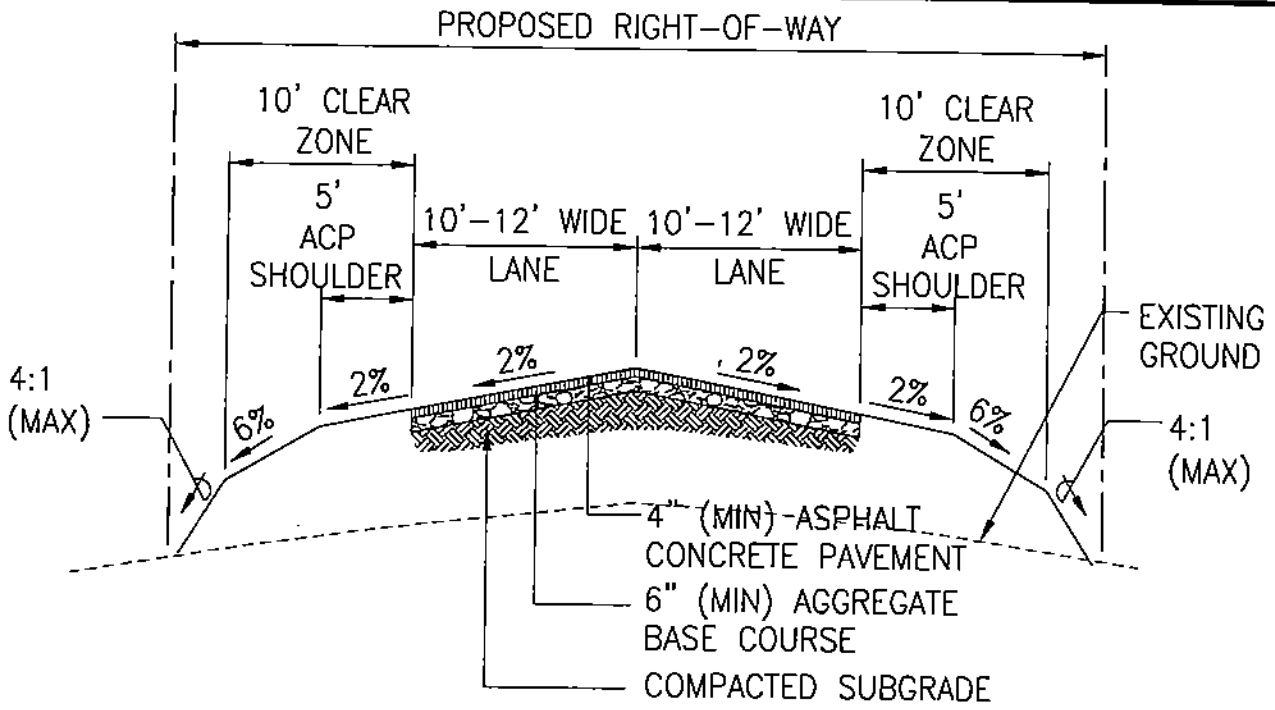
Two Realignment Alternatives (Fig. 2) were developed, both realigning the roadway toward the mauka direction and bypassing Isaac Hale County Park. Alternative 1 differs from Alternative 2 only in the point of the mauka-makai traverse of the roadway, and both alternatives have the same southwestern terminus. Alternative 1, the preferred alternative, provides a smooth transition between the exiting and realigned sections of the road. Alternative 2 involves a sharp bend at the makai end but slightly less disturbance of undisturbed lands. For environmental reasons, both were advanced for study in the Draft EA. Based on evaluation of comments on the Draft EA, discussion at the public meeting, and other factors, DPW has determined that Alternative 1 is preferable and will advance this for further review during final design. However, as both Alternatives have been fully studied (along with, for that matter, the entire area located between Alternative 1 and 2) and there are no greater environmental impacts for Alternative 2, if circumstances warrant so during final design, the route labeled Alternative 2 or some intermediate route may be used.

Final design is the stage of the process during which the precise characteristics of the typical road cross-section and the layout of intersections will be determined. A Preliminary Engineering Report (Appendix 2) was prepared for this EA in order to provide topographic data, to specify a first-order layout for the road and its intersections, and to design a preliminary typical cross-section for the road. The bypass road is expected to have a single lane, 10- to 12-feet wide in each direction, along with a 10-foot clear zone on each side. Five feet of the shoulder width would be designed for bicycle and accessible path use, with the remaining five feet as a clear zone. Based on community input, final design may alternatively specify a narrower total paved width. The current recommended typical cross-section is illustrated in Figure 2-1.

The intersection of the Pahoa-Pohoiki Road will be designed so that the bypass meets the existing Kaimu-Kapoho Road head-on (i.e., centerline to centerline) (Fig. 2-2a). Such a layout is vital for safety reasons. It is recommended that the intersection be opened with STOP-signs on all approaches, i.e., a four-way STOP. It is further recommended that, after the road is built and in use for a few months, DPW should conduct a traffic study in order to determine use patterns and whether any modifications to STOP-sign controls are necessary. The intersection point with the Kaimu-Kapoho Road on the northeast end is different for Alternatives 1 and 2 (Figs. 2-2b and 2-2c). In both cases, the bypassed (existing road) should be realigned to curve mauka and terminate as a T-intersection with the new, realigned road. STOP-signs are recommended for the leg of the existing road headed northeast towards Kapoho, with no STOP-signs on the bypass itself.

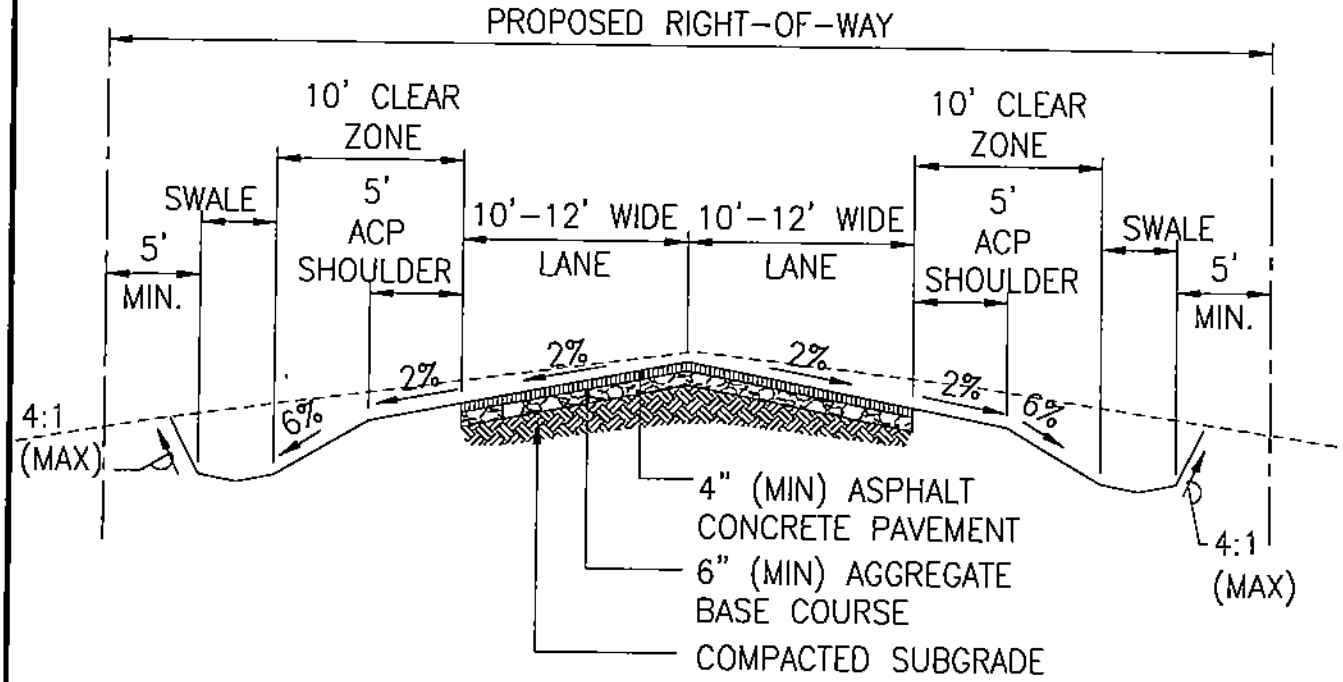
Design, construction and right-of-way costs are preliminarily estimated at $2.4 million. Funding would be derived from County sources. If necessary approvals are obtained, the project could begin construction in 2006 and would last approximately one year.

In accordance with laws governing EAs, the County is also advancing the No-Build Alternative. This does not address the potential for road closure and its attendant financial and social costs, nor the environmental implications of the continued presence of a road within a wetlands. By definition, however, the No-Build Alternative also avoids environmental impacts associated with taking of former agricultural land, the loss of vegetation, and construction-phase impacts to traffic, noise and air quality levels. The No-Build Alternative provides a useful baseline for evaluating the impacts of the Pohoiki Bypass to the social and physical environment.



PRELIMINARY ROAD SECTION – ON FILL

NOT TO SCALE



PRELIMINARY ROAD SECTION – IN CUT

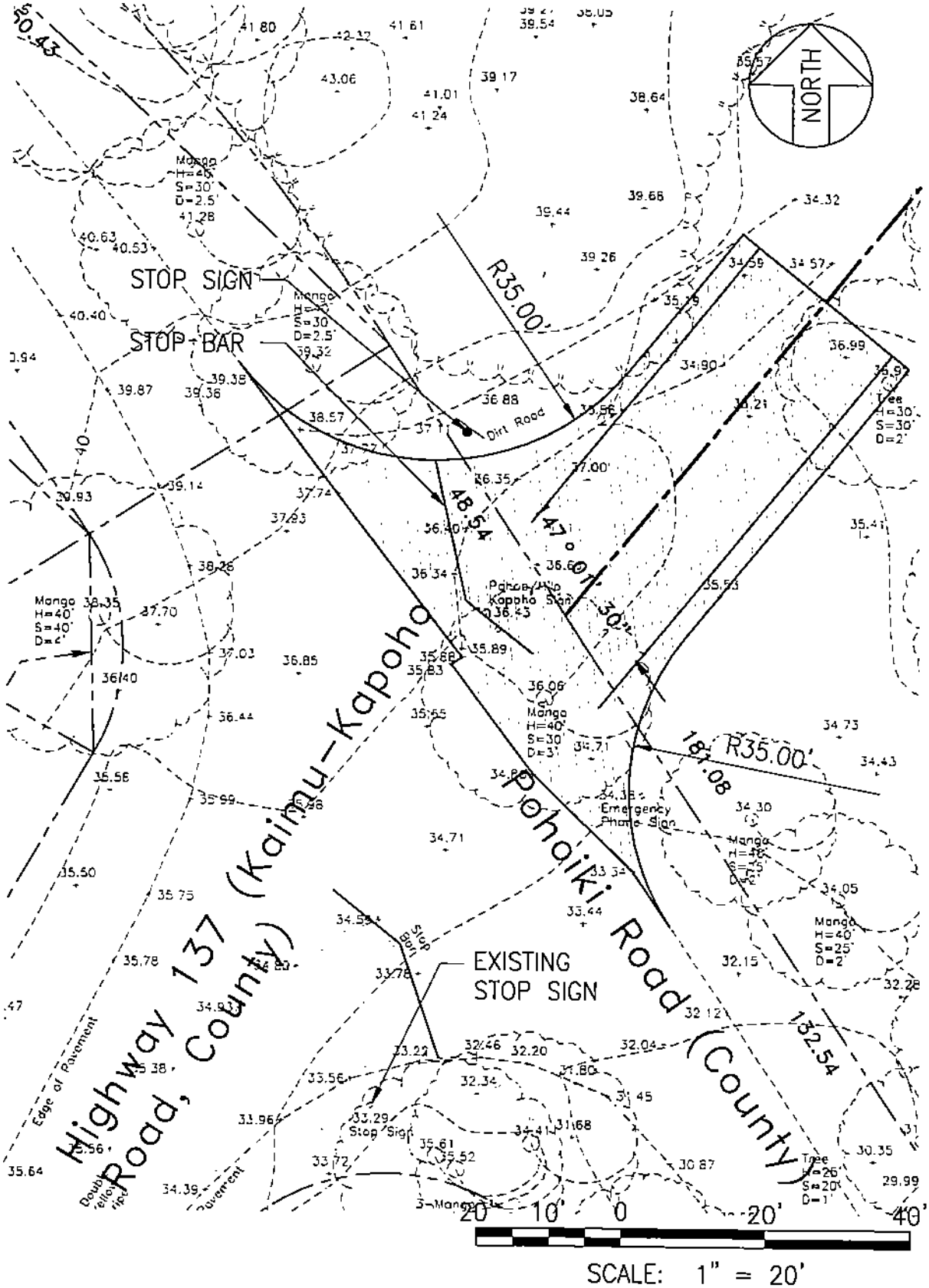
NOT TO SCALE

NOTE:
PAVEMENT STRUCTURE AND CUT/FILL SLOPES ARE PRELIMINARY.

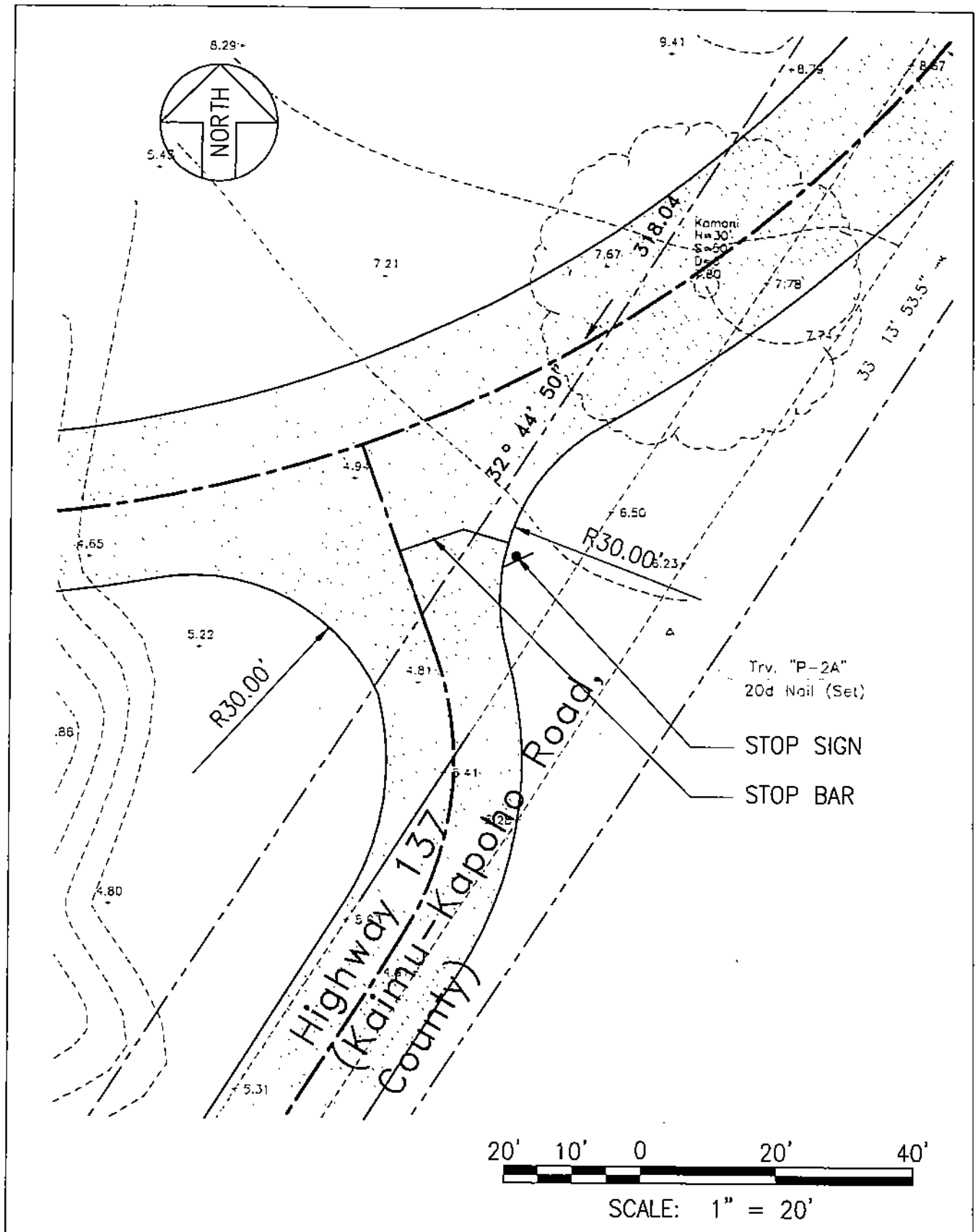
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

POHOIKI BYPASS ROAD
FIGURE 2-1
Typical Cross Section

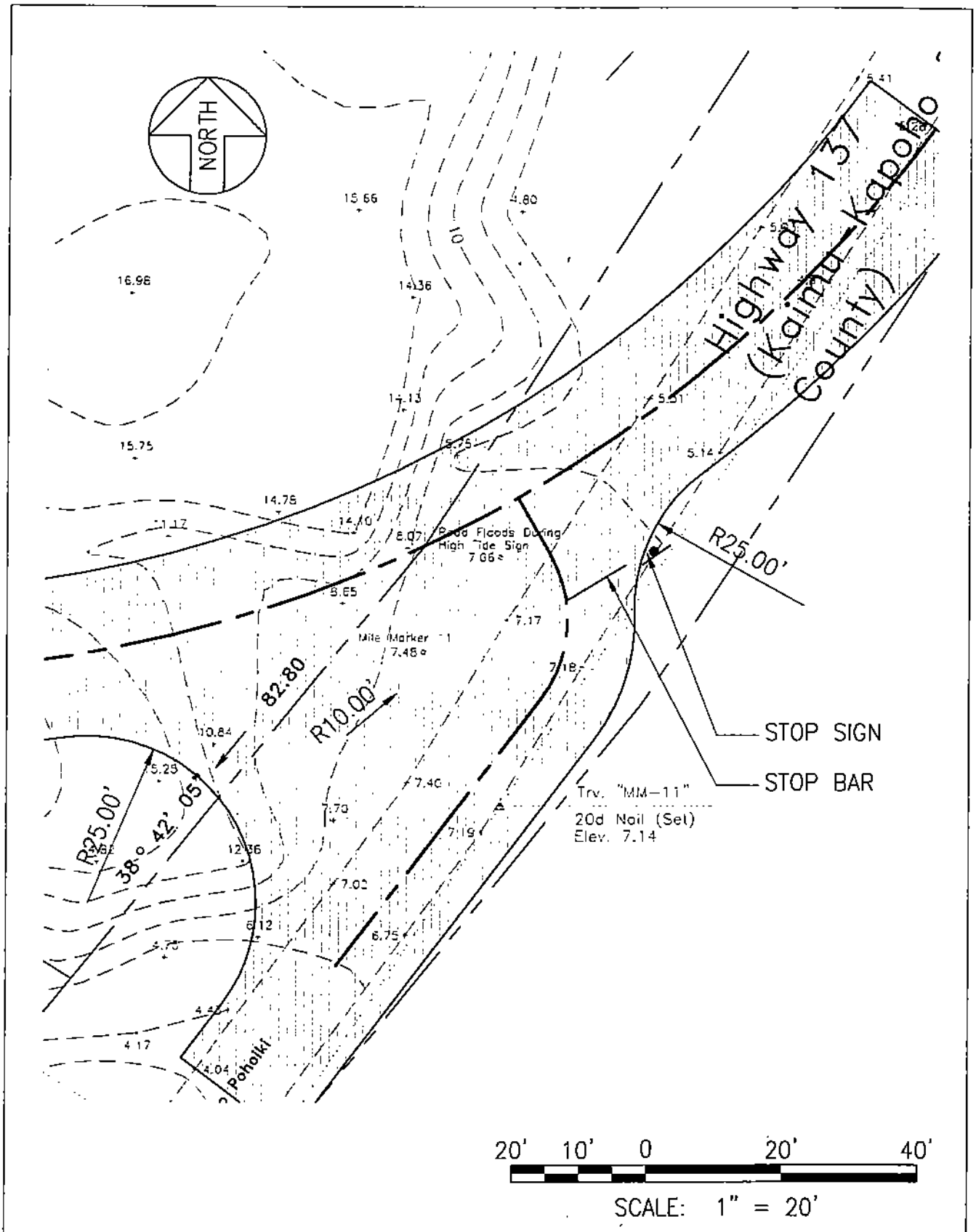
SCALE: AS SHOWN | DATE: MAY 2005



SSFM International, Inc. 501 Sumner Street, Suite 620 Honolulu, Hawaii 96817	POHOIKI BYPASS ROAD FIGURE 2-2a Intersection of Kapoho-Pohoiki Road with Bypass		PAGE 11
	SCALE: AS SHOWN	DATE: MAY 2005	



SSFM International, Inc. 501 Sumner Street, Suite 620 Honolulu, Hawaii 96817	POHOIKI BYPASS ROAD FIGURE 2-2b Intersection of Kapoho-Pohoiki Road with Bypass Alternative 1	PAGE 12
	SCALE: AS SHOWN DATE: MAY 2005	



SSFM International, Inc. 501 Sumner Street, Suite 620 Honolulu, Hawaii 96817	POHOIKI BYPASS ROAD FIGURE 2-2c Intersection of Kapoho-Pohoiki Road with Bypass Alternative 2	PAGE 13
	SCALE: AS SHOWN DATE: MAY 2005	

3 ENVIRONMENTAL SETTING AND IMPACTS

This section describes the existing social, economic, cultural, and environmental conditions surrounding the proposed project, along with the probable impacts of the proposed action and mitigation measures designed to reduce or eliminate adverse environmental impacts. For most categories of impact, the No-Build Alternative would result in no impacts. Therefore, unless explicitly mentioned, discussion of impacts and mitigation relates to the Build Alternatives only.

The island of Hawai'i, home to approximately 148,677 residents in 2000 (U.S. Census of Population 2000), is largely rural. Major divisions include West Hawai'i and East Hawai'i. West Hawai'i's dry climate and calm ocean waters support a major tourism industry in the Kona and Kohala districts. East Hawai'i has an economy based on agriculture and the business and government functions headquartered in Hilo, the major city on the island.

The project area is within the Puna District in East Hawai'i (Fig. 1-1), a rural area of about 500 square miles. The area most directly affected is between Pohoiki and Puala'a. The proposed project would utilize a corridor about 0.55 miles in length that extends to about 800 feet mauka of the present alignment. Figure 1-3 consists of photographs of the existing Kaimu-Kapoho Beach Road and the area of the proposed realignment.

3.1 Physical Environment

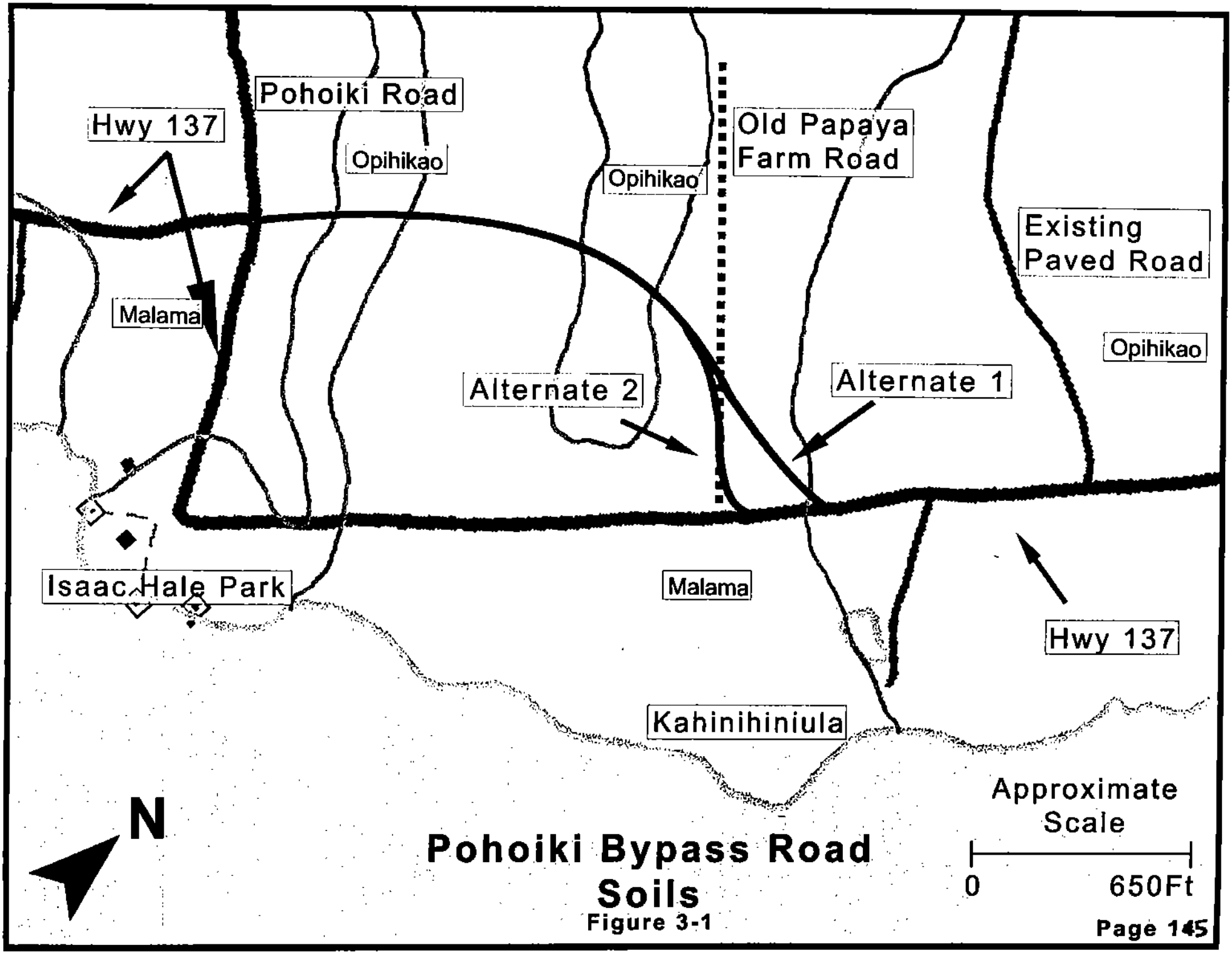
3.1.1 Geology, Hazards, and Soils

Existing Environment

The island of Hawai'i, youngest and largest of the Hawaiian chain, formed from the coalescence of five volcanoes during the last million years. The Puna district encompasses the active Kilauea Volcano, which first erupted between 300,000 and 600,000 years ago and has erupted continually since 1983 (USGS 2005). Puna is essentially the land created by Kilauea Volcano. While activity in the last few decades has occurred about 10 miles west of the project corridor, originating from Pu'u O'o, there has been some closer recent activity on the East Rift Zone of Kilauea, including volcanic eruptions in 1955 and 1960 in nearby Kapoho.

The project area surface is composed of thin basalt Kilauea lava flows dated from 400 to 750 years ago. Their thin and porous rock structure, with numerous cracks, lava tubes and interbedded 'a'a (clinker lava) flows, make them highly permeable. Slopes generally range from 3-5%, and local relief across this generally uniform slope is variable and undulating. No substantial lava tube caves or other caves are known to pass under the existing Kaimu-Kapoho Beach Road or the planned realignment.

The soils in the project area are of the Opihikao and Malama series (U.S. Soil Conservation Service 1973) (Fig. 3-1). They are a thin 3 inches deep because they have developed on these relatively young lavas, and are organic and strongly acid. The Opihikao series soil (rOPE) is



Pohoiki Bypass Road
Soils
Figure 3-1

found on 3-25% slopes and is described as very dark brown muck; the Malama series soil (rMAD) is found on 3-15% slopes and is described as very dark brown extremely stony muck. Permeability is rapid and runoff is fairly slow for both soils. Erosion hazard is slight. The thinness of these soils and the underlying geology make this site very suitable for the intended purpose of a roadway bed.

This project (as all development in Puna) would be subject to volcanic hazard, particularly lava inundation. According to the USGS hazard classifications, the entire project area is contained in Lava Flow Hazard Zone 2, on a scale of ascending risk 9 to 1. Zone 2 areas have had 25-75% of their surface covered by lava in the last 750 years, but are considered less hazardous than Zone 1, which designates areas directly around active rift zones and summit areas (Heliker 1990:23).

In terms of seismic risk, the entire island of Hawai'i is rated Zone 4 Seismic Probability Rating (Uniform Building Code, Appendix Chapter 25, Section 2518). Zone 4 areas are at risk from major earthquake damage, especially to structures that are poorly designed or built. Partly owing to the lack of unconsolidated sediments in the local substrate, none of the several earthquakes of Richter magnitude 6.0 or greater that have occurred on the island since 1950 has caused substantial damage to well-engineered roads, bridges or other roadway structures. On November 29, 1975 a Richter Magnitude 7.2 earthquake occurred at Kalapana, about 10 miles from the project area (UH-Hilo Dept. of Geography 1998).

Impacts and Proposed Mitigation Measures

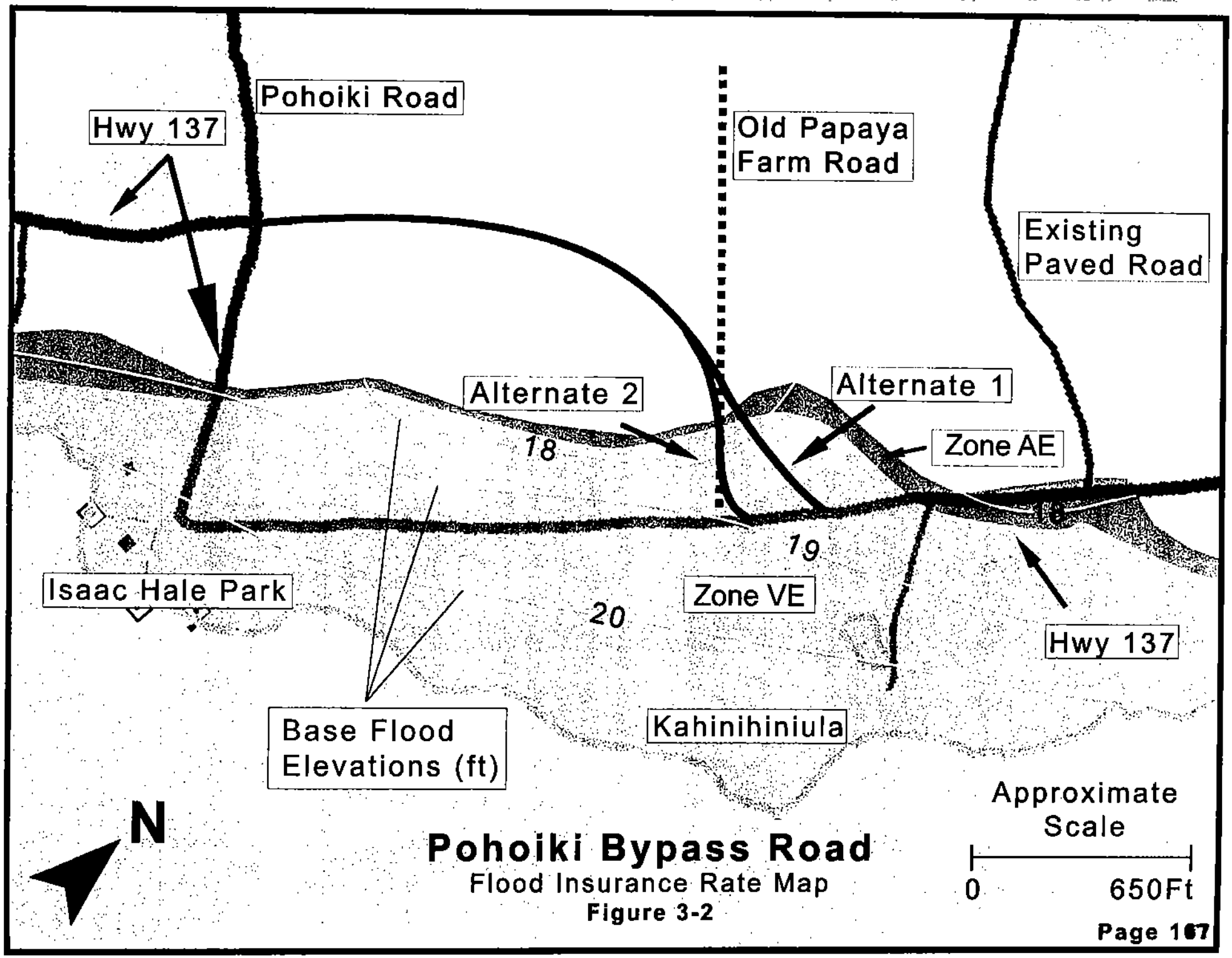
Any roadway that serves this area is subject to the hazard of lava flows. There are no practical measures to avoid this impact. Emergency access in the Puna District is essential due to the potential for geologic hazards. An improved road would provide a better escape route during natural disasters, including lava flows and tsunamis, or accidents that blocked or crowded alternate routes. The proposed project would place that section of roadway out of the tsunami inundation zone, providing an improved emergency access route.

The No-Build Alternative would not provide relief against the possibility of partial or complete road closure due to flooding and is less preferable in terms of mitigating for geologic hazards.

3.1.2 Hydrology, Floodplains and Water Quality

Existing Environment

Floodplain status for the project area has been determined by the Federal Emergency Management Agency (FEMA), which has mapped the area as part of the National Flood Insurance Program's Flood Insurance Rate Maps (FIRM) (Fig. 3-2). A summary of applicable Special Flood Hazard Areas (SFHA) designations in the area is as follows:



Pohoiki Bypass Road

Flood Insurance Rate Map

Figure 3-2

- Zone AE: SFHAs subject to inundation by the 100-year flood determined in a Flood Insurance Study by detailed methods. Base flood elevations are shown within these zones.
- Zone VE: the 100-year coastal, high hazard floodplain, incorporating storm surges.
- Zone X: Areas identified in the community flood insurance study as areas of moderate or minimal hazard from the principal source of flood in the area.

The current alignment passes through Flood Zone VE, or the coastal high hazard floodplain.

Waters of the U.S. include coastal waters, streams, tidal wetlands and ponds, and wetlands that are tributary to other waters of the U.S. Because of the very recent geology, streams are rare in Puna and none are present in or near the project area. Coastal waters and adjacent tidal wetlands and ponds are present adjacent to the existing route. Importantly, no such wetlands or ponds are present in the realignment corridor, which completely avoids waters of the U.S.

Water quality in the Pohoiki area is mostly influenced by natural sources and is generally excellent, with very localized and/or short-term problems associated with the boat ramp area.

Impacts and Mitigation Measures

The principal impact of the realignment would be beneficial, in that most of path of the realignment would be outside any flood zone, providing less exposure to flood hazard, with no impact to waters of the U.S. Selection of the No-Build Alternative would continue to expose the public to the dangers or inconveniences of storm surges.

Road construction projects have the potential, if unmitigated, to adversely and permanently impact drainage and water quality in several ways. First, construction activities such as clearing and grubbing, excavation, and paving may temporarily alter the natural hydrology. Earthwork may leave soils vulnerable to erosion due to storm water runoff and can cause erosion and sediment pollution. Second, roadway paving increases the amount of impervious surface area, which increases the rate and volume of storm water runoff on a permanent basis. In addition, unregulated activities within a floodplain may raise flood levels or alter floodplain boundaries. Properly designed drainage structures along with best management practices during construction can effectively mitigate impacts associated with construction and additional paved runoff surface.

A drainage plan for the road will be developed and will undergo review, revision and approval by the Hawai'i County Department of Public Works (DPW) to ensure compliance with standards related to storm water runoff management. The drainage plan will not be finalized until the road is at a more advanced design state, but may include drywells, inlet boxes and drain lines to handle storm water road runoff.

Mitigation measures to prevent adverse impacts to water quality during construction are described in Section 3.4.1.

3.1.3 Climate and Air Quality

Existing Environment

The climate of Pohoiki can be described as moderately wet and tropical. Average high temperatures vary from approximately 80° Fahrenheit (F) in the winter to 84° F in the summer. Temperature lows average approximately 64° F in the winter and 69° F in the summer. Mean annual rainfall in the project area is about 80 inches. Wind is important for its effect on dispersion or concentration of pollutants. This portion of Puna typically experiences east to southeast trade winds with speeds of 10-20 miles per hour. In winter, these are often replaced by kona winds, from the south or southeast. These winds are generally light, and seldom exceed an average daily speed of 10 miles per hour (UH-Hilo Dept. of Geography 1998).

Regional and local climate along with the type and amount of human activity generally dictate air quality of a given location. Federal and state air quality standards limit ambient concentrations of pollutants produced by motor vehicles. These include particulate matter, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), ozone (O_3), and lead. These ambient air quality standards (AAQS) are specified in Section 40, Part 50 of the Code of Federal Regulations (CFR) and Chapter 11-59 of the Hawai'i Administrative Rules. Each regulated air pollutant has the potential to create or exacerbate some form of adverse health effect or to produce environmental degradation when present in sufficiently high concentration for a prolonged period of time. The state and federal governments periodically monitor air quality to determine whether it meets AAQ standards. Areas that do not meet standards are termed non-attainment areas and are subject to Conformity Rules. The entire State of Hawai'i is considered to have acceptable air quality and is thus an attainment area not subject to Conformity Rules.

Air quality on Hawai'i Island is currently mostly affected by emissions from industrial sources, vehicles, and natural sources. The major industrial source for the island is oil-fired power plants which emit SO_2, nitrogen oxides, and particulate matter. Motor vehicles emit CO, nitrogen oxides and hydrocarbons (an ozone precursor), as well as smaller amounts of other pollutants. Also emitting SO_2 is one geothermal power plant in the area, Puna Geothermal Venture, which supplies about 10-20% of the island's electricity. Volcanic emissions of sulfur dioxide convert into particulate sulfate which causes a volcanic haze (vog) to blanket the area during periods of light and variable winds, and when kona winds are present. Due to the close proximity to Kilauea Volcano, vog frequently impairs air quality in the Puna District (Sutton et al 1997).

The State of Hawai'i operates five air quality monitoring stations on Hawai'i Island, one in Hilo, three in Puna, and one at Konawaena High School in Kealakekua (as well as three monitoring stations measuring H_2S emissions near Puna Geothermal Venture power plant). Data from these three stations indicate that concentrations are well within State air quality standards (no federal standards exist for H_2S), with no measurements exceeding State standards during the period of 2001-2003. In fact, no single measurement from any of the Hawai'i Island air quality monitoring stations was above any applicable State or federal standards during this period.

Impacts and Mitigation Measures

The planned project will minimally alter traffic circulation in the area and will not generate any additional traffic, and should thus not affect regional air quality. Some improvement of air quality at Isaac Hale County Park may be noticed due to traffic being routed away from the park.

3.1.4 Noise Levels

Existing Environment, Impacts and Mitigation Measures

The area is presently very quiet due to its rural nature, low population density, and consequent low volume of vehicular through-traffic. Primary noise sources are the occasional vehicle, ocean and wind, birds, and tour aircraft. No residences, schools, churches or other noise sensitive uses are located on the existing route or the proposed realignment route. Due to the rural nature of the project area and because no sensitive receptors exist in the project area, the project would not produce noise impacts.

3.1.5 Scenic Values

Existing Environment

The project area is highly scenic, with a lava shoreline of crashing surf, tidal pools and wetlands, and groves of attractive trees including hala, *'ohi'a*, *alahe'e*, mango, *milo*, coconut and *kamani*. Table 3-1 lists the Hawai'i County General Plan's places of natural beauty in the general area. The mango grove on Pohoiki Road is located directly on the southwest terminus of the proposed road, while the other places listed in the table are not in or near the affected area. The mango trees fringing the Pahoa-Pohoiki Road have furthermore been designated "exceptional trees" and are protected under the Hawai'i County Code, Article 10, Section 14.

Table 3-1
Areas of Natural Beauty in Hawai'i County General Plan

Scenic Resource	TMK	Location
Mango Grove along Pohoiki Road	1-3-08:4 & 5	Adjacent to corridor
Keahialaka Spring & Pond	1-3-08:15	Not visible from corridor
Keahialaka Shoreline	1-3-08:15	Not visible from corridor
Keahialaka Warm Springs	1-3-08:34	Not visible from corridor

Impacts and Mitigation Measures

Construction of the intersection of Pahoa-Pohoiki Road and the Kaimu-Kapoho Road would affect one (1) mango tree in the protected grove. The tree is directly on the centerline of the intersection, which cannot be shifted without severely compromising safety (or, alternatively affecting even more mango trees). While the removal of one tree may be thought of as a minor impact in the context of more than ~~200~~ 600 existing trees, it will require consideration by the

County arborist committee and may also require a County ordinance. DPW has also discussed the possibility of trimming the tree and then transplanting it in the adjacent park, which arborists believe would have about a 50-50 chance of success. The opinion of the County Corporation Counsel is being sought to determine the legal avenue for considering removal or moving of this tree. An alternative design of the intersection could avoid removal of the mango tree, although the intersection would have poorer sight distance and tighter turning radii, an inconvenience for boats and trucks. If removal or moving of the mango tree is not approved, this alternative would still provide a safe intersection.

One commenter on the Draft EA (see Appendix 1B) stated concern that the removal of the mango tree from its protected status could set a bad precedent for removal of other trees for reasons of safety, access, etc. While this is indeed true, it may also be important to establish a process whereby a designated tree that poses a threat to public safety within a large grove can be removed from the Exceptional Tree designation without the need for a County ordinance. Without this mechanism, the County Council may be reluctant to designate groves of trees (as opposed to individual trees) through future ordinances if this status is seen as irrevocable.

Except for the mango grove on Pohoiki Road, construction of a new road in either of the alternative realignment corridors would not affect scenic resources. Some vegetation removal would occur, but this could be mitigated by landscaping with native trees and shrubs on the mauka border of the road. The road would open up new scenic vistas and it is recommended that the area makai of the road be kept unobstructed by large plantings in order to maximize views.

3.2 Biological Environment

3.2.1 Terrestrial Flora

Existing Environment

The vegetation of this part of Puna can be described as a mixture of post-agricultural fallow vegetation (mixed alien shrubland and grassland, which occupies the great majority of the route) and alien-dominated forest with a strong native component (Gagne and Cuddihy 1990 and Takemoto n.d.). Native elements include *'ohi'a* (*Metrosideros polymorpha*), *hala* (*Pandanus odoratissimus*) and *alahe'e* (*Psydrax odorata*). The native component is strongest in the eastern portion of the realignment on TMK 1-4-02:13. Polynesian-introduced species including coconut (*Cocos nucifera*), *kamani* (*Calophyllum inophyllum*), and *noni* (*Morinda citrofolia*) are also prominent in this short section.

Botanists surveyed the construction corridor and surroundings in April 2005. Table 3-2 provides a list of all plant species observed in the project area. No plant species listed as threatened or endangered by the U.S. Fish and Wildlife Service were found to be present in the project area.

Table 3-2
Plant Species Identified in Project Area

Scientific Name	Family	Common Name	Life Form	Status*
FERNS AND FERN ALLIES				
Asplenium nidus	Aspleniaceae	Bird Nest Fern	Herb	X
Christella dentata	Thelypteridaceae	Cyclosorus	Herb	X
Lepisorus thunbergiana	Polypodiaceae	Pleopeltis	Herb	I
Nephrolepis exaltata	Nephrolepidaceae	Sword Fern	Herb	I
Phymatosorus grosus	Polypodiaceae	Maile-scented Fern	Herb	X
Psilotum nudum	Psilotaceae	Moa	Herb	I
FLOWERING PLANTS				
Abrus precatorius	Fabaceae	Rosary Pea	Vine	X
Ageratina riparia	Asteraceae	Pamakani	Herb	X
Aleurites moluccana	Euhporbiaceae	Kukui	Tree	X
Ardisia elliptica	Myrsinaceae	Ardisia	Tree	X
Arundina graminifolia	Orchidaceae	Bamboo Orchid	Herb	X
Begonia sp.	Begoniaceae	Begonia	Herb	X
Bidens alba	Asteraceae	Bidens	Herb	X
Brassaia actinophylla	Araliaceae	Octopus tree	Tree	X
Buddleia asiatica	Buddleiaceae	Buddleia	Shrub	X
Calophyllum inophyllum	Clusiaceae	Kamani	Tree	X
Canavalia sp.	Fabaceae	Mauna Loa	Vine	???
(Canthium) Psydrax odoratum	Rubiaceae	Alahe'e	Shrub	I
Cecropia obtusifolia	Cecropiaceae	Cecropia	Tree	X
Chamaecrista nictitans	Fabaceae	Partridge Pea	Herb	X
Chamaesyce hirta	Euphorbiaceae	Spurge	Herb	X
Chamaesyce hypericifolia	Euphorbiaceae	Graceful Spurge	Herb	X
Chamaesyce prostrata	Euphorbiaceae	Spurge	Herb	X
Clidemia hirta	Melastomataceae	Clidemia	Herb	X
Clusia rosea	Clusiaceae	Autograph Tree	Tree	X
Cocculus trilobus	Menispermaceae	Huehue	Vine	I
Cocos nucifera	Arecaceae	Niu	Tree	X
Commelina diffusa	Commelinaceae	Honohono	Herb	X
Cordyline fruticosa	Agavaceae	Ki	Shrub	X
Crotolaria pallida	Fabaceae	Rattlebox	Herb	X
**Cuscuta sp.*	Cuscutaceae	Dodder	Vine	???
Desmodium cajanifolium	Fabaceae	Desmodium	Shrub	X
Desmodium sandwicense	Fabaceae	Desmodium	Herb	X
Desmodium triflorum	Fabaceae	Desmodium	Herb	X
Digitaria insularis	Poaceae	Sourgrass	Herb	X
Digitaria setigera	Poaceae	Crabgrass	Herb	X
Diospyros sandwicensis	Ebenaceae	Lama	Tree	I
Eleusine indica	Poaceae	Wiregrass	Herb	X
Emilia sp.	Asteraceae	Pualele	Herb	X
Eragrostis tenella	Poaceae	Lovegrass	Herb	X
Hyptis pectinata	Lamiaceae	Hyptis	Shrub	X
Indigofera suffruticosa	Fabaceae	Indigo	Shrub	X

TABLE 3-2, CONT'D				
Scientific Name	**Family**	**Common Name**	**Life Form**	**Status***
Ipomoea indica	Convolvulaceae	Koali awa	Vine	
Kalanchoe pinnata	Crassulaceae	Air Plant	Herb	X
Kyllinga brevifolia	Cyperaceae	Kyllinga	Herb	X
Lantana camara	Verbenaceae	Lantana,	Shrub	X
Macroptilium atropurpureum	Fabaceae	Phaseolus	Vine	X
Malvastrum coromandelianum	Malvaceae	Malvastrum	Herb	X
Mangifera indica	Anacardiaceae	Mango	Tree	X
Melinis minutiflora	Poaceae	Molassas Grass	Herb	X
Melochia umbellata	Sterculiaceae	Melochia	Tree	X
Metrosideros polymorpha	Myrtaceae	Ohia	Tree	I
Mimosa pudica	Fabaceae	Sensitive Plant	Herb	X
Morinda citrifolia	Rubiaceae	Noni	Shrub	X
Oplismenus hirtellus	Poaceae	Basket Grass	Herb	X
Oxalis corniculata	Oxalidaceae	Wood Sorrel	Herb	I?
Paederia scandens	Rubiacaeae	Kukai Maile	Vine	X
Pandanus tectorius	Pandanaceae	Hala	Tree	X
Panicum maximum	Poaceae	Guinea grass	Herb	X
Paspalum conjugatum	Poaceae	Hilo Grass		
Passiflora foetida	Passifloraceae	Love-in-a-Mist	Vine	X
Pennisetum polystachion	Poacea	Feathery Pennisetum	Herb	X
Pennisetum purpureum	Poaceae	Napier Grass	Herb	X
Peperomia leptostachya	Piperaceae	Peperomia	Herb	I
Phyllantus debilis	Euphorbiaceae	Niuri	Herb	X
Psidium cattleianum	Myrtaceae	Waiawi	Tree	X
Psidium guajava	Myrtaceae	Guava	Tree	X
Pycreus polystachyos	Cyperaceae	Cyperus	Herb	X
Rhynchelytrum repens	Poaceae	Natal Redtop	Herb	X
Rubus rosifolius	Rosaceae	Thimbleberry	Herb	X
Schinus terebinthifolius	Anacardiaceae	Christmas Berry	Shrub	X
Schizachyrium condensatum	Poaceae	???	Herb	X
Scindapsus aureus	Araceae	Taro Vine	Vine	X
Sida spinosa	Malvaceae	Sida	Herb	X
Silene gallica	Caryophyllaceae	Catchfly	Herb	X
Solanum americanum	Solonaceae	Popolo	Herb	I
Sporobolus diander	Poaceae	Smutgrass	Herb	X
Sporobolus indicus	Poaceae	Smutgrass	Herb	X
Stachytarpheta urticifolia	Verbenaceae	Vervain	Herb	X
Syzygium cumini	Myrtaceae	Java Plum	Tree	X
Terminalia catappa	Combretaceae	False kamani	Tree	X
Trema orientalis	Ulmaceae	Gunpowder Tree	Tree	X
Wedelia trilobata	Asteraceae	Wedelia	Herb	X
***Wikstroemia sp.*	Thymelaeaceae	Akia	Shrub	I

X = alien, E = endemic, I = indigenous, End = Federal and State listed Endangered Species

Impacts and Mitigation Measures

Construction of the road would involve removal of vegetation, including a number of trees. While most of the route involves alien vegetation with no biological conservation value, the eastern portion includes areas with native and Polynesian-introduced species. The landscaping plan along with transplanting some native trees that require removal, as discussed in the previous section concerning scenic impacts, could also mitigate for any loss of this vegetation.

3.2.2 Terrestrial Fauna

Existing Environment

The area supports a variety of common alien mammals, birds, reptiles and amphibians. More importantly, several species of native birds forage or fly over the site, including the Hawaiian hawk or *'io* (*Buteo solitarius*), an endangered species, and *Amakihi* (*Hemignathus virens virens*), a species which has been making a comeback in coastal *'ohi'a* forests. Newell's shearwater (*Puffinus auricularis newelli*), another endangered species, may also traverse the area, as it has been detected flying over Kapoho on its way between the ocean and inland nesting sites. Foraging habitat for Hawai'i's only land mammal, the endangered *Lasiurus cinereus semotus* (the *'ope'ape'a* or Hawaiian hoary bat), may also be present.

Impacts and Proposed Mitigation Measures

The removal of vegetation and construction of a new road in this largely disturbed area should not adversely impact native fauna. The trees to be removed are not of the size or species to provide nests for the Hawaiian Hawk, and the amount of vegetation to be removed is not significant in terms of the foraging needs of native birds or the Hawaiian Hoary Bat. No lighting, which may disorient seabirds such as the Newell's shearwater, is planned, and no effect on this species is expected.

3.2.2 Wetlands and Aquatic Habitat

Existing Environment

Anchialine pools and tidal wetlands surrounding or adjacent the existing route (but not the realignment route) support native and Polynesian-introduced vegetation (including *milo*) and fauna. A red shrimp (*'opae'ula, Metabetaeus lohena*) considered a "species of concern" by U.S. Fish and Wildlife Service, is present. Although not protected under the Endangered Species Act, such species are considered rare and may eventually become threatened or endangered.

A section of the present roadway corridor is located adjacent to (and at times, within) these wetlands, and is subject to inundation by ocean waves. Some impact to wetlands water quality may exist in the form of sediment loading from erosion of the roadway surface and hydrocarbons associated with vehicles.

Impacts and Mitigation Measures

The No-Build Alternative would continue impacts upon this wetland area. Either proposed Build Alternative would realign the roadway away from both wetlands and coastal aquatic habitats. The potential for impact to aquatic and wetland water quality from erosion of the roadway surface would be reduced.

Under either of the Build Alternatives, short and long-term impacts to marine habitat downslope of the proposed project would be avoided by the runoff containment measures that will occur through the drainage improvements and by adhering to the best management practices specified in the permits to which the project will be subject (see Section 3.4).

3.3 Socioeconomic

3.3.1 Land Use

Existing Land Use and Impacts

Land use along the project corridor is predominantly recreational or vacant. Plans for the Oneloa Onsen and Sports Complex (Takemoto n.d.) were unveiled in the 1990s for a large section of property that includes TMK 1-4-02:13. According to the EIS, the small triangle of property in this parcel affected by the proposed road was planned for preservation and no effect upon the use of the property for a resort, should it proceed, is expected. The County of Hawai'i is working to expand Isaac Hale County Park into TMK 1-3-08:16. Park planning has accounted for the possibility of a road in the proposed realignment corridor. The project is thus not expected to affect any current or proposed land use along the corridor.

3.3.2 Land Use Designations

Planning responsibility for the island of Hawai'i rests with the Hawai'i County Planning Department and Planning Commission and the State Land Use Commission.

Hawai'i County General Plan

The General Plan for the County of Hawai'i, adopted by ordinance in 2005, is a policy document expressing the broad goals and policies for the long-range development of the island of Hawai'i. The County General Plan calls for the following among its Transportation Goals:

- Provide a transportation system whereby people and goods can move efficiently, safely, comfortably and economically.
- Make available a variety of modes of transportation that best meet the needs of the County.
- Provide a system of thoroughfares and streets for the safe, efficient and comfortable movement of people and goods between and within the various

sections of the County.

- Provide an integrated State and County system so that new major routes would complement and encourage proposed land uses.

The Transportation Section of the County General Plan Standards Section states:

- Transportation systems shall meet the requirements of the U.S. Department of Transportation, the State Department of Transportation and the County of Hawaii.

The current present roadway does not meet such standards because the right-of-way is of substandard width, a portion of the roadway is frequently inundated by the ocean, and the roadway has non-conformant intersections (e.g., at Isaac Hale County Park). The proposed project would bring the project corridor up to applicable County road standards.

General Plan Facilities and LUPAG Maps

These map components of the General Plan together establish the basic urban and non-urban form for areas within the planned public and cultural facilities, public utilities and safety features, and transportation corridors.

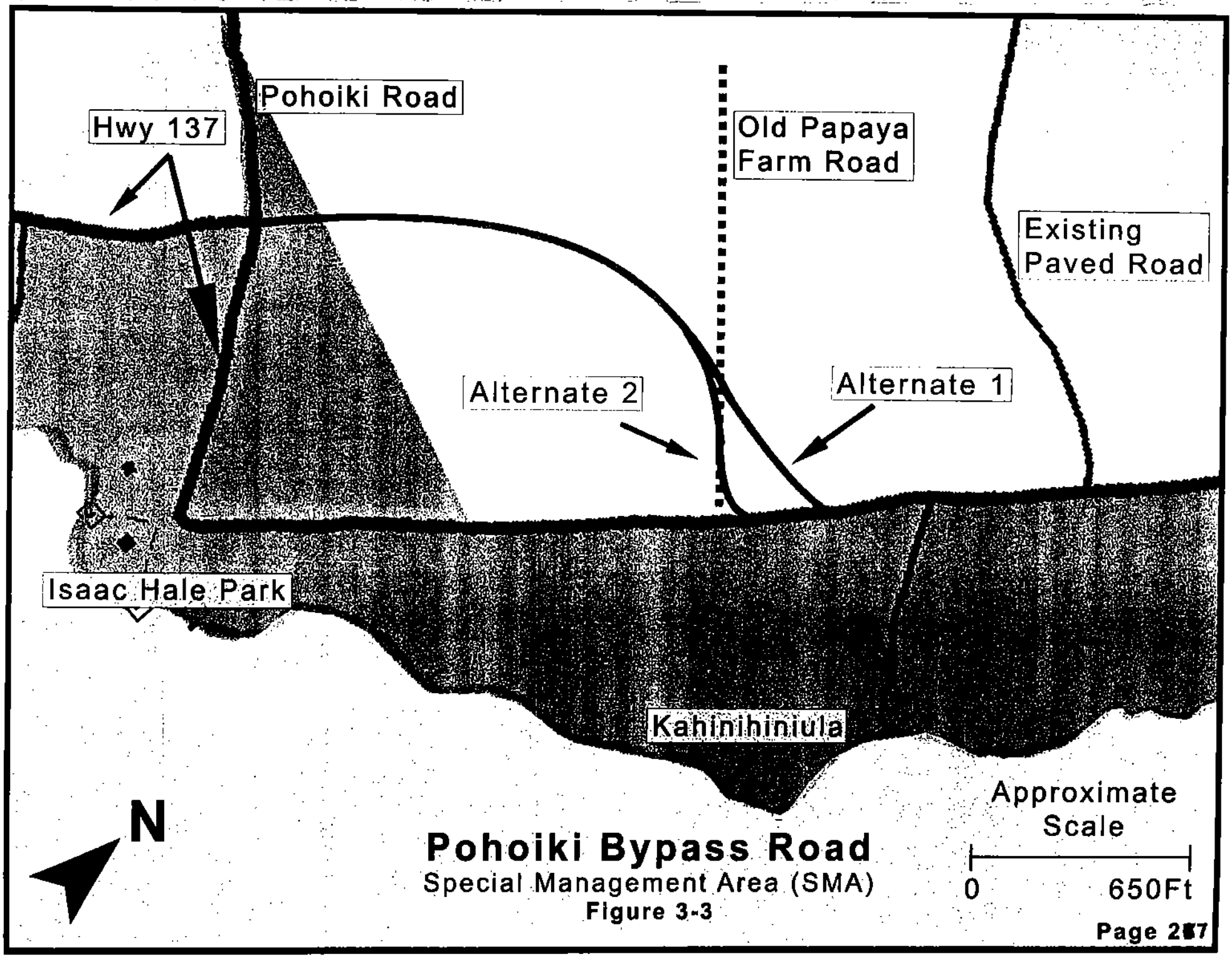
The Land Use Pattern Allocation Guide (LUPAG) map is a graphic representation of the Plan's goals and policies. Lands surrounding, and some lands within, the project corridor are designated as proposed important agricultural lands and extensive agricultural lands. These Land Use designations are consistent with the proposed project.

County Zoning, State Land Use District and Special Management Area

All land in the State of Hawai'i is classified into one of four land use categories – Urban, Rural, Agricultural, or Conservation – by the State Land Use Commission. The project corridor is designated Agricultural, and the project would be an identified use for this district. County zoning for properties along the project corridor is zoned agricultural, consistent with the proposed project. A portion of the project area is within the Special Management Area (SMA) (Fig. 3-3).

Project in Context of Land Use Designations

The project is consistent with all land use designations. No rezoning, or land use reclassification, is required for the project. A Special Management Area use permit will be required from the Hawai'i County Planning Commission, and a subdivision permit from the Hawai'i County Planning Department will be necessary for acquisition of right-of-way.



Pohoiki Bypass Road
Special Management Area (SMA)
Figure 3-3

3.3.3 Demographics and Community Identity

Existing Environment

The U.S. Census Bureau collects detailed data for a region encompassing the rural area centered on Pahoa and extending from Kaimu to Hawaiian Beaches (Fig. 3-4; Table 3-3). The 2000 U.S. Census of Population provides the most recent demographic information. Table 3-3 presents demographic data for the census tract that contains the project area, for the Puna District as a whole, and for the entire County of Hawai'i. Despite substantial construction and population growth, the general picture provided by the census data are still reasonably accurate for Puna. In general, the area has a somewhat lower median home value than the Puna district as a whole, and has a higher proportion of whites.

Figure 3-4
Census Tract and Block Groups in Project Area

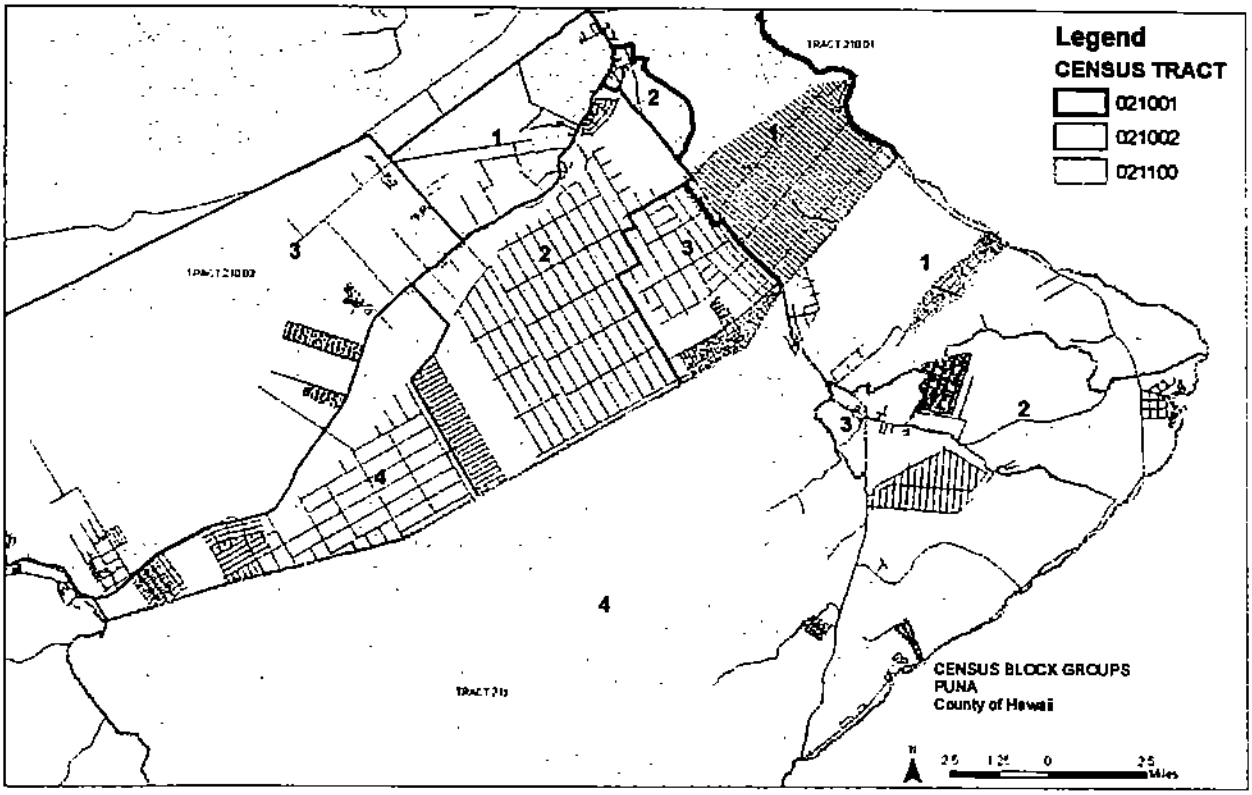


Table 3-3
Demographic Characteristics of Project Area Census Subdivisions

Demographic Area Description	Population	Persons/ House-hold	Ethnic Characteristics (in percent)	Percent Hawaiian	Median Home Value
Census Tract 211, Block Group 2 - Project Area	1,773	2.75	Asia/Pac 28.2 White 42.6 Other 29.2	13.4	$89,200
Puna District - Census Tracts 210.01, 210.02, 211	31,335	2.81	Asia/Pac 41.1 White 34.4 Other 24.5	11.1	$104,150
Hawai'i County	148,677	2.75	Asia/Pac 44.3 White 31.5 Other 24.2	11.2	$155,400

Sources: U.S. Bureau of the Census: "2000 Census of Population. General Population Characteristics," 2000 CP-1-13.

Impacts and Mitigation Measures

No relocation of residences, businesses, community organizations or farms would occur because of the project. No effects on community identity or cohesion are expected.

Right-of-Way Taking

Alternative 1 would require approximately 2.92 acres of right-of-way, and Alternative 2 would require about 2.83 acres. Acquisition of property for right-of-way will be satisfied in conformance to the requirements of the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended. The EA preconsultation process has involved notification of and coordination with property owners.

3.3.4 Public Services and Facilities

Existing Facilities and Services, Impacts and Mitigation Measures

Water Service and Wastewater

No water or wastewater service is available nearby or necessary for the project.

Electrical and Telephone Utilities

No electrical service is available in the project area. As no streetlights are proposed, there is no need for electricity. No telephone service is available or needed.

Solid Waste

The County Department of Environmental Management operates two landfills on the island of Hawai'i, one in Hilo and on at Pu'uanahulu in North Kona. The lifetime of the Hilo landfill is nearly complete, and it is expected that recycling, solid waste hauling and some for of waste-to-energy facility will be required by the year 2010 for East Hawai'i solid waste.

Construction of the proposed project will involve short-term generation of solid waste typical of road construction activities, particularly rock, vegetation and other debris produced by land clearing. The contractor will be required to remove all debris and properly dispose of it in conformance with County regulations. Because of the small scale of the project, no substantial impact on County solid waste facilities is expected.

Police, Fire and Emergency

Pahoa Fire Station provides both fire and emergency medical services for the area. Police services are provided via the Kea'au Police Station, with a substation in Pahoa. Response time for police, fire and emergency medical services will be slightly improved by providing a new route and better roadway for emergency vehicles.

In a comment letter of February 14, 2005 (see Appendix 1a), the Hawai'i County Civil Defense Agency expressed concern that road design consider the location of a proposed new emergency siren. According to mapping by Pohoiki Bypass project engineers SSFM International Inc., the proposed siren location is approximately 100 feet from the road (see Figure 5 of Appendix 2), and no adverse impacts upon the construction or operation of the siren are anticipated.

Other Services

Kua O Ka Lā Public Charter School is located about ½ mile from the project area at Puala'a. Access to this school will be improved by the project and the potential for road closure significantly reduced.

3.3.5 Cultural Resources

Existing Environment

The cultural resources of the project area, which spans the ahupua'a of Pohoiki and Oneloa – were assessed primarily through consultation of an extensive 1998 document prepared by Kepa Maly as part of the EIS for the Oneloa Onsen project: *Puna, Ka 'Āina I Ka Hikina A Ka Lā: A Cultural Assessment Study – Archival and Historical Documentary Research and Oral History Interviews, for the Ahupua'a of 'Ahalanui, Laepāo'o, and Oneloa (with Pohoiki).* This work draws together a large number of informant narratives, both historical and contemporary, including long-term residents of the area and cultural practitioners, many with extensive family histories in the project area. Another source of information were interviews conducted with local informants as part of an archaeological inventory survey for Ahalanui and Isaac Hale County Parks (Devereux et al 1998).

Background

The traditional fame of Puna rests in its groves of *hala* and *'awa*, its association with Pele and her lava flows, and, perhaps surprisingly to many outsiders, the rising of the sun. Many of the cinder cone hills of the Kumukahi region, northeast of the project area, were used to measure the rising of the sun at various times of the year.

A traditional saying related by Maly is:

> *"Hiki mai ka lā ma ka hikina* The sun arrives from the east
> *Ke pi'i mai a'e la i Hanaka'ulua* Climbing above Hanaka'ulua[1]
> *Ka hikina a ka lâ ma Kumukahi,* The sun arrives at Kumukahi,
> *Ka welona a ka lā, kau i Lehua...* And the sun is seen fluttering as it sets at Lehua...
> (pers comm., M.K. Pukui; 1977)"

The hala groves of Puna were useful for weaving (Puna residents were known as master weavers), beautiful to view or scent, and were emblematic of the entire district. Another saying from Mary K. Pukui is:

> *Puna pāia 'ala i ka hala* (Puna, with walls fragrant with pandanus blossoms)

The oldest archaeological features in the project area are the age of the oldest lava flows – dating to the 13th century. In these times, the primary livelihood focused on agriculture and collection of marine resources After this time, the archaeological record indicates that population increased and society became more complex, the implementation of the formal system of land management with the ahupua'a as the basic unit in the 16th century (Ibid:10-11).

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[1] *Hanaka'ulua* is a cove in the land of Kapoho, near the southwestern the boundary of Kapoho and Puala'a; *Kumukahi* is the eastern most point on the island of Hawai'i, situated in the land of Kula; and *Lehua* is one of the Northwestern most of the Hawaiian Islands.

The sparseness of settlement of the area was noted by members of Captain James Cook's expedition, who sailed along the Puna coast in 1779 and were the first westerners to view the area (Ibid: 33).

The first half of the 19th century witnessed throughout the islands a series of massive upheavals of traditional Hawaiian society. The kapu system was overthrown and western missionaries arrived soon after, in part precipitating widespread emigration to population centers. This concentration may have facilitated the communication and consequent devastation wrought by introduced diseases. From missionary records the population of Hawai'i Island is estimated at 85,000 in 1823, falling to 25,864 in 1850 (Ibid: 48). Analogous figures for only Puna, or the project area, do not exist, but they probably followed a similar declining trend.

Traditional Land Uses of the Project Area and Surroundings

Maly's work compiled information regarding land use in Puna and the project area, which consisted mainly of subsistence agriculture and gathering. Inside the ubiquitous coastal *hala* forests of Puna, itself an important raw material for weaving, Maly stated that traditionally Puna residents:

> "...gathered and cultivated dry- and wet-land *kalo* (taro); *'uala* (sweet potatoes), *pi'a, uhi,* and *hoi* (yams); *hue* (gourds), *pia* (arrowroot); *'awa* (*Piper methysticum*), *ko* (sugarcanes); *wauke* (paper mulberry); *mai'a* (bananas); *'ulu* (breadfruit); and *niu* (coconuts) etc." (p. 21).

In *Native Planters* (pp. 540-541), Handy et al. described the project area as having "wet and marshy pandanus forests" that "used to be planted with taro in places". *Pia*, or arrowroot (*Tacca leintopetaloides),* was also a valuable food source in the area. Although *pia* must be carefully cultivated, it has survived in some locations in 'Ahalanui, near the project area.

Historical Narrative Accounts

Maly compiled a number of accounts that describe visits to Puna during the first half of the 19th century. Most of these describe the natural beauty and relative sparseness of population of the area, while there is little information related concerning native Hawaiian practices in the area. William Ellis, a British missionary who toured Hawai'i Island in 1823, described the area:

> "The population in this part of Puna, though somewhat numerous, did not appear to possess the means of subsistence in any great variety or abundance; and we have often been surprised to find desolate coasts more thickly inhabited than some of the fertile tracts in the interior; a circumstance we can only account for, by supposing that the facilities which the former afford for fishing, induce the natives to prefer them as places of abode; for they find that where the coast is low, the adjacent water is usually shallow." (Ibid: 45)

Later visits by missionaries would find a declining and aging population. As related in 1875 and 1890 in Henry M. Whitney's *Hawaiian Guide Book*, most natives left the area, and entrepreneurs such as R. Rycroft began moving in to plant coffee and mill local woods (Ibid: 85). During the next century the land was also used for grazing animals, coconuts, and commercial 'awa.

Contemporary Informant Accounts

Maly (1998) and Devereux et al (1998) held discussions with local informants familiar with the area between, and including, Kapoho and Isaac Hale Parks. Although Maly's interviews were focused on Oneloa and Devereux's on the County parks, the discussions were wide-ranging and treated the project area as well. In several interviews, John Hale, who has since passed away, discussed the fact that much of the area has been cleared for coffee, papaya and ranching, and that very few cultural areas such as heiau or burial grounds remained as a result (Ibid: 51). He, along with other informants in the interviews, stressed the importance of replanting trees when they are cut down for wood, to clear construction areas, or for other reasons. Specifically mentioned were *hala*, *alahe'e*, coconut, mango, *ulu*, *kamani*, and *lama*.

Cultural Resources Identified Through Documentary or Informant Sources

Important botanical and archaeological resources and areas associated with traditional accounts are present in this general area of Puna. The nearby ahupua'a of Ahalanui is rich with unusual botanical specimens such as *'awa* and *pia*, as well as almost pure stands of *hala*, which is still gathered. Extensive fieldwork and research performed for this and other projects in the area, however, indicate the corridor does not contain rare plants, places associated with legend, or archaeological resources.

One of the most important cultural resources requiring protection in the general area are burials. Several burials in the Puna area have experienced desecration through willful or inadvertent acts. The project archaeologist discussed nearby burial locations with a knowledgeable local resident, Keikialoha Kekipi, who also has ancestral ties to the area, and verified locations through fieldwork. The project route was specifically designed to avoid any direct impacts and to produce the minimum potential for indirect (increased access impacts).

Impacts and Mitigation Measures

No significant archaeological features will be affected, and any direct or indirect impacts to burials have been avoided. Although gathering occurs in the general area, most of the specific route occurs in heavily degraded forest with few native plants. One of the realities of road construction in windward areas of Hawai'i is that it usually requires the removal of trees. In this case, *hala*, *kamani*, and *niu* (coconut) trees at the extreme northeastern end, and a mango tree on the southwestern end, will require removal. Although these are widespread in the area, the sentiments concerning the sanctity of Hawaiian plants and trees and the necessity to replant reinforces the importance of landscaping with native trees, discussed above in Section 3.2.1. As additional mitigation, it is suggested that local practitioners be permitted to salvage wood.

3.3.6 Historic Sites/Archaeological Resources

An archaeological inventory survey of the project area was performed by Rechtman Consulting. It is attached as Appendix 3 and summarized below.

Existing Environment

The portion of the current project area within TMK 1-4-02:13 has already been the subject of several reconnaissance and archaeological inventory surveys (Dunn et al. 1995; Kennedy et al. 1990; Kennedy et al. 1991; Bevacqua and Dye 1972). These studies identified a total of five features within the current study area that were assigned agricultural functions as part of a larger "carpet" of 611 agricultural features described as SIHP Site 12157 (Dunn et al. 1995:35). This site was initially evaluated as significant for the information that it contained (Criterion D of the State Historic Preservation Division's significance criteria). Following inventory work that mapped, measured, and photographed the site, it was considered "no longer significant," and recommended for no further work (Dunn et al. 1995:102). The Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) approved the "no further work" treatment for SIHP Site 12157. The portion of the project area within TMK 1-3-08:16 was also part of an earlier inventory survey (Devereux et al. 1998) in which no sites were found within the current study area. The portion of the project area in TMK 1-4-02:9 had not been previously surveyed for archaeological sites.

Previous surveys notwithstanding, archaeologists surveyed the entire project area (i.e., all areas affected by road construction, including 100 feet on all sides) as part of the current field survey. No new sites found anywhere with the overall project area. The portion of the project area within TMKs 1-4-02:9 and 1-3-08:16 had been totally mechanically grubbed in the past. In the portion of the study area within TMK 1-4-02:13, the previously identified features of SIHP Site 12157 (Dunn et al. 1995; Kennedy et al. 1990; Kennedy et al. 1991) were encountered. The formal attributes of these features generally matched the descriptions provided in the earlier studies. No new features were observed.

Additionally, archaeologists verified the location of two previously recorded burial sites to determine their spatial relationship to the project area. Site 12153 is a platform, and Site 12156 is a lava tube blister. In the interest of protecting these resources, this EA does not disclose their location. It is important to note that they are not approached by the proposed realignment corridor, which lies roughly the same distance from them as the existing Highway 137.

Impacts and Mitigation Measures

As no new sites were encountered and the observed features of SIHP Site 12157 have already been mitigated (Dunn et al. 1995), it is the conclusion of the current study that the proposed realignment of Highway 137 will not directly impact any known archaeological sites. Consideration has also been given to potential indirect impacts to the aforementioned burial sites as a result of possible increased foot traffic (people parking on the roadside and walking into the bush). It is concluded, however, that in and of itself the new roadway will not bring added foot

traffic to the area and that the distance of the roadway shoulder will be no closer to these sites than is the current existing condition. Therefore there will be no increased potential for indirect impacts. It should be noted that maintaining a more-than-adequate buffer from these features guided the placement of the proposed realignment corridor.

3.3.7 Agricultural Land

Consultation of maps of important farmland provided by the U.S. Natural Resources Conservation Service (USNRCS) determined that lands identified as Other Important Lands in the *Agricultural Lands of Importance to the State of Hawaii* (ALISH) map series are present. Field inspection determined that no farming or animal husbandry operations are present within the corridor, so no farming operations would be adversely impacted by the project. In the context of the abundant unfarmed Important Agricultural Land in the Puna District, the conversion of several acres of former farmland to road right-of-way s not considered significant.

3.3.8 Hazardous Materials and Toxic Substances

Myounghee Noh & Associates prepared a Phase I Environmental Site Assessment (ESA) for the project site (TMKs 1-4-002:009, 1-4-002:013, & 1-3-008:016). This report is attached as Appendix 4 and is summarized below.

Existing Environment

This Phase I ESA sought to identify Recognized Environmental Conditions (RECs) on the project site, and any in the surrounding project area that might impact the subject property, by performing the following actions:

1) A database search of federal and State databases of hazardous material use, storage, and releases, including, but not limited to, hazardous material generators, leaking underground storage tanks, and reported hazardous material releases;
2) Interviews with landowners, nearby residents, and regulatory agency members concerning the subject property's history of land use;
3) Searches of other records, such as tax records, aerial photography, and fire insurance maps; and
4) A visual survey of the project site.

The term *recognized environmental conditions* means the presence or likely presence of any hazardous substances or petroleum products on the property under conditions that indicate an existing release, a past release, or a material threat of a release into structures on the property or into the ground, ground water, or surface water of the property (American Society for Testing and Materials [ASTM], 2000). The ASTM standard is the accepted industry standard for Phase I Environmental Site Assessments, but this standard will soon be replaced by a new standard determined by the EPA. Accordingly, while this EPA standard is not yet effective, the Phase I Environmental Site Assessment conformed to both the ASTM and the proposed EPA standards.

Database Search for Subject and Adjoining Property

The subject and adjoining properties were not listed in any of the federal and state databases searched. The findings are summarized in the following table:

Table 3-4
Federal and State Hazardous Material Database Search Results

Search Type	Distance Searched	Findings
Federal NPL Site List 1	1 mile	None
Federal RCRA CORRACTS TSD Facilities List	1 mile	None
State Hazardous Waste Sites	1 mile	None
Federal CERCLIS List	½ mile	None
Federal RCRA Non-CORRACTS TSD Facilities List	½ mile	None
State-Equivalent CERCLIS	½ mile	None
State Landfill and/or Solid Waste Disposal Site List	½ mile	None
State Leaking UST List	½ mile	None
Federal RCRA Generators List	½ mile	None
State Registered UST List	¼ mile	None
Federal ERNS List	Subject Site	None
State Spill List	Subject Site	None

See Appendix 4 for explanation of lists.

Site Check:

During a site check conducted on August 20, 2004, MNA observed the subject site to be vacant and undeveloped. Abandoned vehicles were noted.

Storage Tanks

MNA found no evidence of the presence of USTs or aboveground storage tanks on the subject property.

Potential Asbestos-, PCB- or Lead-Containing Material

There was no evidence of potential asbestos-, polychlorinated biphenyls (PCB)-, or lead-containing material on the subject site, except for the area with the abandoned vehicles. The soil under the abandoned vehicles may contain PCBs and heavy metals including lead. Sampling and analysis of material or other potential hazardous substances was not part of this ESA.

Offsite Contamination Source

The Phase I ESA found no potential offsite contamination sources that may migrate to the subject properties.

Site Use History

A review of available aerial photographs, tax records, topographic maps, and interviews with nearby residents revealed that the subject site was used for agricultural purposes or was vacant since the earliest time for which information was available (i.e., 1951).

Impacts and Proposed Mitigation Measures

MNA found no recognized environmental conditions on the subject or nearby properties. The Phase I environmental assessment therefore recommended no further assessments.

3.3.9 Transportation

Existing Conditions

Motor vehicle traffic is generally light on County Road 137 between Kapoho and Pohoiki. No County or State traffic counts are available for the area

The Kaimu-Kapoho Road does not currently have bike lanes, but bicyclists are common. Pedestrian use of project roadways is fairly light except near Isaac Hale County Park, on the section of roadway proposed to be bypassed. The *Bike Plan Hawaii* (HDOT 2003), which serves as the guide for implementation of bikeways for the State of Hawai'i, designates the Kaimu-Kapoho Road as a shared roadway with signage, a facility that usually has at least 12-foot lanes, often with no shoulders.

Impacts and Proposed Mitigation Measures

The proposed project would improve conditions for motor vehicles by providing a road that conforms to current County standards and avoids an area that is difficult to traverse during high tides or storms. The realigned section is planned to have 10-foot lanes, with 5 feet of paved shoulder, which is suitable for a shared roadway for bicycles. In addition, the bypassed section of the road will be an excellent corridor for bicycle and pedestrian use.

3.3.10 Growth-Inducing, Cumulative and Secondary Impacts

The proposed project would serve to improve a section of County roadway in the Puna district. Population density in the area is low, and most visitors to the area make use of the recreational resources. Isaac Hale County Park has the only boat ramp in the area and Pohoiki Bay is also a popular surfing, swimming, snorkeling, and fishing spot. Because the project will simply serve to improve the substandard quality of the existing roadway, the project is not expected to promote use or growth of the area.

Cumulative impacts result when implementation of several projects that individually have minor impacts combine to produce more severe impacts or conflicts among mitigation measures. No other road projects are planned for the area. All adverse impacts of the current project related to native species/habitat, wetlands, water quality, erosion, historic sites, and other areas of concern are either non-existent or extremely restricted in geographic scale, negligible, and capable of mitigation through proper enforcement of permit conditions. Therefore, such adverse impacts would not tend to be cumulative in relation to this or other projects.

Construction projects sometimes have the potential to induce secondary physical and social impacts that are only indirectly related to project. For example, construction of a new recreation facility can lead to changes in traffic patterns that produce impacts to noise and air quality for a previously unimpacted neighborhood. In this case, the proposed project's impacts are limited to direct impacts at the site itself, and there does not appear to be any potential for secondary impacts.

3.4 Construction-Phase Impacts

Construction of the proposed project would last approximately six months. During this period construction vehicles, power tools and heavy equipment would generate noise, traffic congestion, exhaust emissions and the potential for soil erosion.

3.4.1 Sediments, Water Quality and Flooding

Impacts

Uncontrolled excess sediment from soil erosion during and after road construction can impact natural watercourses, water quality and flooding potential. Contaminants associated with heavy equipment and other sources during construction may also impact receiving stream, ocean and ground water.

Proposed Mitigation Measures

Because of the limited scale of construction and the environmental setting, the risks for flooding or impacts to water quality are negligible. No impacts to stream banks or stream waters will occur. However, in order to ensure that any impact is minimized, the contractor shall perform all

earthwork and grading in conformance with Chapter 10, Erosion and Sediment Control, Hawai'i County Code. Because the project will disturb more than one acre of soil, an National Pollutant Discharge Elimination System (NPDES) permit must be obtained by the contractor before the project commences. This permit requires the completion of a Storm Water Pollution Prevention Plan (SWPPP). In order to properly manage storm water runoff, the SWPPP will describe the emplacement of a number of best management practices (BMPs) for the project. These BMPs may include measures such as the following:

- Minimization of soil loss and erosion by revegetation and stabilization of slopes and disturbed areas of soil, possibly using hydromulch, geotextiles, or binding substances, as soon as possible after working;
- Minimization of sediment loss by emplacement of structural controls possibly including silt fences, gravel bags, sediment ponds, check dams, and other barriers in order to retard and prevent the loss of sediment from the site;
- Minimizing disturbance of soil during periods of heavy rain;
- Phasing of the project in order to disturb a minimum necessary area of soil at a particular time;
- Application of protective covers to soil and material stockpiles;
- Construction and use of a stabilized construction vehicle entrance, with designated vehicle wash area that discharges to a sediment pond;
- Washing of vehicles in the designated wash area before they egress the project site;
- Use of drip pans beneath vehicles not in use in order to trap vehicle fluids;
- Routine maintenance of BMPs by adequately trained personnel;
- Coordination of storm water BMPs and wind erosion BMPs whenever possible; and
- Significant leaks or spills, if they occur, shall be properly cleaned up and disposed of at an approved site.

3.4.2 Air Quality

Impacts

Construction can cause short-term direct and indirect air quality impacts through fugitive dust from vehicle movement and soil excavation, as well as exhaust emissions from on-site construction equipment.

Fugitive dust emissions may arise from the grading and dirt-moving activities associated with site clearing and preparation work. The State of Hawai'i Air Pollution Control Regulations (Chapter 11-60, HAR) prohibit visible emissions of fugitive dust from construction activities beyond the property line. Thus, an effective dust control plan for the project construction phase is essential.

Mitigation

Adequate fugitive dust control can usually be accomplished by the establishment of a frequent watering program to keep bare-dirt surfaces in construction areas from becoming significant sources of dust. In dust-prone or dust-sensitive areas, other control measures such as limiting the area that can be disturbed at any given time, applying chemical soil stabilizers, mulching and/or using wind screens may be necessary. Control regulations further stipulate that open-bodied trucks be covered at all times when in motion if they are transporting materials that could be blown away. Haul trucks tracking dirt onto paved streets from unpaved areas is often a significant source of dust in construction areas. Some means to alleviate this problem, such as road cleaning or tire washing, may be appropriate. Paving of parking areas and/or establishment of landscaping as early in the construction schedule as possible can also lower the potential for fugitive dust emissions.

On-site mobile and stationary construction equipment also would emit air pollutants from engine exhausts. The largest of this equipment is usually diesel-powered. Nitrogen oxide emissions from diesel engines can be relatively high compared to gasoline-powered equipment, but the standard for nitrogen dioxide is set on an annual basis and is not likely to be violated by short-term construction equipment emissions. Carbon monoxide emissions from diesel engines, on the other hand, are low and should be relatively insignificant, considering the setting far from sensitive uses.

In addition, to avoid air quality impacts from slow-moving construction vehicles traveling to and from the site on major roadways, heavy construction equipment should be moved on-site during periods of low traffic volume.

3.4.3 Noise

Impacts

Construction would result in noise from grading, blasting, compressors, vehicle and equipment engines, and other sources. Construction activities may exceed 95 decibels (dB) at times.

Mitigation

The State of Hawai'i requires contractors engaged in road construction activities to conform with Title 11, Chapter 46, HAR (Community Noise Control). The Hawai'i State Department of Health's (HDOH) Noise, Radiation and Indoor Air Quality Branch issues permits for construction activities which may generate noise. The permit is applied for during the construction phase by the contractor. HDOH will review the type of activity, location, equipment, project purpose, and timetable in order to decide upon conditions and mitigation measures. Possible measures include restriction of equipment type, maintenance requirements, restricted hours, and portable noise barriers. The precise combination of mitigation measures, if any, shall be specified by HDOH prior to construction.

3.4.4 Traffic Congestion

Impacts

The proposed action would require construction vehicles needed for grading, hauling fill and construction access the project sites during a period of several months. For short intervals during the construction period, operation of construction equipment, trucks, and worker vehicles may temporarily impede traffic on Kaimu-Kapoho Road.

Mitigation

The contractor will be required to develop a traffic control plan during the design phase of the project that will outline the steps needed to minimize congestion and maintain access to adjacent properties at all times during construction.

3.4.5 Public Utilities

Impacts

No public utilities such as water lines, electric and telephone lines, wastewater or drainage facilities are present, and none will be affected by construction of the project.

3.5 Required Permits and Approvals

Several permits and approvals are required to implement this project. They are listed here under their granting agencies.

State Historic Preservation Officer
- a. Finding of No Adverse Effects or No Effects to Significant Historic Sites

State Department of Health:
- a. National Pollutant Discharge Elimination System Permit
- b. Community Noise Control Construction Noise Permit

County Department of Public Works:
- a. Permits for Grading, Grubbing, and Stockpiling

County Planning Department
- a. Permit for Subdivision
- b. Special Management Area Permit

4 COMMENTS AND COORDINATION

4.1 Agencies, Organizations and Individuals Contacted

The following agencies and organizations received a letter inviting their participation in the preparation of the Environmental Assessment or were contacted during preparation of the EA.

- Peter Young, Director, Hawai'i State Dept. of Land and Natural Resources
- Administrator, State Historic Preservation Division
- Stanley Tamura, Hawai'i Dist. Engineer, Hawai'i Dept. of Transportation –Highways
- Gary Safarik, Council Chair, Hawai'i County Council
- Christopher J. Yuen, Director, Hawai'i County Planning Dept.
- James Komata, Hawai'i County Department of Parks and Recreation
- Kapoho Community Association
- Pohoiki Fisherman's Association
- Kua O Ka Lā Public Charter School
- Malama O Puna
- Friends of Pohoiki

The County of Hawai'i invited public participation in the Pohoiki-Kaimu Road Realignment project through discussions and meetings with neighborhood residents, community members and school administration officials potentially impacted by the project.

The Draft EA was published on July 8, 2005, which initiated a 30-day comment period that concluded on August 8, 2005. A total of 17 letters was received in response to the EA. The letters and the responses of DPW to these letters are reproduced in Appendix 1C. Parts of the EA were modified in response to information provided or clarification prompted by some of the letters. Text changed for non-procedural reasons in the EA is denoted by double underlines, as in this paragraph.

A public meeting concerning the project was held on July 28, 2005, at the Pahoa Community Center. The sign-in sheet, summary notes, and newspaper articles that appeared in response to the press release and after the public meeting are included in Appendix 1D.

5 LIST OF DOCUMENT PREPARERS

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6 STATE OF HAWAI'I ENVIRONMENTAL ASSESSMENT FINDINGS

Section 11-200-12 of the State Administrative Rules sets forth the criteria by which the significance of environmental impacts shall be evaluated. The following discussion paraphrases these criteria individually and evaluates the project's relation to each.

1. *The project will not involve an irrevocable commitment or loss or destruction of any natural or cultural resources.* The State Historic Preservation Officer is expected to concur that no effect to any significant historic site would occur as a result of the proposed project. Some use of semi-natural forest is involved, but direct and indirect impacts to wetlands should be decreased.

2. *The project will not curtail the range of beneficial uses of the environment.* No future beneficial use will be affected in any way by the proposed project. The project will improve the quality of Isaac Hale County Park, and will improve the beneficial use of a portion of shoreline area through relocation of most traffic away from the shoreline.

3. *The project will not conflict with the State's long-term environmental policies.* The State's long-term environmental policies are set forth in Chapter 344, HRS. The broad goals of this policy are to conserve natural resources and enhance the quality of life. A number of specific guidelines support these goals. No aspect of the proposed project conflicts with these guidelines. The project supports a number of guidelines, including those calling for maintenance of an integrated system of State land use planning which coordinates State and County plans, and encouraging transportation systems in harmony with the lifestyle of the people and the environment.

4. *The project will not substantially affect the economic or social welfare of the community or State.* The improvements will benefit the social and economic welfare of Puna. It will improve the transportation system in terms of safety, efficiency, and energy consumption by providing a more efficient roadway for motor vehicles, pedestrians, and bicyclists, and will ensure the continuation of an important evacuation route.

5. *The project does not substantially affect public health in any detrimental way.* No effects to public health are anticipated.

6. *The project will not involve substantial secondary impacts, such as population changes or effects on public facilities.* No adverse secondary effects are expected. The project will not enable development in any way.

7. *The project will not involve a substantial degradation of environmental quality.* Permits mandating implementation of best management practices for activities during construction will ensure that the project will not degrade environmental quality in any substantial way. The project will have a beneficial impact on water quality.

8. *The project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat.* No endangered species of flora or fauna are known to exist on the proposed realignment corridor or would be affected in any way by the project. A rare shrimp species that may be present in the wetlands will benefit from realignment of the road.

9. *The project is not one which is individually limited but cumulatively may have considerable effect upon the environment or involves a commitment for larger actions.* All adverse impacts of the related to native species/habitat, wetlands, water quality, erosion, historic sites, and other areas of concern are either non-existent or restricted in geographic scale, negligible, and capable of mitigation through proper enforcement of permit conditions. Therefore, such impacts would not tend to accumulate in relation to this or other projects.

10. *The project will not detrimentally affect air or water quality or ambient noise levels.* The project will have basically beneficial effects in terms of water quality. There will be some short-term construction related air and noise quality impacts due to construction vehicle traffic; however, the project will have an overall beneficial effect on air quality and noise levels at Isaac Hale County Park.

11. *The project will not affect or will likely be damaged as a result of being located within an environmentally sensitive area such as flood plains, tsunami zones, erosion-prone areas, geologically hazardous lands, estuaries, fresh waters or coastal waters.* The project would realign the main roadway away from the adjacent wetlands, as well as areas that are frequently inundated by high tides and seas, and would therefore have a beneficial affect on environmentally sensitive area such as floodplains, tsunami zones, erosion-prone areas, geologically hazardous lands, estuaries, fresh waters or coastal waters. Although the project is located in a zone exposed to some earthquake and volcanic hazards, there are no reasonable alternatives.

12. *The project will not substantially affect scenic vistas and viewplanes identified in county or state plans or studies.* No scenic vistas and viewplanes identified in county or state plans or studies are present in the area to be affected, with the exception of the possible removal of one tree from a large mango grove identified as scenic. Landscaping mitigation will compensate for the loss of the tree.

13. *The project will not require substantial energy consumption.* Although input of energy is required for road construction, a small net benefit is expected because of improvement in the road conditions and consequent increases in fuel efficiency.

For the reasons above, the Hawai'i County Department of Public Works has determined that that the proposed project will not have any significant effect in the context of Chapter 343, Hawai'i Revised Statues and section 11-200-12 of the State Administrative Rules, and has issued of a Finding of No Significant Impact (FONSI).

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POHOIKI BYPASS

PUNA DISTRICT, COUNTY OF HAWAI'I

DRAFT ENVIRONMENTAL ASSESSMENT

APPENDIX 1A

PUBLIC INVOLVEMENT

PRECONSULTATION LETTERS

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

YVONNE Y. IZU
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

RECEIVED
2005 JAN 28 P 3:21

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

January 25, 2005

LD/NAV
Ref.: POHOIKIBYPASS.CMT

Suspense Date: 2/2/05

MEMORANDUM:

TO: XXX Division of Forestry & Wildlife
XXX Division of State Parks
XXX Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
XXX Engineering Division
XXX Office of Conservation and Coastal Lands
XXX Hawaii District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Pre-Assessment Consultation for the Preparation of Draft Environmental Assessment for Pohoiki Bypass, Puna District, Island of Hawaii, Hawaii
Consultant: Geometrician Associates, LLC

Please review the attached letter dated January 14, 2005 and map, pertaining to the subject matter and submit your comments (if any) on Division letterhead signed and dated by the suspense date.

Should you have any questions, please contact Nick Vaccaro at 587-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

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

Division: DOBOR

Signed: R Rem

Date: 1/27/05

Name: Richard Rice

JAN26'05 AM11:14 DOBOR DLU

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621 ,
HONOLULU, HAWAII 96809

February 14, 2005

LD-NAV
POHOIKIBYPASSGEO.RCM

GEOMETRICIAN ASSOCIATES, LLC
Ron Terry, Principal
HC 2 Box 9575
Keaau, Hawaii 96749

Dear Mr. Terry:

Subject: Pre-Assessment Consultation for the Preparation of a Draft Environmental Assessment for Pohoiki Bypass, Puna District, Island of Hawaii, Hawaii

Thank you for the opportunity to review and comment on the subject matter.

A copy of your letter and map dated January 14, 2005, pertaining to the subject matter was distributed or made available to the following Department of Land and Natural Resources' Divisions for their review and comment:

- Division of Forestry and Wildlife
- Division of State Parks
- Division of Boating and Ocean Recreation
- Engineering Division
- Commission on Water Resource Management
- Office of Conservation and Coastal Lands
- Land-Hawaii District Land office

Enclosed please find a copy of the Division of State Parks and Engineering Division comments and Division of Forestry and Wildlife response.

The Department of Land and Natural Resources has no other comment to offer on the subject matter at this time.

Should you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 1-808-587-0384.

Very truly yours,

WARREN F. WEGESEND JR.
Administrator

C: HDLO

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

January 25, 2005

LD/NAV
Ref.: POHOIKIBYPASS.CMT

Suspense Date: 2/2/05

'05 JAN 28 AM 11:23 ENGINEERING

MEMORANDUM:

TO:
XXX Division of Forestry & Wildlife
XXX Division of State Parks
XXX Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
✓ XXX Engineering Division
XXX Office of Conservation and Coastal Lands
XXX Hawaii District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Pre-Assessment Consultation for the Preparation of Draft Environmental Assessment for Pohoiki Bypass, Puna District, Island of Hawaii, Hawaii
Consultant: Geometrician Associates, LLC

Please review the attached letter dated January 14, 2005 and map, pertaining to the subject matter and submit your comments (if any) on Division letterhead signed and dated by the suspense date.

Should you have any questions, please contact Nick Vaccaro at 587-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

( ) We have no comments.

(X) Comments attached.

Division: Engineering

Signed:

Date: 2/1/05

Name: ERIC T. HIRANO, CHIEF ENGINEER

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

REF.: POHOIKIBYPASS.CMT
Hawaii.301

COMMENTS

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

(X) **Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone X. The Flood Insurance Program does not have any regulations for development within Zone X.**

( ) 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. Robert Sumimoto at (808) 523-4254 or Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.

( ) Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.

( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.

( ) Mr. Mario Antonio at (808) 241-6620 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. Andrew Monden of the Planning Branch at 587-0229.

Signed: _____
ERIC T. HIRANO, CHIEF ENGINEER

Date: 2/1/05

#1550

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

YVONNE Y. IZU
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

2005 FEB -1 A 10:12

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621 ,
HONOLULU, HAWAII 96809

January 25, 2005

LD/NAV
Ref.: POHOIKIBYPASS.CMT

Suspense Date: 2/2/05

MEMORANDUM:

TO: ✓ XXX Division of Forestry & Wildlife
XXX Division of State Parks
XXX Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
XXX Engineering Division
XXX Office of Conservation and Coastal Lands
XXX Hawaii District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Pre-Assessment Consultation for the Preparation of Draft Environmental Assessment for Pohoiki Bypass, Puna District, Island of Hawaii, Hawaii
Consultant: Geometrician Associates, LLC

Please review the attached letter dated January 14, 2005 and map, pertaining to the subject matter and submit your comments (if any) on Division letterhead signed and dated by the suspense date.

Should you have any questions, please contact Nick Vaccaro at 587-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

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

Division: _____ Signed: Paul J. Conry

Date: JAN 26 2005 Name: PAUL J. CONRY, ADMINISTRATOR
DIVISION OF FORESTRY AND WILDLIFE

f6477

LINDA LINGLE
GOVERNOR OF HAWAII

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TO:
___ADMINISTRATOR
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(1) DEV BR
___PLAN BR
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___INTERP BR
FOR
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(1) COMMENTS & REC
___DRAFT REPLY
___FILE
___FOLLOW UP
___INFO
___RUN COPIES_____
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___SEE ME
___FAX/SEND COPY TO_____

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

YVONNE Y. IZU
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
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

January 25, 2005

LD/NAV
Ref.: POHOIKIBYPASS.CMT

Suspense Date: 2/2/05

MEMORANDUM:

TO: XXX Division of Forestry & Wildlife
✓ XXX Division of State Parks
XXX Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
XXX Engineering Division
XXX Office of Conservation and Coastal Lands
XXX Hawaii District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Pre-Assessment Consultation for the Preparation of Draft Environmental Assessment for Pohoiki Bypass, Puna District, Island of Hawaii, Hawaii
Consultant: Geometrician Associates, LLC

Please review the attached letter dated January 14, 2005 and map, pertaining to the subject matter and submit your comments (if any) on Division letterhead signed and dated by the suspense date.

Should you have any questions, please contact Nick Vaccaro at 587-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

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

Division: _____ Signed: _____

Date: _____ Name: Daniel S. Quinn

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

YVONNE Y. IZU
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

January 31, 2005

TO: Dierdre S. Mamiya, Administrator
Land Division

FROM: Daniel S. Quinn, Administrator
Division of State Parks

SUBJECT: Pre-Assessment Consultation for the Preparation of Draft Environmental Assessment for Pohoiki Bypass, Puna District, Island of Hawaii, Hawaii

We acknowledge receipt of your memorandum dated January 25, 2005 requesting our review and comments for the subject project, and we offer the following:

The subject project area appears to be in the vicinity of the following two State Park sites:

- Lava Tree State Monument – approximately 2+ miles west from the project site along Pohoiki Road; and
- MacKenzie State Recreation Area – approximately 2+ miles south of the project site on Highway 137.

We will provide additional comments on the subject project as more information is forthcoming, such as any other consultations and/or the draft environmental assessment, pursuant to Chapter 343, HRS.

We appreciate the opportunity to review the subject project. Please contact Russell Kumabe of my staff if you have any questions.

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

February 4, 2005

Regulatory Branch

Mr. Ron Terry
Principal
Geometrician Asociates, LLC
HC 2 Box 9575
Kea`au, HI 96749

Dear Mr. Terry:

This responds to your request for written comments for a draft Environmental Assessment (dEA) which will address activities and impacts of the proposed Pohoiki ByPass Road Project, Puna District, Hawaii Island.

The dEA should indicate whether waters of the United States, as represented by perennial or intermittent streams, and wetlands are in, or adjacent to, or absent from, the proposed project area. The dEA should state in appropriate sections that there is, or no potential for waters of the U.S., including wetlands, anchialine ponds, and other special aquatic sites, to be directly and/or indirectly impacted by construction of project structures and associated ground disturbing activities within the proposed improvement area.

The Corps requests a copy of the dEA for evaluation and comments. At that time it may then be determined whether a Department of Army (DA) permit for activities under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899 may, or may not be, required for the proposed project.

Thank you for your consideration of potential impacts to the aquatic environment of the Puna District watershed. Please contact Mr. Farley Watanabe of my staff at 808-438-7701, or facsimile 438-4060, if you have any questions or need additional information. Please refer to **File Number POH-2005-38** in any future correspondence with us.

Sincerely,

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

Harry Kim
Mayor

Lawrence K. Mahuna
Police Chief

Harry S. Kubojiri
Deputy Police Chief

County of Hawaii
POLICE DEPARTMENT
349 Kapiolani Street • Hilo, Hawaii 96720-3998
(808) 935-3311 • Fax (808) 961-8869

February 2, 2005

Mr. Ron Terry
Principal
Geometrician Associates
HC 2 Box 9575
Keaau, Hawaii 96749

Dear Mr. Terry:

Subject: Environmental Assessment, Pohoiki Bypass, Puna District, Island of Hawaii

Based on the facts provided in your letter of January 14, 2005, and your conversation with Puna District Captain Steven Guillermo on January 28, 2005, we support the construction of this proposed roadway.

This project will provide the community and public safety personnel a safe and passable route during high tides and high surf periods.

Thank you for the opportunity to comment. Please send us a copy of the Draft EA when it is completed.

Sincerely,

LAWRENCE K. MAHUNA
POLICE CHIEF

SG:lli

Harry Kim
Mayor

Darryl J. Oliveira
Fire Chief

Desmond K. Wery
Deputy Fire Chief

County of Hawai'i
FIRE DEPARTMENT
25 Aupuni Street • Suite 103 • Hilo, Hawai'i 96720
(808) 961-8297 • Fax (808) 961-8296

January 24, 2005

Mr. Ron Terry, Principal
HC 2 Box 9575
Kea'au, Hawai'i 96749

Dear Mr. Terry:

SUBJECT: ENVIRONMENTAL ASSESSMENT, POHOIKI BYPASS, PUNA DISTRICT, ISLAND OF HAWAI'I

In regards to the above-mentioned environmental assessment, we have no comments to offer at this time. Thank you for allowing us to review this proposed road project.

Sincerely,

DARRYL OLIVEIRA
FIRE CHIEF

JCP/cmj

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

HRD05/1704

January 25, 2005

Ron Terry, Principal
Geometrician Associates
HC 2 Box 9575
Kea'au, HI 96749

RE: Request for Pre-Consultation for a Proposed Pohoiki Bypass Road, Puna District, Hawai'i Island

Dear Ron Terry,

The Office of Hawaiian Affairs (OHA) is in receipt of your January 14, 2005, request for comments on the above project, which would include rerouting a segment of the Kapoho-Kalapana Road near Pohoiki Bay. OHA has no comments at this time, but looks forward to reviewing your forthcoming Draft Environmental Assessment.

Thank you for the opportunity to comment. If you have further questions, please contact Heidi Guth at 594-1962 or e-mail her at heidig@oha.org.

Sincerely,

Clyde W. Nāmu'o
Administrator

Harry Kim
Mayor

Christopher J. Yuen
Director

Roy R. Takemoto
Deputy Director

County of Hawaii
PLANNING DEPARTMENT
101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720-3043
(808) 961-8288 • Fax (808) 961-8742

January 21, 2005

Mr. Ron Terry
Geometrician Associates, LLC
HC2 Box 9575
Keaau, Hawaii 96749

Dear Mr. Terry:

Subject: Pre-Consultation on Environmental Assessment
Applicant: County of Hawaii Department of Public Works
Project: Pohoiki By-Pass Road
Tax Map Key: (3) 1-3-008:016, 1-4-002:009 & 1-4-002:013

This is in response to your letter, dated January 14, 2005, requesting our comments regarding the Environmental Assessment (EA) being prepared for the subject project. We understand that the County of Hawaii Department of Public Works (DPW) is beginning studies to identify a suitable alignment for a realignment of Highway 137 (the Kapoho-Kalapana Road) near Pohoiki Bay.

The proposed project currently provides for two alternative alignments. Under both of the alternatives, Hwy. 137 would be extended to the Northeast past its current intersection with Pohoiki Road through TMK 1-3-08:16, which is in the Special Management Area, and through TMK 1-4-02:09 and into TMK 1-4-02:13. The primary difference between alternates 1 and 2 is the distance into Parcel 13 the road would traverse before turning makai to reconnect with the existing Hwy. 137. All of the affected parcels are zoned Agricultural (A-1a) by the County of Hawaii and are situated in the State Land Use Agricultural district. The County of Hawaii's General Plan Land Use Pattern Allocation Guide includes all of the affected parcels under the Orchards designation.

Pursuant to §205-4.5(a)(7), Hawaii Revised Statutes, public roadways are a permitted use in the SLU Agricultural district. Also, §25-5-72(a) of the County of Hawaii Code (Zoning Code) identifies public uses and structures that are necessary for agricultural practices as a permitted use in the A district. However, pursuant to Rule 9-4(10)A of the Planning Commission Rules of Practice and Procedure, the construction of a new roadway in the SMA is considered to be "development" and will require a SMA Use Permit.

We would appreciate the opportunity to review and comment on the anticipated DEA. Should you have questions, please feel welcome to contact Larry Brown or Esther Imamura of my staff at 961-8288.

Sincerely,

CHRISTOPHER J. YUEN
Planning Director

LMB:cd
P:\WPWIN60\LarryAEA-EIS Comments\geometrician-DPWPohoikiByPass preacmnts.doc

Harry Kim
Mayor

Troy M. Kindred
Administrator

Lanny T. Nakano
Assistant Administrator

County of Hawaii
CIVIL DEFENSE AGENCY
920 Ululani Street • Hilo, Hawai'i 96720-3958
(808) 935-0031 • Fax (808) 935-6460

February 14, 2005

Mr. Ron Terry
Geometrician Associates, LLC
HC 2 Box 9575
Kea'au, Hawai'i 96749

Dear Mr. Terry,

Thank you for the opportunity to comment on the Environmental Assessment for the Pohoiki Bypass Road project.

After reviewing the map of the proposed bypass road and during our recent telephone conversation regarding the project, my concern would be the proposed site for our new outdoor warning siren as it will be situated near the intersection of the new bypass road and Pohoiki Road.

I have enclosed an e-mail with a map from Mr. Ricky Sasaki, DAGS, Project Management Branch regarding the proposed Pohoiki siren site for your information and use.

Should you have any questions regarding the proposed siren project, please feel free to call me at 935-0031 or Mr. Ricky Sasaki at (808) 586-0474.

I wish to receive a copy of the Draft EA when it is completed.

Sincerely,

Lanny T. Nakano
Acting Administrator

Enclosures

Ricky R Sasaki
02/04/2005 01:13 PM

To: RKobayashi@co.hawaii.hi.us
cc:
Subject: Re: POHOIKI SIREN SITE

Mr. Roydon Kobayashi,

I hope you received the information I e-mail to you earlier. I have not been able to get confirmation that your received my previous e-mail, and therefore I am sending it to you again. If you received the previous e-mail, disregard this message. Thanks.

Ricky Sasaki
D.A.G.S., Project Management Branch
(808) 586-0474

Mr. Roydon Kobayashi,

Attached for your information is the SITE 909 POHOIKI you requested with the proposed location of the siren. I have also included a TIF file from Mr. James Komata for your use. Mr. Komata has been informed of our proposed siren location.

SITE 909 POHOIKI.pd Pohoiki-Site.TIF

Ricky Sasaki
D.A.G.S., Project Management Branch
(808) 586-0474
RKobayashi@co.hawaii.hi.us

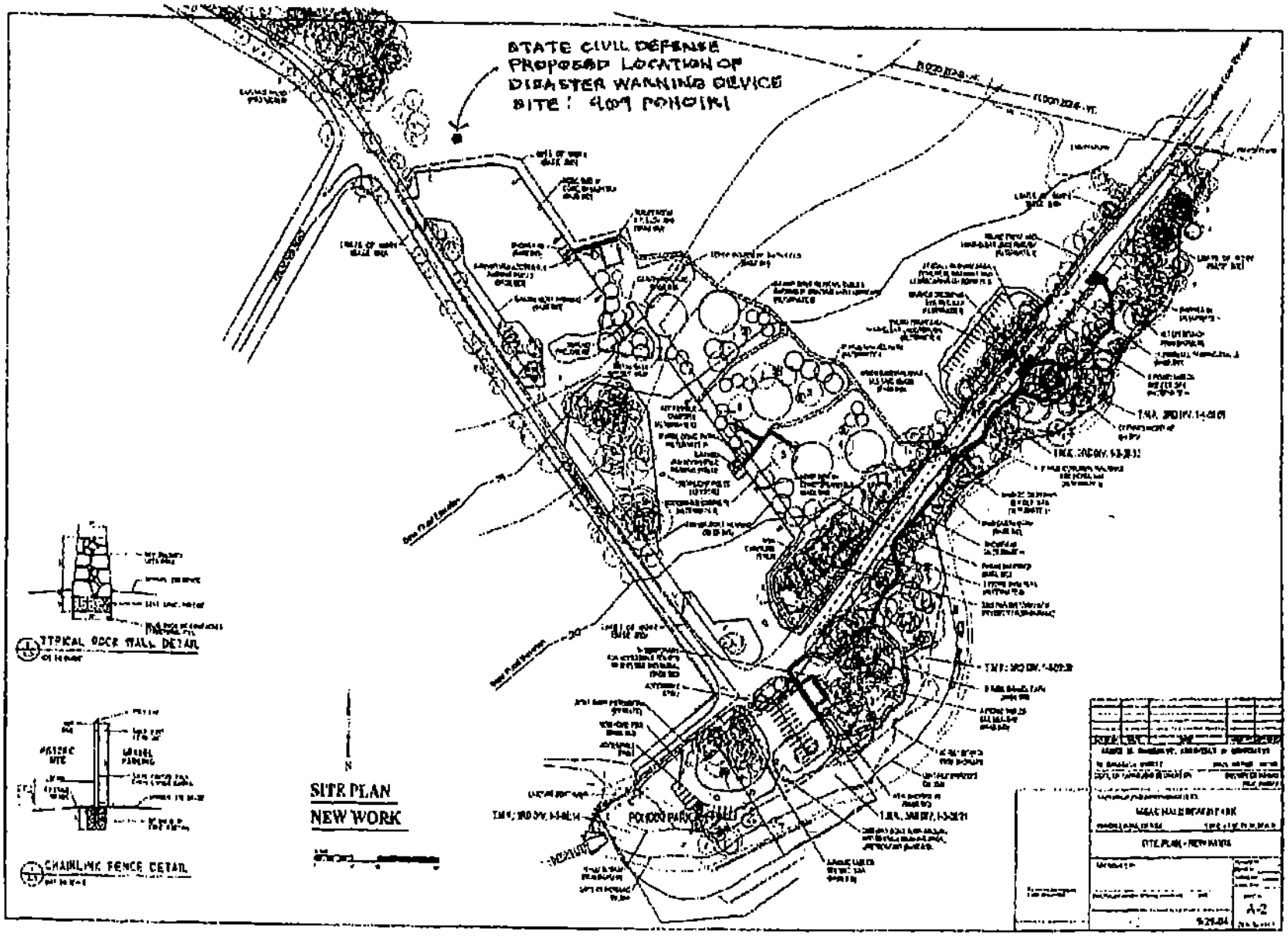
RKobayashi@co.hawaii.hi.us
02/03/2005 10:40 AM

To: ricky.r.sasaki@hawaii.gov
cc:
Subject: POHOIKI SIREN SITE

Ricky,

Do you have a copy of the latest Pohoiki Siren site? If you do can you mail us a copy. I will follow up with a phone call. Thanks

Roy


STATE CIVIL DEFENSE
PROPOSED LOCATION OF
DISASTER WARNING DEVICE
SITE: 409 PONOINI
TYPICAL ROCK WALL DETAIL
CHAINLINK FENCE DETAIL
SITE PLAN
NEW WORK
N
POHOKI PARK
A-2

POHOIKI BYPASS

PUNA DISTRICT, COUNTY OF HAWAI'I

DRAFT ENVIRONMENTAL ASSESSMENT

APPENDIX 1B

PUBLIC INVOLVEMENT

U.S.G.S LETTER

Note: This letter was written in response to a request for information during preparation of an Environmental Assessment conducted by the Federal Emergency Management Agency (FEMA) concerning funding of improvements at Isaac Hale County Park and Ahalanui County Park.

FEMA Project

United States Department of the Interior

TAKE PRIDE IN AMERICA

GEOLOGICAL SURVEY
Hawaiian Volcano Observatory
P. O. Box 51
(Courier address: 1 Crater Rim Drive)
Hawaii National Park, HI 96718
U. S. A.
Voice: (808) 967-8819 or 967-7328
Fax: (808) 967-8819 or 967-8890
E-mail: donswan@liko.wr.usgs.gov

May 30, 1997

G. Morgan Griffin
Senior Staff Scientist
Woodward-Clyde
200 Orchard Ridge Drive, Suite 101
Gaithersburg, MD 20878

Dear Mr. Griffin:

I have shown your letter of April 23, 1997, to several staff members of the Hawaiian Volcano Observatory (HVO) and requested comments from them concerning the EAs for Ahalanui Park and Pohoiki Park. The following comments are general in nature and pertain to both projects, and so, contrary to your request, I am not discussing each project separately. I address only issues related to volcanic activity and related ground deformation and seismicity—the pertinent areas of expertise of HVO.

The area is within lava-flow hazard zone 2, downslope from Kilauea's east rift zone on lava flows that are 400–750 years old. Nearby lava flows were erupted in 1790 and 1955. The area can be expected to be covered by lava at any time within the next several hundred years. Depending on wind directions, vog could present a problem if a long-lasting eruption were to take place anywhere along the east rift zone in central or east Puna. Small amounts of volcanic ash could be expected to fall on the area during high lava fountaining from nearby parts of the rift zone.

The entire Island of Hawaii is currently in Seismic Zone 3 of the Uniform Building Code. However, the zoning is currently being upgraded to Zone 4, the highest seismic hazard zone. A magnitude 7.2 earthquake on November 29, 1975, was centered about 25 km west-southwest of the area. It caused much of the coastline farther west to subside (as much as 3.5 m), but the coastline in the project area subsided only a few centimeters, probably less than 35 cm. In addition, the 1975 earthquake caused a tsunami that inundated the coastline in the project area to a depth of nearly 2.5 m, and other earthquakes in 1868 and probably 1823 most likely resulted in tsunami of similar heights. Tsunami, whether generated by local or at distant earthquakes, probably pose the single greatest short-term threat to beach-front facilities in Hawaii.

West Hawaii is gradually subsiding owing to the weight of the island on the oceanic lithosphere. Tide-gage records in Hilo indicate such isostatic sinking of about 3–4 mm per year. Probably the project area is sinking even more rapidly, because we know that subsidence rates in parts of east Puna are considerably more than the isostatic rate. For example, the Kapoho graben, north of the project site, has been sinking at a rate of about 1.7 cm per year since 1975. A water well at Malama Ki, about 6 km west of the project site, indicates an even higher subsidence rate of about 2 cm/yr. Most likely the project area is sinking at a rate of about 2 cm per year (1 m in 50 years), 6–7 times that of isostatic subsidence alone.

Lava flows entering the ocean farther northeast of the project area could generate black sand that would be carried by long-shore currents into the project area. Such sand might tend to build back beaches drowned by subsidence, but this is purely conjecture.

Please do not hesitate to contact me if you have any questions about this material or any other aspect of the volcanic, seismic, or deformation issues about the project area.

Sincerely yours,

Donald A. Swanson
Scientist-in-Charge

POHOIKI BYPASS

PUNA DISTRICT, COUNTY OF HAWAI'I

DRAFT ENVIRONMENTAL ASSESSMENT

APPENDIX 1C

PUBLIC INVOLVEMENT

COMMENT LETTERS TO DRAFT E.A. AND RESPONSES

LINDA LINGLE
GOVERNOR OF HAWAII

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
[illegible]

July 8, 2005

Bruce McClure
Department of Public Works
101 Pauahi Street, #7
Hilo, Hawaii 96720

Attn: Ben Ishii

Dear Mr. McClure:

Subject: Draft environmental assessment (EA) for Puhoiki Bypass

Thank you for the opportunity to review this draft EA. We have no comments at this time.

If you have any questions call Nancy Heinrich at 586-4185.

Sincerely,

Genevieve Salmonson

GENEVIEVE SALMONSON
Director

c: Ron Terry

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu HI 96813

Dear Ms. Salmonson:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letter dated July 8, 2005, on the Draft EA, in which you stated that you had no comments at this time.

Thank you for reviewing the Draft EA. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

Harry Kim
Mayor

Darryl J. Oliveira
Fire Chief

Desmond K. Wery
Deputy Fire Chief

County of Hawai'i
FIRE DEPARTMENT
25 Aupuni Street • Suite 103 • Hilo, Hawai'i 96720
(808) 961-8297 • Fax (808) 961-8296

July 14, 2005

TO : GEOMETRICIAN ASSOCIATES

FROM : DARRYL OLIVEIRA, FIRE CHIEF

SUBJECT: POHOIKI BYPASS
LOCATION: ISLAND: HAWAII DISTRICT: PUNA
TAX MAP KEY(S): (3) 1-3-8:016, 1-4-2:009& 013

We have no comments to offer at this time in reference to the above-mentioned project, Pohoiki Bypass.

DARRYL OLIVEIRA
Fire Chief

DJO:lpc

Cc: Office of Environmental Quality Control, Director
County of Hawaii, Department of Public Works

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

Darryl Oliveira, Fire Chief
Hawai'i County Fire Department
25 Aupuni St., Suite 103
Hilo HI 96720

Dear Chief Oliveira:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letter dated July 14, 2005, on the Draft EA, in which you stated that you had no comments at this time.

Thank you for reviewing the Draft EA and sending a representative to the public meeting. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

Harry Kim
Mayor

Christopher J. Yuen
Director

Roy R. Takemoto
Deputy Director

County of Hawaii

PLANNING DEPARTMENT
101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720-3043
(808) 961-8288 • Fax (808) 961-8742

July 19, 2005

Mr. Ron Terry
Geometrician Associates, LLC
HC 2, Box 9575
Keaau, Hawaii 96749

Dear Mr. Terry:

SUBJECT: Draft Environmental Assessment (DEA)
Pohoiki Bypass
Lapeaoo, Puna, Island of Hawaii
Tax Map Key: (3) 1-3-08:016, 1-4-02:009 & 013

We are in receipt of the subject Draft Environmental Assessment and after careful review we have no additional comments to those provided in our pre-consultation letter dated January 21, 2005.

However, we do note that under 3.5-Required Permits and Approvals on page 40, the processing agency for a Special Management Area (SMA) Permit is incorrectly identified as the Department of Land and Natural Resources. The Planning Department is the correct processing agency for SMA Use Permits.

Thank you for the opportunity to review and comment on this DEA. Should you have questions, please feel welcome to contact Larry Brown or Esther Imamura of my staff at 961-8288.

Sincerely,

CHRISTOPHER J. YUEN
Planning Director

LMB: je
P:\Wpwin60\Larry\EA-EIS Comments\Geometrician-DPWPohoikiRd DEAcmnts.doc

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

Christopher J. Yuen
101 Pauahi Street, Suite 3
Hilo HI 96720

Dear Mr. Yuen:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letter dated July 19, 2005, on the Draft EA. In answer to your specific comments:

1. *Planning Dept. versus DLNR as SMA permit authority.* We have amended this inadvertent error the Final EA.

Thank you for reviewing the Draft EA. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

Harry Kim
Mayor

Lawrence K. Mahuna
Police Chief

Harry S. Kubojiri
Deputy Police Chief

County of Hawaii
POLICE DEPARTMENT
349 Kapiolani Street • Hilo, Hawaii 96720-3998
(808) 935-3311 • Fax (808) 961-8869

July 19, 2005

Mr. Ron Terry
Principal
Geometrician Associates
HC 2 Box 9575
Keaau, Hawaii 96749

Dear Mr. Terry:

SUBJECT: REVIEW OF THE DRAFT ENVIRONMENTAL ASSESSMENT POHOIKI BYPASS, PUNA, HAWAII TMK: (3RD)1-3-8:016, 1-4-2:009 & 013

Upon review of the Draft Environmental Assessment provided, we continue to support this project which will provide the community and public safety personnel a safe and passable route during high tides and high surf periods.

Once again, thank you for the opportunity to comment.

Sincerely,

James M. Day

JAMES M. DAY
ASSISTANT POLICE CHIEF
AREA I OPERATIONS

SG:lli

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

James M. Day
Assistant Police Chief
Area I Operations
Hawaii County Police Department
349 Kapiolani Street
Hilo HI 96720-3998

Dear Mr. Day:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letter dated July 19, 2005, on the Draft EA. In answer to your specific comments:

1. *Need for the project.* We note your concurrence with the need to create a safe route that does not flood during high tides and high surf periods.

Thank you for reviewing the Draft EA and sending a representative to the public meeting. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

MALAMA O PUNA

P. O. Box 1520
Pahoa, Hawai'i 96778
(808) 965-2000
www.malamaopuna.org * malamaopuna@yahoo.com

Preserving Hawai'i's precious natural heritage

July 20, 2005

Geometrician Associates
HC 2 Box 9575
Kea 'au, HI 96749
Attn: Ron Terry, Consultant

RE: POHOIKI BYPASS PROJECT
Puna, Hawai'i
TMK (3) 1-3-8:016 and 1-4-2:009 & 013

Malama O Puna (MOP) agrees that a bypass road is needed in the area. We have no concerns about the northern alignment, although we suggest that any kamani or hala trees which may have to be removed be relocated elsewhere in the park. These days certified arborists have the capability to remove and replant large trees successfully. The new park will have to have trees planted, and the park's appearance would be enhanced if such trees are large. To destroy trees and then purchase expensive replacements is wasteful, unnecessary and not at all cost effective. Because this bypass will run through the park, **MOP is surprised to note that the Department of Parks and Recreation was not noticed in this DEA** (see p. 41).

Our major concern has to do with the mango tree whose removal is being called for. A little historical background, **omitted from the DEA.**

The State Legislature mandated that the Counties pass an Exceptional Tree Ordinance **for the explicit purpose of protecting exceptional trees from development** (see Ordinance, Article 10, Section 14 Hawai'i County Code). In 1990, during the administration of Mayor Lorraine Inouye, a water line was proposed for Pohoiki Road that would have required removal of the mango trees along one side of the road. Mayor Inouye worked with the ad hoc group that later became the Puna Outdoor Circle and is now Malama O Puna to place the entire grove of 601 mangos into this protected status. The process is that the nomination is reviewed by the Mayor's Arborist Advisory Committee and, if approved, forwarded to the County Council so that the ordinance may be amended to include the nominated tree(s).

Once protected, a tree or grove cannot even be pruned except by a certified arborist. The only reason for removal of a tree is if it is diseased, termite damaged, or poses a threat to public safety. If such is the case, the request to delete said tree from the ordinance goes first to the Arborist Committee. If they approve, it is forwarded to the County Council for action. **Yet the Arborist Committee was not consulted prior to the release of this DEA.**

Appendix 2, Preliminary Engineering Report, does not mention the mango tree although it does state "The area in these sight distance triangles should be free of obstructions". Clearly, in their limited view, the tree is only "an obstruction". MOP and many people in Puna do not agree.

The Environmental Site Assessment Report search of Regulatory Records failed to review County legislation, because there is no reference to or mention of how the Exceptional Tree Ordinance relates to the project. MOP considers this to be another flaw in the DEA.

In 2.2 Alternatives Advanced to the EA: third paragraph reads "The intersection of the Pahoa-Pohoiki Road will be designed so that the bypass meets the existing Kaimua [sic]-Kapoho Road head-on (i.e., centerline to centerline)." There is no discussion of any alternatives to this alignment, although alternatives clearly exist. One would be to realign the Kaimu-Kapoho road on the south side of the intersection, to allow a head-on meeting of roads. Another would be to create a small median on the north side in which the mango tree would be maintained. A combination of these two alternatives is also possible. None of these were discussed. Since a 4-way stop is being contemplated, and since "Motor vehicle traffic is generally light" (3.3.9 Transportation, Existing Conditions), we disagree that public safety would be compromised if the tree is retained.

In 3.3.10 Growth-Inducing, Cumulative and Secondary Impacts: the second paragraph states "All adverse impacts...related to...other areas of concern are either non-existent or extremely restricted in geographic scale, negligible, and capable of mitigation through proper enforcement of permit conditions." Totally ignored are the ramifications of the impact to the Exceptional Tree Ordinance and our protected trees if a precedent is set and the mango allowed to be removed. Wherever there are protected trees that are "in the way", developers will point to this case and make the argument that if this healthy mango could be removed, so could others. Pretty soon we would be back where we started, with many hundreds of trees with aesthetic, historical, endangered or endemic status would be fair game. And the original INTENT of the ordinance and the mandating State legislation would be flaunted. I am extremely surprised that Planning Director Yuen, whose department oversees the Arborist Committee, did not think to mention the ordinance at all in his comment letter.

Re: 6 STATE OF HAWAI 'I ENVIRONMENTAL ASSESSMENT FINDINGS on page 43, we strongly disagree with the findings of numbers 1, 2, 3, 6 and 9 as they relate to this issue. We wish to point out that the Draft Recovery Plan for the listed Hawaiian Hoary Bat (opeapea) identifies sightings in this area, yet there is no

mention of this. As for point 12, we point out that it is the **entire grove** which is protected and identified as scenic. The exception is not paltry, as the wording would make it appear. Landscaping mitigation **will not** compensate for the loss of the tree, since the issue (1) has broader implications than "just" one tree, and (2) no such landscaping mitigation is discussed in the DEA.

In view of all the above, Malama O Puna respectfully requests that the following steps be taken prior to submitting a Final EA for this project:

- The Mayor's Arborist Advisory Committee be invited to submit a comment letter,
- The Department of Parks and Recreation be invited to submit a comment letter,
- The alternatives to the alignment of the southern intersection be investigated and fully discussed,
- The ramifications to the Exceptional Tree Ordinance be evaluated and discussed,
- All other concerns aforementioned be addressed and omissions rectified.

Thank you for the opportunity to comment.

With aloha aina,

René Siracusa
President

Cc: Director, OEQC
Ben Ishii, DPW

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

Rene Siracusa, President
Malama O Puna
P.O. Box 1520
Pahoa HI 96778

Dear Ms. Siracusa:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letter dated July 20, 2005, on the Draft EA. Let me first state DPW's appreciation for your countless hours of volunteer service protecting the environment and scenic beauty of the Big Island. In the course of our agency's mission to provide the public with safe, economical and efficient public roads, we are sometimes forced to make hard choices concerning trees, but we share your concerns for the unique environment of Hawai'i. In answer to your specific comments:

1. *Consultation of P&R.* An inadvertent error in the DEA omitted P&R from the list of consulted agencies. This has been amended.

2. *Removal of mango tree.* Thank you for the interesting information regarding the origin of this particular designation. DPW recognizes the importance of Exceptional Tree designation for this grove of mango trees. The EA process has involved a careful search for reasonable alternatives to avoid removing this tree while retaining a safe intersection that accommodates the boat trailers that are such an important part of the economy and culture of the Pohoiki area. DPW believes that, on balance, the improvement of the intersection is worth the removal of one tree from a large grove, particularly given the commitment to attempt to relocate the tree to the park and to landscape with natives along other sections of the road and/or within adjacent areas of Isaac Hale County Park. DPW plans to make this case to the Arborist Committee and the County Council, but is ready to construct an alternate intersection to the north of the mango tree if removal of the tree is not approved.

3. *Consultation of the Arborist Committee.* DPW understands that the Arborist Committee is aware of the situation and is prepared to review the request at the appropriate time.

4. *Engineering Report and mango tree.* The use of the term obstruction was in the context of establishing proper sight distance.

5. *Phase I Environmental Site Assessment.* We do not consider the omission of this ordinance to be a flaw in the Phase I ESA, and we note that the topic was covered in Section 3.1.5 of the EA itself.

6. *Alternatives at the mango tree intersection.* The EA process has involved a careful search for reasonable alternatives to avoid removing this tree while retaining a safe intersection with adequate sight distance that accommodates boat trailers and other vehicles that require large turning radii. Subsequent to comments received by mail and at the public meeting, alternatives were studied again. A route just south of the tree would create an excessively skewed intersection that would be constrained within a small space between mango trees. A route that "forked" around the mango tree as part of the intersection would be undesirable from a safety standpoint. A route that zigzags towards the harbor is possible, although it would create two closely spaced intersections, each of which would require 3-way stops. A route to the north of the tree is feasible, although the intersection is somewhat skewed and has less than optimum sight distance and very tight turning radii for multi-axle vehicles and trailers. If removing the tree is not approved, DPW will construct an alternate intersection to the north. An enhanced discussion of alternatives at this intersection has been added to the EA.

7. *Secondary impact of precedent for removing other trees.* Statements at the public meeting held on July 28, 2005, indicated appreciation of the grove but also concerns about the safety of the road. It may be important to establish a process whereby a designated tree that poses a threat to public safety within a large grove can be removed from the Exceptional Tree designation without the need for a County ordinance. Without this mechanism, the County Council may be reluctant to designate groves of trees (as opposed to individual trees) through future ordinances if this status is seen as irrevocable. A discussion of this has been added to the EA

8. *State of Hawai'i EA findings.* Your disagreement is noted. The Hawaiian Hoary Bat has been spotted in most environments on the Big Island below 9,000 feet, and we do not believe that the project will have an adverse impact on bats. In contrast to your opinion, we believe that the significant landscaping proposed for the project will compensate for the loss of this tree, that the difficult process of changing the protected status of such trees is not one that is likely to be undertaken by any substantial number of parties in the future, and that the protected mango grove will lose none of its integrity. Landscaping mitigation is discussed in Section 3.1.5 of the EA.

Again, thank you for reviewing the Draft EA and your involvement in protecting the environment in this area. If you have any further questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

July 29, 2005

Regulatory Branch

Mr. Ron Terry
Principal
Geometrician Asociates, LLC
HC 2 Box 9575
Kea`au, HI 96749

Dear Mr. Terry: **File Number POH-2005-38**

This responds to your request for written comments for a draft Environmental Assessment (dEA) which addresses activities and impacts of the proposed Pohoiki ByPass Road Project, Puna District, Hawaii Island.

The dEA indicates that waters of the United States, as represented by wetlands are adjacent to the proposed project area. Further, perennial or intermittent streams are absent from the proposed project area. The dEA states in appropriate sections that there is no potential for waters of the U.S., including wetlands, anchialine ponds, and other special aquatic sites, to be directly and/or indirectly impacted by construction of project structures and associated ground disturbing activities within the proposed improvement area.

As described therefore, the Corps has determined that a Department of Army (DA) permit for activities under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899 will not be required for the proposed project.

Thank you for your consideration of potential impacts to the aquatic environment of the Puna District watershed. Please contact Mr. Farley Watanabe of my staff at 438-7701, or facsimile 438-4060, if you have any questions or need additional information.

Sincerely,

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

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

George P. Young, P.E.
Chief, Regulatory Branch
U.S. Army Engineer District
Ft. Shafter HI 96858-5440

Dear Mr. Young:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letter dated July 29, 2005, on the Draft EA. We appreciate your confirmation that the project as described will not affect waters of the U.S. and that a Department of the Army permit will not be required.

Thank you for reviewing the Draft EA. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

bill 78] 4 way stop sign necessary 7/20
exceptional tree ordinance

Ron Terry – environmental consultant

PUBLIC COMMENT SHEET

Pohoiki Bypass Project

how many trees are there? 600

Your comments and suggestions will assist in the responsible development of the highway project under consideration at this public meeting. Space is provided below to write out any comment you may wish to make. Please hand in your statement during this meeting or, if you prefer, mail to the address printed below. Although comments are welcome throughout the project development process, we would like to receive your initial comments by August 8, 2005, in order to ensure they are considered in the Final Environmental Assessment.

Are you generally in favor of this proposal? (Yes) / *No*
(Please Circle One)

COMMENT OR STATEMENT

Let's make sure that the one or two professional obstructionists in the Puna Community do not stop or slow this bypass project. Get that one mango out of the way so fishermen & truckers can safety negociate that 4 WAY STOP.

We've been wanting a beach park w/ proper bathroom facilities for over 15 years. The county of Hawaii has so many educated & talented folks helping to improve all our lives; let's not delay any longer.

Notice: Copies of all comments provided are available to the public under the Freedom of Information Act. This will include names, addresses, and any other personal information provided with the comments. Your comments will be considered with or without the following optional information (please print):

Name Antony Almeda

Address P.O. Bx. 1546 Pahoa Hi 96778

Representing _____

Mailing Address: Mr. Bruce McClure, P.E., Director, Hawaii County Department of Public Works, 101 Aupuni Street, Suite 7, Hilo HI 96720.

5861

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i

DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

Anthony Almada
P.O. Box 1546
Pahoa HI 96778

Dear Mr. Almada:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letter dated July 29, 2005, on the Draft EA. In answer to your specific comments:

1. *Need to remove mango tree to create a safe and efficient intersection.* DPW recognizes the importance of Exceptional Tree designation for this grove of mango trees. The EA process has involved a careful search for reasonable alternatives to avoid removing this tree while retaining a safe intersection that accommodates the boat trailers that are such an important part of the economy and culture of the Pohoiki area. DPW believes that, on balance, the improvement of the intersection is worth the removal of one tree from a large grove, particularly given the commitment to attempt to relocate the tree to the park and to landscape with natives along other sections of the road and/or within adjacent areas of Isaac Hale County Park. DPW plans to make this case to the Arborist Committee and the County Council, but is ready to construct an alternate intersection to the north of the mango tree if removal of the tree is not approved.

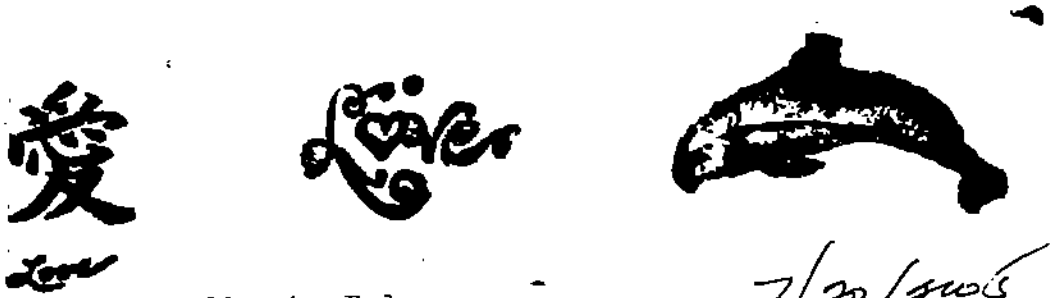
2. *Need to implement park plans.* We understand that Parks and Recreation is moving forward with its plans to improve Isaac Hale Park, including bathrooms, and we look forward to working with them on optimizing use of the makai roadway

Thank you for reviewing the Draft EA and participating in the public meeting. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works



7/20/2005

Joyce Alberta Folena
Gregory Todd Smith
Post Office Box 2046
Pahoa, Hawai'i 96778*2046
to CC MAYOR HARRY KIM
Hawai'i County
Department of Public Works
101 Pau'ahi Street, Suite 7
Hilo, Hawai'i 96720
Contact: Ben Ishii

Dear Mr. Ishii:

Concerning the Pohoiki Bypass HRS 343 DEA, we are very much in favor of beginning, construction of and completion of this project as soon as possible.
This particular portion of the Beach Road, the Kaimu-Kapoho Road, needs to be addressed in the form of this Bypass now, as the Sea Water does in fact cover a large portion of the Road in this area. This makes it dangerous at worse, and inconvenient at best for travel when the sea water covers tn is Road to a hieght of many inches.
We completely agree with the information written in the Office of Invironmental Quality Control Environmental Notice, July 8,2005.
If at all possible please do everything in your power to protect and keep all of the very old and beautiful mango trees that presently line Pohoiki Road running Makai/Mauka.
Please use your engineering skills and descretion and proceed with the Pohoiki Bypass expediently.
Thank you for your attention and consideration of all of our concerns here.
Sincerly,

Gregory T. Smith Joyce Alberta Folena

Joyce Alberta Folena
Gregory Todd Smith

7/20

PUBLIC COMMENT SHEET

Pohoiki Bypass Project

Your comments and suggestions will assist in the responsible development of the highway project under consideration at this public meeting. Space is provided below to write out any comment you may wish to make. Please hand in your statement during this meeting or, if you prefer, mail to the address printed below. Although comments are welcome throughout the project development process, we would like to receive your initial comments by August 8, 2005, in order to ensure they are considered in the Final Environmental Assessment.

Are you generally in favor of this proposal? (Yes) / No (Please Circle One)

COMMENT OR STATEMENT

Please Save the Mango Tree
If Possible Please proceed with
the Project with 4Way Stop Sign.
Introduce Proper Signage
for field to Boats along the
Present Mango Road.
Be careful do not Create A "Turf"
by closing the hollow wet land Road
too much drug Trafficking.
At the 4Way Stop Please put
Signage stating "RIGHT of WAY"
Precedence of Vehicles arriving to and
proceeding from 4WAY Stop Intersection.

Notice: Copies of all comments provided are available to the public under the Freedom of Information Act. This will include names, addresses, and any other personal information provided with the comments. Your comments will be considered with or without the following optional information (please print):

Name: Joyce Alberta Folena

Address: Post Office Box 2046

Representing: Self, Pahoa Hawaii 96778-2046

Mailing Address: Mr. Bruce McClure, P.E., Director, Hawaii County Department of Public Works, 101 Aupuni Street, Suite 7, Hilo HI 96720.

7/28

PUBLIC COMMENT SHEET

Pohoiki Bypass Project

Your comments and suggestions will assist in the responsible development of the highway project under consideration at this public meeting. Space is provided below to write out any comment you may wish to make. Please hand in your statement during this meeting or, if you prefer, mail to the address printed below. Although comments are welcome throughout the project development process, we would like to receive your initial comments by August 8, 2005, in order to ensure they are considered in the Final Environmental Assessment.

Are you generally in favor of this proposal? (Yes) / *No*
(Please Circle One)

COMMENT OR STATEMENT

Save the trees if possible
But continue the project

Notice: Copies of all comments provided are available to the public under the Freedom of Information Act. This will include names, addresses, and any other personal information provided with the comments. Your comments will be considered with or without the following optional information (please print):

Name Gregory T. Smith

Address PO Box 2006 PAHOA 96778

Representing SdP

Mailing Address: Mr. Bruce McClure, P.E., Director, Hawaii County Department of Public Works, 101 Aupuni Street, Suite 7, Hilo HI 96720.

Joyce Alberta Folena
Gregory Todd Smith
Post Office Box 2046
Pahoa, Hawai'i 96778*2046

7/30/2005

to

Ron Terry
Geometrician Associates
HCR2 Box 9575
Kea'au, Hawai'i 96749

Rec'd
8/1/2005

Dear Mr. Terry,

Thank you very much for your excellant presentation of the Pohoiki Bypass Project. Your clear explanations of all of the options concerned with the Bypass were very well recieved by most of the attedding persons at the Pahoa Community Center, July 28, 2005, evening.

The choice of saving the Mango Tree at the Inersection of the Bypass is not an easy choice to make. We hope you could see the way to indeed save the Mango Tree while keeping the planning and construction of the Intersection of the Bypass safe for all Vehicular Traffic, not to mention the bycycles and occasional pedesrtians traveling the Pohoiki Road.

The Sea Water Innudation of the exisiting Coastal Road has been needing rerouting attention for a long, long, long time. So, in our minds The Bypass is quite overdue.

Please proceed with the Pohoiki Bypass Project Post Haste. Please also consider useing sineage compatible with safe dring at the Four Way Stop of the Intersection. well before the actual Four Way Stop, please advise the County of Hawai'i to put very visable sinage to the effect of the Four Way Stop. Additional Sineage may be included to advise Vehicles of proper Rights of Way as they are leaving the Four Way Stop Intersection. Thank you very much for consideration of our requests.

Sincerely and Joyce Alberta Folena

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i

DEPARTMENT OF PUBLIC WORKS

Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

Joyce Alberta Folena
And Gregory Todd Smith
P.O. Box 2046
Pahoa HI 96778-2046

Dear Ms. Folena and Mr. Smith:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letters dated July 20, July 28 (2), and July 30, 2005, on the Draft EA, which we are responding to in one letter. In answer to your specific comments:

1. *Need for the project.* We note your concurrence with the need to create a safe route that does not flood during high tides and high surf periods.

2. *Removal of mango tree.* DPW recognizes the importance of Exceptional Tree designation for this grove of mango trees. The EA process has involved a careful search for reasonable alternatives to avoid removing this tree while retaining a safe intersection that accommodates the boat trailers that are such an important part of the economy and culture of the Pohoiki area. DPW believes that, on balance, the improvement of the intersection is worth the removal of one tree from a large grove, particularly given the commitment to attempt to relocate the tree to the park and to landscape with natives along other sections of the road and/or within adjacent areas of Isaac Hale County Park. DPW plans to make this case to the Arborist Committee and the County Council, but is ready to construct an alternate intersection to the north of the mango tree if removal of the tree is not approved.

3. *Closure of bottom road.* We have been working with the Parks and Recreation Department on how to manage the makai road once the bypass is constructed. The County's current plans are to install a gate on the north boundary of the park, closing the road at night. We will continue to consult with local residents, park users, and the Police and Fire Departments on this issue. A discussion of this has been added to the EA.

4. *Signage for STOP sign and yielding right-of-way to boats.* Warning signs for the 4-way STOP sign will be installed, and we are considering installing signs on Pohoiki Road requesting motorists to yield to vehicles hauling boats.

Thank you for reviewing the Draft EA and participating in the public meeting. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

7/20

PUBLIC COMMENT SHEET

Pohoiki Bypass Project

Your comments and suggestions will assist in the responsible development of the highway project under consideration at this public meeting. Space is provided below to write out any comment you may wish to make. Please hand in your statement during this meeting or, if you prefer, mail to the address printed below. Although comments are welcome throughout the project development process, we would like to receive your initial comments by August 8, 2005, in order to ensure they are considered in the Final Environmental Assessment.

Are you generally in favor of this proposal? (Yes) / No
(Please Circle One)

COMMENT OR STATEMENT

I believe it would be beneficial to the Community to have an alternate road. I personally had my car stuck in the flood area, and the insurance company had to total my car.

Notice: Copies of all comments provided are available to the public under the Freedom of Information Act. This will include names, addresses, and any other personal information provided with the comments. Your comments will be considered with or without the following optional information (please print):

Name Roberta Meser McGrath

Address 13-3410 Mokv St. Pahoa Hi. 96778.

Representing Leilani Estates

Mailing Address: Mr. Bruce McClure, P.E., Director, Hawaii County Department of Public Works, 101 Aupuni Street, Suite 7, Hilo HI 96720.

7/25/05

To whom it may Concern,

I Roberta Mein-McGrath got stuck in the water with my Chevy Cavalier down on the Pohokei road heading towards the hot pond. Other Vehicles were driving through the water, so I assumed it was safe for me to as well. The insurance Company totalled my car out because of the salt water getting into the engine. At the time of the incident other people mentioned that it happens quite often to people. I believe that this is a problem for our Community and that something should be done to prevent this from happening to other people. Thank you for your consideration in this matter.

Sincerely,
Roberta Mein-McGrath
965-9777.

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

Roberta Meier McGrath
13-3410 Moku Street
Pahoa HI 96778

Dear Ms. McGrath:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letter and note dated July 28, 2005, on the Draft EA. We understand that a number of vehicles have become stuck in the inundated section and it is our goal to provide a safe and efficient route that avoids areas that flood during high tides and high surf.

Thank you for participating in the EA process and attending the public meeting. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

7/29

PUBLIC COMMENT SHEET

Pohoiki Bypass Project

Your comments and suggestions will assist in the responsible development of the highway project under consideration at this public meeting. Space is provided below to write out any comment you may wish to make. Please hand in your statement during this meeting or, if you prefer, mail to the address printed below. Although comments are welcome throughout the project development process, we would like to receive your initial comments by August 8, 2005, in order to ensure they are considered in the Final Environmental Assessment.

Are you generally in favor of this proposal? (Yes) / *No* (Please Circle One)

COMMENT OR STATEMENT

As a frequent user of Pohoiki Rd. My main concern would be the 4 way Stop
I'm a Commercial fisherman out of Pohoiki Ramp.
& i tow my 25' boat to and from Pohoiki Ramp just about every day.

At this time 7/30/05 I feel that there is a bad blind spot, but properly placed signs would not create a problem for stopping at that intersection.

Notice: Copies of all comments provided are available to the public under the Freedom of Information Act. This will include names, addresses, and any other personal information provided with the comments. Your comments will be considered with or without the following optional information (please print):

Name: Mana Drahaw

Address: P.O. Box 1849 Pahoa Hi 96778

Representing: Pohoiki Ramp

Mailing Address: Mr. Bruce McClure, P.E., Director, Hawaii County Department of Public Works, 101 Aupuni Street, Suite 7, Hilo HI 96720.

9975

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

Mr. Pacheco
P.O. Box 1849
Pahoa HI 96778

Dear Mr. Pacheco:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letter dated July 29, 2005, on the Draft EA. We appreciate your comments on placing a STOP-sign at the intersection. We are working to create a safe intersection.

Thank you for participating in the EA process. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

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

HRD05/1704B

August 3, 2005

Ron Terry
Geometrician Associates
HC 2 Box 9575
Keaau, HI 96749

RE: Draft Environmental Assessment for the Proposed Pohoiki Bypass Road, Puna, Hawai'i, TMK (3) 1-3-8:016, 1-4-2:009 & 13.

Dear Mr. Terry,

The Office of Hawaiian Affairs (OHA) is in receipt of your July 11, 2005 request for comment on the above listed proposed project, TMK (3) 1-3-8:016, 1-4-2:009 & 13. OHA offers the following comments:

OHA recommends that an Archaeological Monitoring Plan be drafted in support of the proposed project. While portions of the proposed project area have been disturbed by past agricultural uses, the possibility of encountering sub-surface features (i.e. burial crypts, lava blisters) exists. As of recently, human burials have been encountered in areas which were extensively excavated and graded. Therefore, OHA recommends that a professional archaeologist be present during all ground altering activities associated with the proposed project.

As mentioned in the Draft Environmental Assessment, native flora should be used primarily in re-vegetating the road-side corridor of the bypass after construction is completed. Hala (*Pandanus odoratissimus*), ulu (*Atrocarpus altilis*) and naupaka kai or naupaka kuahiwi (*Scaevola sp.*) are particularly suited for the wetland conditions of coastal Pohoiki. The proposed project lends an opportunity to replace exotic and invasive plants with native flora. This would, in part, be done promote native ecosystems in the Puna area.

OHA further requests that consideration be given to native Hawaiian gathering and access rights during and after construction activities. Gathering rights and access shall not be restricted except as necessary to ensure safety. If safety-related restrictions are put in place, alternate public access routes must be provided.

OHA further requests your assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck at (808) 594-0239 or jessey@oha.org.

'O wau iho nō,

Clyde W. Nāmu'o
Administrator

CC: Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, HI 96813

Ben Ishii
Hawaii County Department of Public Works
101 Pauahi Street, Suite 7
Hilo, HI 96720

Thank you for reviewing the Draft EA. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

Clyde W. Nāmuo, Administrator
Office of Hawaiian Affairs
711 Kapi'olani Street, Suite 500
Honolulu HI 96813

Dear Mr. Nāmuo:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letter dated August 3, 2005, on the Draft EA. In answer to your specific comments:

1. *Archaeological monitoring.* The State Historic Preservation Division has concurred with the conclusion of the careful survey by the archaeologist that an adequate inventory of any cultural resources or burials has been undertaken, and that it is unlikely that more will be found through monitoring. Notwithstanding, all construction will be undertaken in conformance with the mitigation measure discussed in Number 4, below, to minimize any potential harm in the unlikely event of a find. Additionally, construction fencing will be placed within the less disturbed forested segment of the route so that vehicles, equipment and personnel do not go beyond the limit of the surveyed area. We believe that with these measures in place, cultural resources and burials will be adequately protected.

2. *Use of native flora.* The current plan is to use native and Polynesian-introduced species in road landscaping and/or within adjacent areas of Isaac Hale County Park, incorporating some of the trees that must be removed for the road in this effort. We agree with your recommendations concerning plant choices.

3. *Gathering rights.* Our coordination with the local community indicates that no aspect of the project will impinge on gathering rights; if the issue should arise during construction, we will endeavor to provide access.

4. *Inadvertent finds of cultural material during construction.* It is our firm policy at DPW to ensure that in such cases, whether the work is being conducted by DPW itself or by contractors, work ceases and the appropriate agencies are contacted.

Ron Terry
Geometric Associates
HC 2 Box 9575
Keaau, HI 96749

August 7, 2005

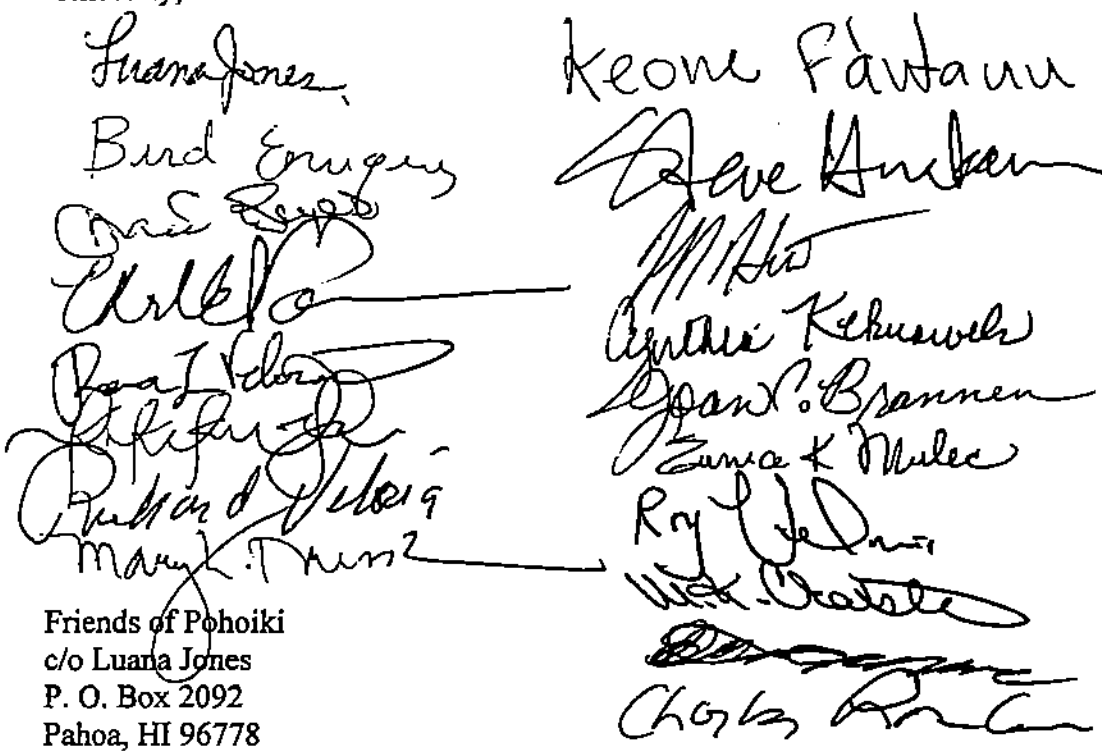
Aloha Ron Terry,

The Friends of Pohoiki are overwhelmingly in support of the proposed Pohoiki Bypass, especially since we have, for the past 15 years, repeatedly suggested such a bypass. It will definitely enhance the safety and quality of the Isaac Hale Park area and decrease the effects of the road through the wetlands.

We regret that a "protected" mango tree stands in the way of public safety and must be removed. We would like to suggest that the tree be moved to a more suitable place (perhaps bid on to defray the costs involved). Note that the huge monkey pod tree next to the Pahoa Elementary playground was successfully moved there several years ago. If the tree must be cut down, we would suggest that the tree's parts be used (for signage at the park, benches, etc.) and the remaining parts be buried or shredded for compost in the immediate area. Our Kupuna have taught us that the trees have life and need to be treated reverently.

Thankyou for the opportunity to comment on this long awaited and worthy project and would appreciate your consideration of our suggestions in the future.

Sincerely,



Friends of Pohoiki
c/o Luana Jones
P. O. Box 2092
Pahoa, HI 96778

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i

DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

Friends of Pohoiki
c/oLuana Jones
P.O. Box 2092
Pahoa HI 96778

Dear Friends of Pohoiki:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letter dated August 7, 2005, on the Draft EA. In answer to your specific comments:

1. *Need for the project.* We note your concurrence with the need to create a safe route that does not flood during high tides and high surf periods.

2. *Removal of mango tree.* DPW recognizes the importance of Exceptional Tree designation for this grove of mango trees. The EA process has involved a careful search for reasonable alternatives to avoid removing this tree while retaining a safe intersection that accommodates the boat trailers that are such an important part of the economy and culture of the Pohoiki area. DPW believes that, on balance, the improvement of the intersection is worth the removal of one tree from a large grove, particularly given the commitment to attempt to relocate the tree to the park and to landscape with natives along other sections of the road and/or within adjacent areas of Isaac Hale County Park. DPW plans to make this case to the Arborist Committee and the County Council, but is ready to construct an alternate intersection to the north of the mango tree if removal of the tree is not approved. We may wish to contact you in the future concerning your group's assistance in moving the mango tree, as you discussed with our consultant Ron Terry.

Thank you for reviewing the Draft EA. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

8/7

Department of Public Works
101 Pauahi St., Ste 7
Hilo HI 96720

RE: Hwy 137 Bypass Road

My wife and I live in Leilani Estates and use the Mango Road two or three times weekly to go to the hot pond and swim. I've experienced water across the road only three times that I can remember in the past year or so. Of those times, the water was never deep enough to deter my passage.

I do not think that the arguments set forth in the newspaper article are sufficiently strong to support expending that large amount of money, especially for a small number of users, comparatively speaking.

Using the argument that vehicle wheels, brakes and undercarriages are excessively damaged by the salt as one of the main point for the new road seems a bit overblown. Any salt adhering to the car would most likely be washed right off by driving during our frequent rain showers. Most users know that thee is no critical need to cross there anyway--the tide table is posted daily in the newspaper and if the tide is high, the Kapoho-Pahoa road can be used. A water level marker might also be an alternative solution.

You may have a point with regard to the land sinking argument, I don't know enough about it to comment but it seems to be a long-term distant problem, not something that will make a difference in our current daily lives.

Even if the money is already in the road budget, it is still scarce taxpayer money and real thought should always be given to its use. (1) The metal chutes at the Pahoa Transfer Station are bent and torn, making it difficult to discard our rubbish; (2) The bins for green waste at the Kea'au Transfer station are above the level of a pickup truck bed making it very strength-consuming to throw green waste up and into the bin. We had once tried to dump our yard clippings at the Pahoa Station and even though none was more than 4 feet long and all was from our home, thus meeting the posted restrictions, we were prevented from doing so by the guard on duty there, who told us it was "too much", but he said that we could bring it in bags on "two or three trips". Both the insensitive multiple trip attitude at the Pahoa Transfer Station and the hard to use Kea'au green waste bins locations leaves one with the only alternative of driving to Hilo @ $2.63/gal., (3) the fascia at the Pahoa Community Center is rotting away and the last time I looked, its roof was virtually covered with leaves and has been that way for a very long time, certainly hastening its demise through unbelievable neglect, and (4) the parking lot of the hot pond is peppered with large deep potholes which are a greater threat to cars and comfort than the occasional salt water across the road.

There is then the matter of the protected mango tree. It reminds me of a Jerry Seinfeld episode wherein he went to get his car rental and was told by the counter person that his

reservation could not be honored because they'd run out of cars. Jerry said "....I don't believe you know what the word reservation means....". And like Seinfeld, I don't think that the County road engineers know what the word "protected" means.

As I understand it, the County's singular proposal was to have a 90 degree/4-way intersection as the only viable solution isn't persuasive. An offset to the intersection with a stop sign at each juncture and each preceded by a speed bump would easily and surely slow traffic down and provide at least as good a safety margin, if not better than the proposed 90 degree/4-way stop intersection and with the result that the "protected" mango tree would remain protected.

It is heart-stopping how fast and belligerently, some people drive on the road. A few other creatively-placed speed bumps would provide for safer conditions on Mango Road than the simple 90 degree/4-way stop now in the County proposal.

Sincerely.

Bob Peck
13-3574 Luana St.
Pahoa 96778
965-5375
bobnmits@verizon.net

c: Harry Kim
Gary Safarik
Renee Siracusa

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

Bob Peck
13-3574 Luana Street
Pahoa HI 96778

Dear Mr. Peck:

Subject: **Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013**

Thank you for your comment letter on the Draft EA. In answer to your specific comments:

1. *Need for the project.* We note your lack of concurrence with the need to create a safe route that does not flood during high tides and high surf periods. Many other residents who attended the public meeting and commented on the Draft EA do not agree. Several cars have been "totaled" by flooding, and many motorists will not cross the flooded area at particularly high tides out of concern for their vehicles. The project was strongly endorsed by the Police and Fire Department representatives in letters and at the public meeting. At the current average rate of sinking, the road can be expected to sink another foot within 15 years, which is a problem that requires attention reasonably soon. Furthermore, this area is highly prone to sudden subsidence.

2. *Money should be used for alternative parks or solid waste project.* The projects you name are worthy, and your preference is noted.

3. *Removal of mango tree.* DPW recognizes the importance of Exceptional Tree designation for this grove of mango trees. The EA process has involved a careful search for reasonable alternatives to avoid removing this tree while retaining a safe intersection that accommodates the boat trailers that are such an important part of the economy and culture of the Pohoiki area. DPW believes that, on balance, the improvement of the intersection is worth the removal of one tree from a large grove, particularly given the commitment to attempt to relocate the tree to the park and to landscape with natives along other sections of the road and/or within adjacent areas of Isaac Hale County Park. DPW plans to make this case to the Arborist Committee and the County Council, but is ready to construct an alternate intersection to the north of the mango tree if removal of the tree is not approved.

4. *Offset intersections and speed bumps*. Commenters at the public meeting disapproved of the idea of a having two closely-spaced 3-way STOP signs. The County of Hawai'i does not permit speed bumps on public highways.

Thank you for reviewing the Draft EA. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

August 18, 2005

Aloha mai Kakou,

My name is Laila Kealoha and I am a native to Lower Puna. I was born and raised here along with many generations preceeding myself. My family has lived the coastline from Pu'aka to past Kalapana for over 100 years. This is a testimony in regards to the proposed by-pass to be constructed near Pahoiki. I have been informed that this by-pass would be constructed 800-feet from where the water crosses the road. In my opinion, I feel 100-feet is an ample amount of space needed to construct this bypass. Another concern is the surrounding rare and impaired forest that this by-pass would be construted through. Also, how will this affect some of the only known, left areas of archaeological sites, and their protection.

Sincerely,

Laila Kealoha

Harry Kim
Mayor

Bruce C. McClure
Director

Jiro A. Sumada
Deputy Director

County of Hawai'i

DEPARTMENT OF PUBLIC WORKS

Aupuni Center
101 Pauahi Street, Suite 7 • Hilo, Hawai'i 96720-4224
(808) 961-8321 • Fax (808) 961-8630

August 25, 2005

Leila Kealoha
Kua O Ka La Charter School
P O Box 1413
Pahoa, HI 96778-1413

Dear Ms. Kealoha:

Subject: Draft Environmental Assessment for Pohoiki Bypass, TMKs 1-3-8:016, 1-4-2:009 & 013

Thank you for your comment letter on the Draft EA dated August 18, 2005. In answer to your specific comment:

1. *Location of the road terminus on the Kapoho side and protection of trees and archaeological sites.* The preferred terminus would be located about 350 feet from where the water crosses the road, rather than the 800 feet that you had heard. In locating the terminus, we tried to find the area that was the least environmentally harmful and the most useful to motorists. Our original choice would have used an existing road and avoided taking out any native trees, but consultation with an individual very familiar with the cultural resources of the area determined that it would pass too close to burials and might encourage inappropriate visitation. We then looked at using the path of an existing farm road, but it did not provide enough of a buffer from the flooded area, would have involved a tight turning radius that would have been difficult for trucks and boat trailers to negotiate, and in any case still would have required removal of some native trees. In the end, we tried to choose a route that involved some fairly disturbed forest, although some native trees are indeed present. Overall, we have designed a route that for more than 90% of its length passes over disturbed areas and avoids wetlands and pristine forest. Our archaeological inventory survey determined that no significant archaeological sites would be affected by our action, and, as stated above, this is one of the principles that has guided our search for the optimum route for the road.

Thank you for reviewing the Draft EA. If you have any questions about the project, please contact Ben Ishii of my staff at 961-8327.

Sincerely,

Bruce C. McClure

Bruce McClure, P.E., Director
Hawai'i County Department of Public Works

POHOIKI BYPASS

PUNA DISTRICT, COUNTY OF HAWAI'I

DRAFT ENVIRONMENTAL ASSESSMENT

APPENDIX 1D

PUBLIC INVOLVEMENT

PUBLIC MEETING MATERIALS AND PRESS COVERAGE

geometrician
ASSOCIATES, LLC
integrating geographic science and planning

phone: (808) 982-5831 fax: (808) 966-7593 HC 2 Box 9575 Kea'au Hawai'i 96749
ronterry@verizon.net

NOTICE

The Hawai'i County Department of Public Works (DPW) invites the public to a meeting on the proposed Pohoiki Bypass project. The meeting will be held from 6 to 8 PM, on Thursday, July 28, at the Pahoa Neighborhood Facility. Representatives from DPW along with the consultant for the project will present information from the Environmental Assessment, collect comments and take questions. The project involves realigning about a half mile of the Kaimu-Kapoho Road in order to bypass an area that is sinking almost an inch per year. The area has become increasingly flooded during high tides. The road is difficult and costly for the County to maintain. Many vehicles have difficulty passing at very high tides, and the salty water creates wear and tear on vehicles. This situation gets worse during heavy surf. An episode of catastrophic subsidence, such as occurred in the November 1975 earthquake, could depress the road to a level so low that it would be completely impassable. There is no "easy" way around the flooded area, as wetlands are present on both sides. Furthermore, the presence of a road within this enlarging wetlands is environmentally undesirable. The project will relocate this section of the road approximately 800 feet mauka (northwest), thereby bypassing Isaac Hale County Park. The project will help maintain and improve a vital transportation and evacuation link for Puna, will enhance the safety and quality of Isaac Hale Park, and will decrease undesirable effects on wetlands. Construction of an intersection may require removal of one mango tree from a large protected grove. Please call Ben Ishii of DPW at 961-8327 or consultant Ron Terry at 982-5831 for more information.

PRESS RELEASE

PUBLIC MEETING
POHOIKI BYPASS
ENVIRONMENTAL ASSESSMENT

FOR IMMEDIATE RELEASE

From:	**Ron Terry**	**Phone 982-5831**
		Fax 966-7593
	[On Behalf Of]:	
	Ben Ishii, Hawaii County DPW	**Phone 961-8327**
		Fax 961-8630
To:	**Hawaii Tribune-Herald**	**Fax 961-3680**
	KWXX Radio	**Fax 935-7761**
	Pacific Radio Group	**Fax 935-0396**
Date:	**July 15, 2005**	
Subject:	**Public Meeting, Pohoiki Bypass**	
Event Date:	**July 28, 2005**	
Details:	**See Below.**	

The Hawaii County Department of Public Works (DPW) invites the public to a meeting on the proposed Pohoiki Bypass project. The meeting will be held from 6 to 8 PM, on Thursday, July 28, at the Pahoa Neighborhood Facility. Representatives from DPW along with the consultant for the project will present information from the Environmental Assessment, collect comments and take questions. The project involves realigning about a half mile of the Kaimu-Kapoho Road in order to bypass an area that is sinking almost an inch per year. The area has become increasingly flooded during high tides. The road is difficult and costly for the County to maintain. Many vehicles have difficulty passing at very high tides, and the salty water creates wear and tear on vehicles. This situation gets worse during heavy surf. An episode of catastrophic subsidence, such as occurred in the November 1975 earthquake, could depress the road to a level so low that it would be completely impassable. There is no "easy" way around the flooded area, as wetlands are present on both sides. Furthermore, the presence of a road within this enlarging wetlands is environmentally undesirable. The project will relocate this section of the road approximately 800 feet mauka (northwest), thereby bypassing Isaac Hale County Park. The project will help maintain and improve a vital transportation and evacuation link for Puna, will enhance the safety and quality of Isaac Hale Park, and will decrease undesirable effects on wetlands. Construction of an intersection may require removal of one mango tree from a large protected grove. Please call Ben Ishii of DPW at 961-8327or consultant Ron Terry at 982-5831 for more information.

Pohoiki Bypass Fact Sheet:

Length:	0.55 miles (about 2,900 feet)
Location:	Pohoiki & Oneloa areas, Puna District, Hawai'i Island
Agency:	Hawai'i County Department of Public Works; Ben Ishii, 961-8327
Consultant:	Geometrician Associates; Ron Terry (982-5831; ronterry@verizon.net)
Purpose:	To bypass an area sinking almost an inch/ year, which can flood at high tide.
Reasons:	Impassable to some vehicles; creates wear and tear on vehicles; difficult and costly for the County to maintain; inside a wetlands; may sink and become completely impassable.
Public Comment: Deadline/ for Addresses for Comments:	August 8, 2005 Geometrician, HC 2 Box 9675, Keaau HI 96749 Director, OEQC, 235 South Beretania St., Suite 702. Honolulu HI 96813 Mr. Bruce McClure, P.E., Director, Hawaii County DPW, 101 Aupuni St., Suite 7, Hilo HI 96720.

POHOIKI BYPASS PUBLIC MEETING

DATE: July 28, 2005
TIME/PLACE: 6:00 PM – Pahoa Neighborhood Center

SIGN-IN SHEET

NAME (please print)	GROUP (if applicable)	PHONE (optional)
Roberta Meier-McGrath	Leilani Est. residence	965-9777
Rene Siracusa	Malama O Puna	965-2000
Joseph Kamelamela	Pahoa/Kapoho Rd.	965 8350
Bud Ishii		
Gary Safarik	County Council	961-8020
Steve Guillermo	Puna Pride	966-5835
Manu Pacheco	Pohoiki Ramp	937-7474
Luana Jones	Friends of Pohoiki	938-0021
Sandy Massaki	Lawaia Ohana O Pohoiki	965 8952
Pam Mizuno	P&R	961-8592
George Alles	Pahoa Fire Station	965 2708
Anthony Almeda		965 9340
Glen Hirakami	HAAS	965 3730
BIRD ENRIQUEZ	Pohoiki-RED HOUSE	936-9083
Bree Holmes	public	640 9218
Christian Mommsen	public	640-5163
Johanna Preutz-Lafayette	public	443-6058
Jennifer Bach	public	640-0278
Liz Salfen	public	965-8080
Diane O Hultman	public	965-8494
[illegible]	public	965 1546
Greg Smith	Self	965-1546
Alex Carpana	P.O. Box 402 Pahoa	[illegible]
Lollie Almeda		965-9340
Dan Kozak	public	938-8215

Pohoiki Bypass Public Meeting Notes

July 28, 2005

Pahoa Neighborhood Center

All comments paraphrased; where answered, consultant or County response given in italics.

Exceptional Tree Impacts

- Removal of Exceptional mango tree may set precedent, encourage erosion of protections for other exceptional trees.
- Removal of mango is necessary to allow access for emergency vehicles.
- It is unfortunate that the tree needs to be removed but the project is very necessary - please build the project and save the tree if you can.
- The County should buy an easement to the east side of Mango Road, then we could have a safe road and save the mango grove. *This may be a good idea, but is beyond the current scope of the project.*
- Has moving the tree been considered? - this can be done with large trees. *We will consider that.*
- Why are we concerned about mangos but not about the Kamani trees that will be removed, which have been here longer? *We are concerned about any tree removal, but the mango trees on this road are protected by law.*
- The trees cause safety problems, remove them.
- But this (mango tree) is just one more blind spot on a road full of them.
- Can the tree be pruned to improve the line-of-sight distance? *The sight distance issue occurs well below the point on the trunk where the tree branches.*
- The tree should be removed because safety is very important, and removal will help the line-of-sight distance at the intersection.
- The entire Mango Road is dangerous, at peak season the road becomes slippery with them, and one fell on and broke my windshield. The County would not compensate me for the damages.
- There is an easement on the West side of the Mango Road that could be used for a road to both improve safety and preserve the mango grove. *This may be a good idea, but is beyond the current scope of the project.*
-

Public Safety

- Safety at the park is a big problem because of jurisdictional conflicts. We need help now (from law enforcement). This is a bigger priority for me.
- HPD should put a substation at Isaac Hale Park.

Traffic Safety

- The mango road is very unsafe already. My priority is not saving the tree, but improving safety.
- More signage on Mango Road is needed to encourage safe driving, especially in relation to yielding to boats. *We will consider this.*

Use of Existing Road

- What will be done with the old (i.e., existing) road? People will continue to use the old (i.e., existing) road because it is more convenient. *For the immediate future, we are considering leaving it open, although it may not be maintained if a large storm damages it.*
- For the sake of safety, it would be better to close the old (i.e., existing) road, given the drug traffic, street racing, etc. that goes on there now. *With the agreement of P&R, we would be willing to consider that, if that is what the community wants.*
- The existing road should be shut down, since it is already dangerous.
- The existing road (that will be bypassed) is only kept safe because of the traffic through there. Without the traffic there will be more drug problems, violence, etc.

Other

- With more private developments in the future, traffic will worsen, so we need to be aware that the (existing) intersection may not be adequate in the future.
- Will there be a bike path? *There will be a 5-foot shoulder lane sufficient for bikes.*
- The area desperately needs infrastructural improvements because Pohoiki is the only safe ocean access (i.e., for boats) in Puna, an area larger than Oahu.
- Why is the County building this project before we have bathrooms at Isaac Hale? RESPONSE FROM P&R REP: *The park project is moving ahead.*
- The tidal wetlands could be a valuable nursery.
- This project uses money, but resources are more needed elsewhere at Pohoiki.
- These projects (i.e., Isaac Hale Park improvements) have been talked about for 10 plus years and nothing has been done. And now the County has spent money buy land in Kona - at Honl's. *The park project is moving ahead.*
- Would a culvert be practical, instead of a bypass? *Not really. A causeway would have to be very long to account for future sinking, the Army COE may not grant a permit for constructing in a wetlands, and traffic would be shut down for a long time requiring some sort of bypass anyway.*
- What is the status on the Oneloa development? Does this project impact that development? *We have informed the developers but they have not updated us on the status of the project. Our estimate is that the impacts are neutral.*

Forces of nature attack road

Lower Puna road is sinking as county ponders new bypass pla

WILLIAM ING/Tribune-Herald

Vehicles moving toward Kapoho shortly after noon on Monday plow through incoming seawater that inundates this stretch of the Red Road at high tide.

By DAVE SMITH
Tribune-Herald staff writer

Once again, the county road department is having to allow for volcanic forces.

The Department of Public Works is preparing to build a new road around a coastal area in lower Puna that is slowly sinking into the Pacific Ocean.

The section of Highway 137 near Pohoiki, just north of Isaac Hale Beach Park, floods during each high tide. That makes driving on the roadway, which leads to Kapoho and Ahalanui County Park, a beach park also known as Hot Ponds, difficult if not impossible.

An environmental assessment for the Pohoiki Bypass project said the salty water "creates excessive wear and tear on vehicle wheels, brakes and undercarriages."

And the study notes the situation is not going to get any better.

Geologists say the Big Island in general is sinking an average of more than one-tenth of an inch annually, the result of more weight being added by eruptions of lava and a rise in sea level from the melting of glacial ice. According to the environmental study, volcanologists have determined that the Pohoiki area is sinking at an even faster rate, almost an inch per year.

And sudden, more drastic subsidences which can occur during earthquakes could make the road impassible altogether, the study noted.

Such was the case during the 1975 Kalapana earthquake which required the building-up of parts of Highway 137 which dropped three feet initially and continued to subside in the days that followed.

The county plans to build a half-mile bypass road that will depart from Highway 137, also known as the Red Road, just north of the flooded area. It will reconnect with the highway at what is now a "T" intersection of Highway 137 and the Pohoiki Road several hundred feet above Isaac Hale Beach Park.

The county will hold a public meeting on the project from 6 to 8 p.m. on July 28 at the Pahoa community center.

Ben Ishii, a county engineer working on the project, said the connection will mean changes to the "T" intersection.

"We haven't decided yet, but more than likely it will be a four-way stop because of sight limitations," Ishii said.

Those limitations include mango trees through which the Pohoiki Road meanders. All of the 601 mango trees lining the road — some of them growing just inches from the roadway — are protected under the county's exceptional tree ordinance.

Rene Siracusa of Pahoa, who helped establish protection for the trees in the early 1990s when some were threatened by a water line project, said the grove is one of two with such blanket protection under county ordinance. The other involves the mango trees along the old government road through Waa Waa area of Lower Puna.

However, the tentative plans for the Pohoiki Bypass calls for the removal of one of the mango trees to allow the new road to line up with the portion of Highway 137 which ends at Pohoiki Road.

Siracusa, head of the environmental group Malama O Puna, is opposed to the removal of the tree, which has a trunk several feet in diameter.

"I'm totally against taking out the mango tree," she said Monday. Siracusa said her opposition is two-fold: She fears it could jeopardize other trees listed as exceptional by the county and she believes the removal is not necessary.

Siracusa proposes that the county split the two lanes of the bypass as it approaches the intersection, essentially creating a median with the tree in the middle.

Siracusa notes that the excep tional trees ordinance has detaile requirements to remove a tre from the list — including actior by the county's arborist advisor committee and the County Coun cil — which she said is suppose to occur only when a tree is di eased or presenting a danger the public.

"It would be a terrible, terrib precedent," she said.

While two alternate paths a being considered for the nor end of the bypass, Ishii said the doesn't appear to be a viab alternative to the southern end.

"We need it to connect to tl 'T,'" he said.

According to the environme tal study, moving the road slight mauka from its existing route not an option because of mo wetlands there. Engineers al considered building a bridge ov the flooded area, but that w deemed to be too costly and on a short-term solution.

The study said the existi road, which provides access a surfing spot just north of t beach park, would remain op after the bypass is built.

The project is expected to co about $2.4 million which includ funding to acquire several parce of privately owned land.

Ishii said the county also working on land acquisition f two other locations on Highw 137 that are susceptible to hi waves where the road will moved slightly upslope.

Dave Smith can be reached dsmith@hawaiitribune-herald.com

Root of trouble

Protected mango tree creating problem for Highway 137 bypass

By PETER SUR
Tribune-Herald staff writer

PAHOA — One tree stands in the path of a proposed half-mile bypass intersection for a sinking, flooded section of Highway 137.

Unfortunately for residents and engineers, that mango tree has a protected status.

About 25 people gathered at the Pahoa Community Center on Thursday to voice their opinions about the proposed road, the tree and various other concerns in the area of the only easily accessible path to the ocean in Puna.

The mango tree, which along with a grove of exactly 600 other trees was given "exceptional" status by county ordinance in the early 1990s to protect it from development.

Much of the discussion was focused on the mango tree, which along with a grove of exactly 600 other trees was given "exceptional" status by county ordinance in the early 1990s to protect it from development.

The drive to protect the grove of mango trees had been led by Renee Siracusa of Pahoa, president of the environmental group Malama O Puna.

At the meeting, Siracusa seemed to be the only voice speaking out to save the tree, while others were more concerned about safety issues.

An environmental assessment for the proposed bypass has said that when the road is flooded, the salty water "creates excessive wear and tear on vehicle wheels, brakes and undercarriages." The area is also sinking into the ocean at a rate of 3 feet every 50 years — earthquakes notwithstanding.

Everyone at the meeting recognized the need for the bypass road.

BYPASS From front page

The disagreement was over whether it could be built without taking out the tree, itself a lengthy process.

"We have to look at ways to make it as safe as possible and not set a bad precedent because once the county goes ahead and say 'well, we're only taking out one mango tree,' but it's the whole growth that's in a protected status," Siracusa said.

Engineers had said the safest option, a 90-degree intersection with a four-way stop, would involve removing the tree.

Steve Hirayama of Pahoa, the principal of the Hawaii Academy of Arts and Sciences, argued for removing the tree, noting that his vehicle's windshield had been broken by a falling mango tree.

As one person said, "What about all the people who lost their lives banging into mango trees?"

After the meeting, Siracusa emphasized the need for the bypass road, but wanted an option that would preserve each of the grove's 601 mango trees. "I think that the county Public Works will find a way to do it that is safe," she said.

Many of the meeting's speakers favored a proposal to close the bypassed portion of Highway 137 altogether and turn it over to the Department of Parks and Recreation as a public driveway.

The meeting also touched on other topics of interest to Puna residents, including the persistent crime and poor state of the bathrooms at Isaac Hale Beach Park.

Public comments on the proposed bypass will be accepted by the Department of Public Works until Aug. 8. The road will be built with a portion of the $7 million in transportation funds allocated to Puna by the last County Council.

Peter Sur can be reached at psur@hawaiitribune-herald.com.

POHOIKI BYPASS

PUNA DISTRICT, COUNTY OF HAWAI'I

DRAFT ENVIRONMENTAL ASSESSMENT

APPENDIX 2

PRELIMINARY ENGINEERING REPORT

INFRASTRUCTURE FACILITIES

This chapter addresses the project's probable effect on existing infrastructure serving the project area.

1. WATER FACILITIES

The County of Hawaii Department of Water Supply (DWS) operates four separate water systems in Puna which are the Kalapana System, Kapoho System, Pahoa System, and the Keaau-Mt. View System. However, the majority of residences in the Puna district rely on individual roof catchment systems. In the project vicinity, water is provided by the DWS, one private system, and individual roof catchment systems. See Figure 1.

The new bypass road is not expected to have an impact on the private or DWS water system facilities since the bypass road does not cross the existing water lines.

2. WASTEWATER FACILITIES

There are no known County wastewater collection and treatment systems in the area of the bypass road. As a result, cesspools or septic systems are likely to be predominantly used by residences in this area. The property owner for TMK 1-4-02:013 did acknowledge the existence of a cesspool next to an existing shed but confirmed that the existing shed is not near the proposed bypass road.

The new bypass road is not expected to have an impact on the individual wastewater systems present within the vicinity of the bypass road.

3. DRAINAGE FACILITIES

There are no significant streams or major gulches present along the new bypass road alignment. It appears that a portion of the rainfall percolates into the ground. Rainfall which does not percolate sheet flows towards the shoreline following natural drainage paths and the existing topography. There is an existing drainage culvert along the existing paved road to the north of the new bypass roads. See Figure showing the Agricultural Lands of Importance to the State of Hawaii. However, the new bypass road is not near the culvert and thus is not expected to have an impact on the existing drainage culvert.

The bypass road will create new impervious surfaces. The new impervious surfaces will increase the amount of storm water runoff. The increase in storm water runoff

should be minimal in comparison to the entire drainage basin and it should not affect the overall drainage patterns in the area. In addition, the final design of the road should include drywells to infiltrate the storm water runoff. Culverts should be provided at low points along the bypass road to minimize disruption to the existing drainage patterns. These drainage improvements should be incorporated into the final design of the project.

Based on the proposed drainage improvements, the project is not expected to have a significant impact on the existing drainage in the area.

4. SOLID WASTE

The County Department of Public Works, Wastewater/Solid Waste Division operates two County landfills, one in Kona and the other in Hilo. There are also 21 solid waste transfer stations located on the Island of Hawaii. In the Puna District, there are five transfer stations which are located in Keaau, Pahoa, Kalapana, Glenwood, and Volcano.

Construction of the bypass road will generate solid waste typical of normal construction related activities. Construction-related solid wastes will be generated only over a short time period, and consist primarily of vegetation, rocks, and other debris resulting from the clearing of area for establishing roadway rights-of-way prior to its paving. The contractor will be required to remove all debris from the bypass road, and properly dispose them at the Hilo landfill in conformance with County regulations. Such activities are expected to have minimal impact on County solid waste facilities.

5. TRANSPORTATION FACILITIES

Pahoa-Kalapana Road, Highway 130, serves as the main State-operated highway providing vehicle access into this Puna District from Hilo. In Pahoa town, Highway 132 (Kapoho-Pahoa Road) branches to the east, off of Highway 130. At the east end of Highway 132, Highway 137 (Kaimu-Kapoho Road) begins and heads towards the south. This highway eventually intersects with Pohoiki Road.

Highways 132, 137, and Pohoiki Road are County-owned and maintained roads that provide vehicle access for residents and the general public to properties located along the coastline as well as to shoreline areas. Highway 137 travels in a north to south direction and generally follows the shoreline within the project area. Highway 137 is the only public road providing access to the coastline.

In the project area, Highway 137 consists of an undivided two-laned roadway (one lane in each direction) with a pavement width varying from about 16 to 20 feet. The posted speed limit of this road in the vicinity is 30 mile per hour.

Existing Traffic Conditions

Traffic volume along Highway 137, in the project area, is relatively light. There are no known traffic studies or traffic counts in the area. And a traffic study and/or a traffic count were not in the scope of this project. Thus, it is recommended that, prior to design of the bypass road, a traffic count/speed analysis and report be prepared.

This low traffic volume is a result of the rural and undeveloped character of the surrounding area. Vehicular traffic is generally limited to residents living in the area, visitors sightseeing along this coastline, and the public participating in recreational activities along the shoreline.

Probable Impacts On Roadway Facilities

The purpose of this project is to provide an alternate route around areas of the existing Highway 137 which are periodically covered by flooding and high tides. Without the project, sections of the existing road may be impassable during times of emergencies.

The proposed bypass road is not expected to have a negative impact on traffic volumes. The proposed bypass road should not increase the capacity of either the existing Highway 137 or the bypass road since there are no major trip generators (current or future) at either the beginning or end of the new bypass road. Rather it can be expected that during normal operations the traffic volume will be distributed between the existing Highway 137 and the bypass road. During times of emergencies the traffic volume on the bypass road would not be increased since the capacity would be similar to the existing volume on Highway 137. There should, however, be a reduction in traffic next to Isaac Hale Park since many vehicles will opt to use the bypass road. This should improve pedestrian safety near the park.

Proposed Road Geometrics

The bypass road should have a single lane (10'-12' wide) in each direction (two-laned roadway) along with a 10' wide shoulder (clear zone) on each side. Five feet of the shoulder should be planned for bicycle and accessible path use. The remaining five feet of the 10-foot wide shoulder should be left as additional clear zone. The travel lanes should have a 2% (-2%) crowned road section on the straight segments. On portions of the Bypass road which do not meet the minimum required horizontal curve radius due to site constraints super elevation should be used. The 5' shoulder adjacent to the travel lanes should be paved with asphalt concrete pavement and should be sloped at 2% (maximum). The remaining five-foot clear zone area should be left as gravel or earth material and be sloped at 6(H):1(V) (maximum). The pavement section is preliminarily designed to be a 4" thick asphalt concrete pavement over 6" thick aggregate base course. The cut/fill slopes on each side are preliminarily designed to 4(H):1(V). It is recommended that prior to final design the cut/fill slope limitations and pavement structure be verified by a Geotechnical Engineer's investigation and report. The final design of the bypass road should also include adequate right-of-way acquisition. See Figure 2 for the preliminary bypass road section.

Due to the rural nature and level topography of the area, local drivers may be inclined to speed on the new bypass road to save time on their normal travels. Thus a design speed of 35 mph should be used for the geometric design of the proposed road.

The posted speed limit should be 30 mph to be compatible with the existing speed limit in this area. The 2004 AASHTO Policy on Geometric Design of Highways and Streets ("Green Book") was referenced during the preparation of the preliminary bypass road alignment and vertical profile. The bypass road should have a minimum 250' stopping sight distance for the horizontal curves. Due to the existing site conditions the proposed horizontal curves along the road centerlines should range from 605' to 2000'. Horizontal curves that are smaller than the minimum required may have to be super elevated. The bypass road should have a minimum 250' of stopping sight distance for the vertical sag and vertical crest curves. The design parameters of the proposed bypass road are listed in Figure 3. Due to the existing topography in the area of the bypass road alignments, the slopes of the bypass road alignments range from 0.6% to 5%. The slope of either alignment when it connects back into Highway 137 should be 2% (maximum).

Proposed Alignment

The proposed alignment will start at the existing Kaimu-Kapoho and Pohoiki Road intersection. The existing 3-way intersection should be expanded into a 4-way intersection. See Figure 11. The intersection will most likely be controlled by stop signs in all four directions. However, the County should conduct a traffic study in order to determine use patterns and whether any modifications to the Stop sign controls are necessary.

Departure sight distance triangles from the stop-controlled locations should be determined according to Figure 4 – AASHTO charts for departure sight distances. Departure sight distances for both right and left turn movements from the stop position are shown in Figure 4. These sight distance triangles allow vehicles on the minor and major road to anticipate the traffic at the proposed intersection. The area in these sight distance triangles should be free of obstructions. The edge of travel way at Intersection #1 should have a 35' minimum radius. This minimum radius is based on the type of vehicle and the angle of the intersection.

The new bypass road will continue from this intersection in a northeasterly direction. The bypass road will traverse mostly level, vegetated ground. The bypass road will follow one single alignment for approximately 0.36 miles. At this point the bypass road will follow either one of two alternate alignments. The two alternate alignments are discussed below.

Alternate #1

Alternate bypass road #1 would continue in an easterly direction and connect into Highway 137, approximately 0.4 miles north of the Issac Hale Beach Park entrance. See Figures 5 and 6. A new 3-way intersection would be created at this junction. A stop sign should be installed at this intersection for safety (See Figure 9). Departure sight distance triangles from the stop-controlled lane should be determined according to Figure 4. The departure sight distances for both right and left turn movements from the stop position are

shown in Figure 4. The area in these sight distance triangles should be free of obstructions. Per AASHTO, the edge of travel way at Intersection #2 should have a 30' minimum radius. This minimum radius is based on the type of vehicle and the angle of the intersection. However, due to space limitations and the rural nature of the area it should be acceptable to reduce the edge of travel way radii.

Alternate #1 will traverse over level and vegetated ground. It will travel to the south of the archeological sites noted on the topographic survey and documented by others.

Alternate #2

Alternate bypass road #2 would continue in more southeastern direction along an existing dirt road. The existing dirt road is narrow and is currently used for the property owner's agricultural purposes. The existing dirt road would need to be widened to meet the lane/shoulder width requirements. Alternate #2 would connect into Highway 137 approximately 0.36 miles north of the Issac Hale Beach Park entrance (See Figures 7 and 8). A new 3-way intersection would be created at this junction. A stop sign should be installed at this intersection for safety (See Figure 10). Departure sight distance triangles from the stop-controlled lane should be determined according to Figure 4. The departure sight distances for both right and left turn movements from the stop position are shown in Figure 4. The area in these sight distance triangles should be free of obstructions. Per AASHTO, the edge of travel way at Intersection #3 should have a 30' minimum radius. However, due to space limitations and the rural nature of the area the edge of travel way radii for this intersection range from 5' to 30'.

Construction Considerations

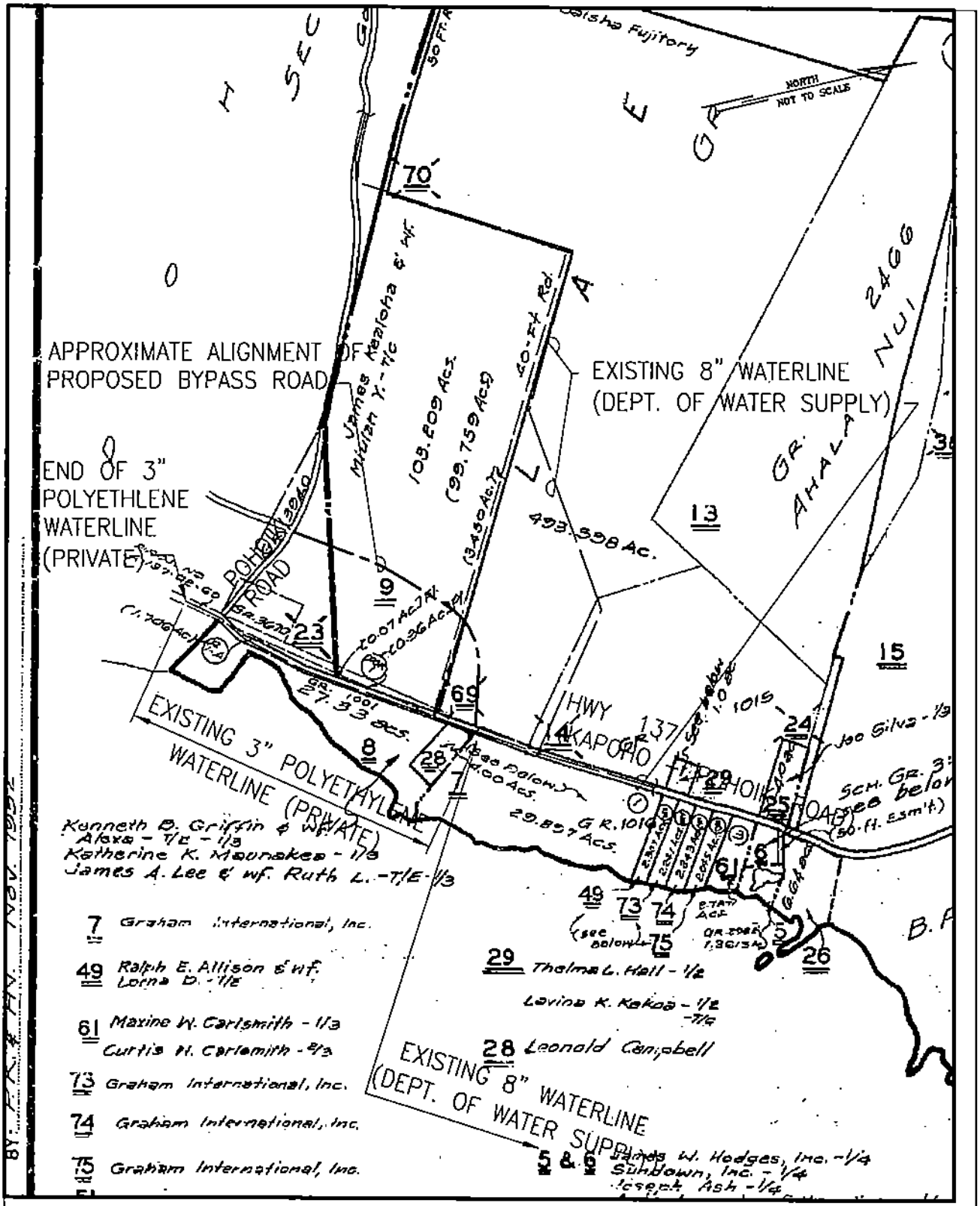
Both alignments, as shown on the road profiles, were conceptually designed to generate excess excavated material. This was due to the conservative presumption that only a percentage of the excavated material would be suitable for use as embankment material. And a percentage of the excavated material would need to be wasted at the County landfill. The final design of the bypass road should strive to balance the excavation and embankment quantities while considering the existing soil characteristics. It is recommended that prior to final design a Geotechnical Engineer's investigation and report be prepared to analyze the existing soils.

Construction of the selected bypass road would create a short-term impact on traffic flow in the area due to construction activities. A traffic control plan should be prepared to maintain vehicle flow patterns when the two new intersections are constructed. This plan should be coordinated with the County during the project's design for review and approval. Given the low volume of traffic occurring along this roadway in the project area, minimal impacts are expected to occur from construction activities.

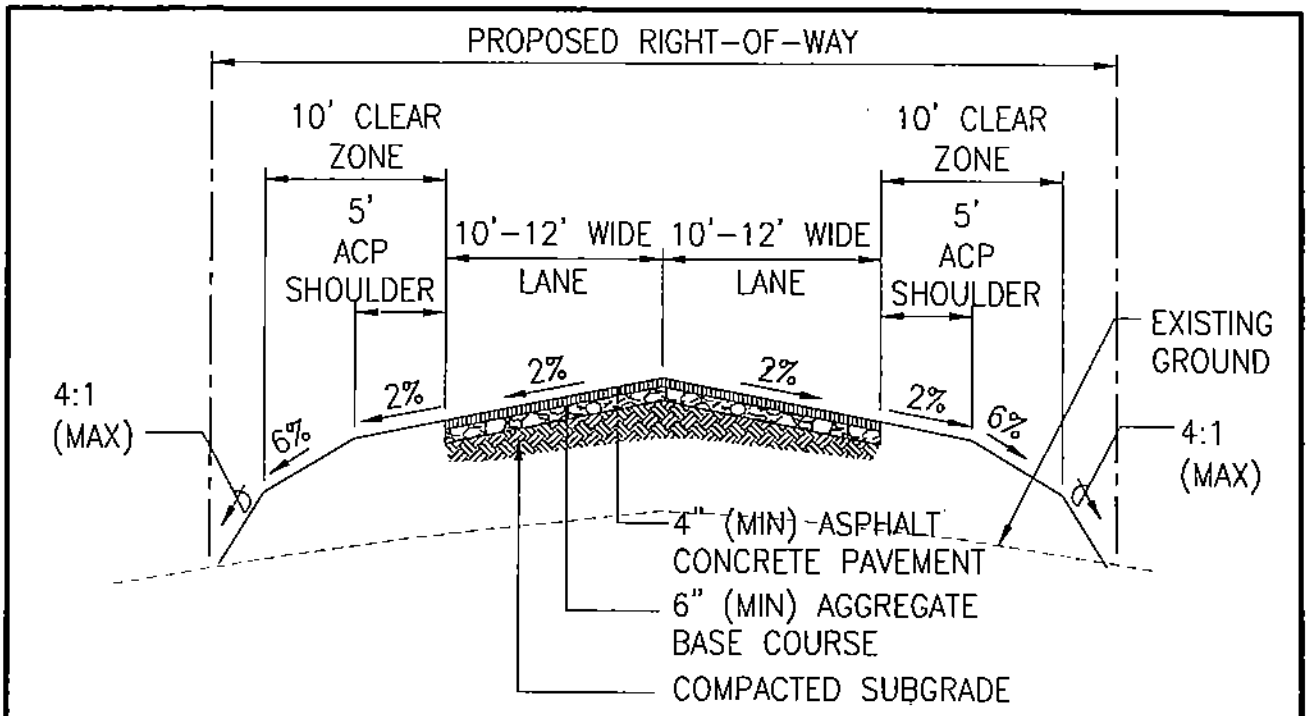
6. OTHER

It is recommended that a Geotechnical Engineer be contracted prior to the final design of the road. The geotechnical engineer can produce an investigation letter and recommendations on soil characteristics such as percolation rates, pavement structures, excavation/embankment materials, and grading slopes which are integral to the final design of the bypass road.

There is a proposed County emergency siren to be located near the Highway 137-Pohoiki Road intersection (see Figure 5 and 7 for approximate location). The proposed siren should not be affected by the proposed road alignment.

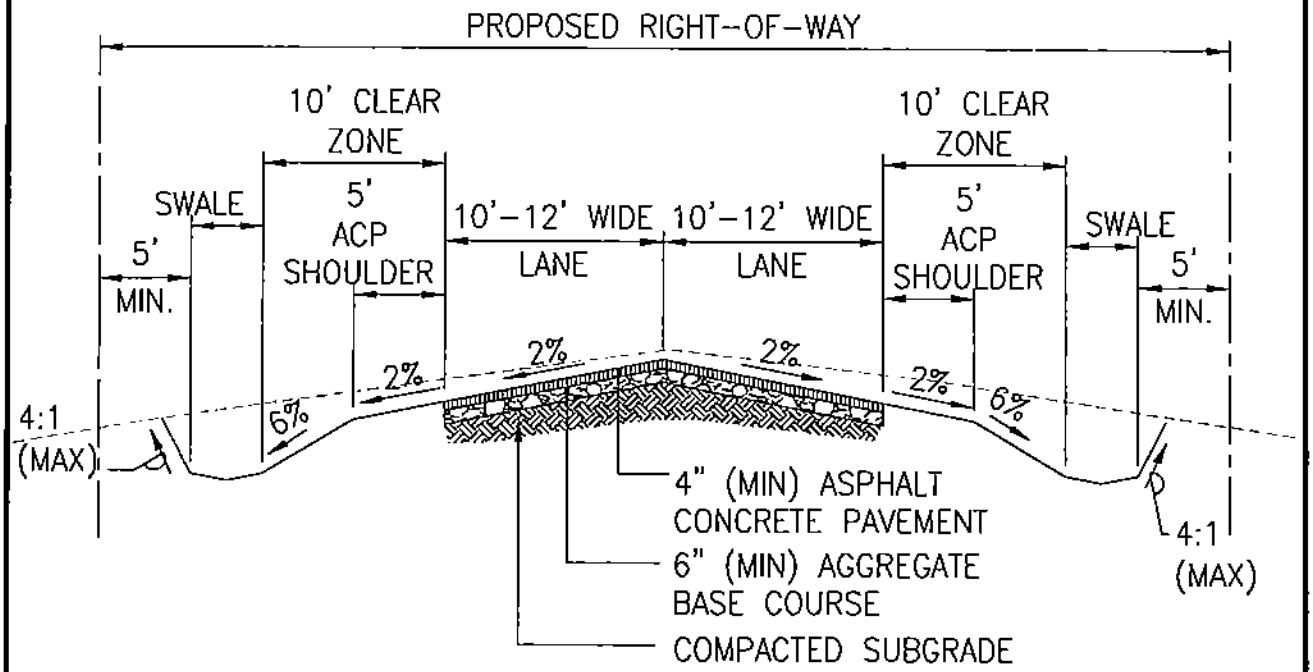


SSFM INTERNATIONAL	SSFM International, Inc. 501 Sumner Street, Suite 620 Honolulu, Hawaii 96817	POHOIKI BYPASS ROAD EXISTING WATER SYSTEM	FIGURE 1
		SCALE: AS SHOWN	DATE: MAY 2005



PRELIMINARY ROAD SECTION – ON FILL

NOT TO SCALE



PRELIMINARY ROAD SECTION – IN CUT

NOT TO SCALE

NOTE:
PAVEMENT STRUCTURE AND CUT/FILL SLOPES ARE PRELIMINARY.

SSFM International, Inc. 501 Sumner Street, Suite 620 Honolulu, Hawaii 96817	POHOIKI BYPASS ROAD PROPOSED ROAD SECTION SCALE: AS SHOWN DATE: MAY 2005	FIGURE 2

Figure 3

POHOIKI BYPASS ROAD – BASIS OF DESIGN
APRIL 2005

Reference: 1. 2004 AASHTO "A Policy on Geometric Design of Highways and Streets".

Road Classification: Rural major collector

Speed: No previous traffic counts or speed studies conducted for the area. Neither traffic counts nor speed studies are included in this project's scope of work. Thus, design speed of 35 mph proposed because of level topography and rural area which might lead drivers to travel at a higher rate of speed. Posted speed limit will be 30 mph.

Surface: Asphalt concrete pavement

Travel Lanes: 10'-12' wide (12' for probable construction cost)
Clear Zones: 10' wide (5' paved shoulder at 2%, 5' at 6%)

SSD on horizontal curves: = 250' (minimum) (AASHTO Exh. 7-1)

Horizontal sightline offset (HSO) = $R[(1 - \cos 28.65S/R)]$

= $2000'[(1-\cos \frac{28.65*250)}{2000'}]$

= 3.9

= $500'[(1-\cos \frac{28.65*250)}{500'}]$

= 15.5'

= $R[(1 - \cos \frac{28.65*250)}{100}]$

= 68'

SSD on vertical crest curves: 250' (minimum)
SSD on vertical sag curves: 250' (minimum)

Level of Service: B (minimum)

Intersection Design

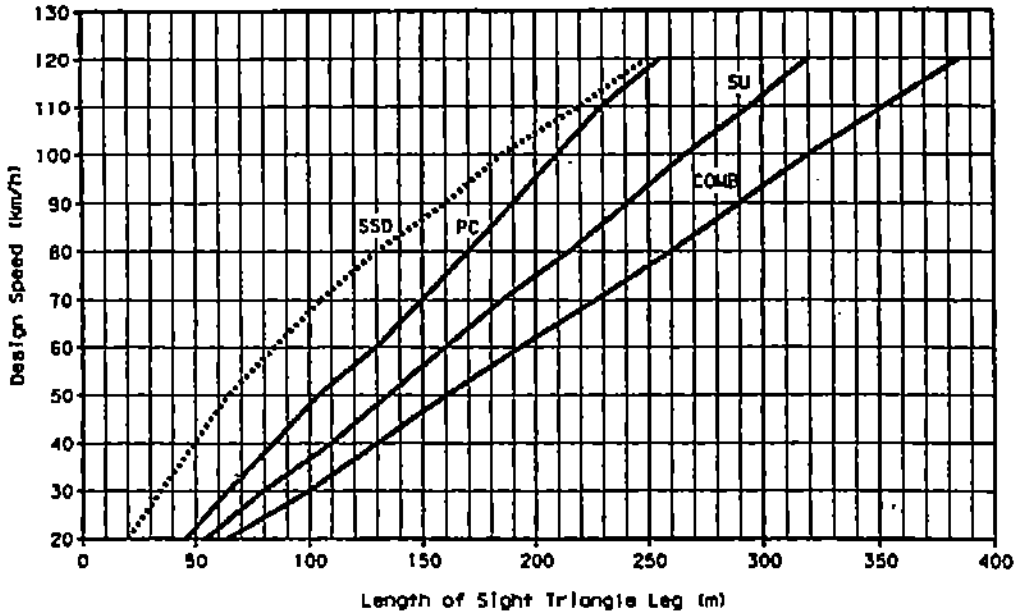
1. Plain "T" intersection. See Exhibit 9-5 in 2004 AASHTO "Green Book"
2. Right-Turn angle:
    a. At Intersection #1 = 75degrees
    b. At Intersection #2 = 90degrees

c. At Intersection #3 = 90degrees

3. Design Vehicle for Minimum right-turn radius = Passenger car (P)
4. Edge of Traveled Way Design (See Exh 9-19)
   Intersection #1 = 35'
   Intersection #2 = 30'
   Intersection #3 = 30'
5. No right-turn deceleration or acceleration lanes are warranted based on low traffic volumes of road.
6. No curb radii are anticipated as no curbs will be provided on the new bypass road.
7. Departure Sight Triangles at Intersection (design speed of 35mph)
   a. Sight distance for a left-turn from stop on the minor road (bypass) to the major road (Pohoiki Road) is determined by Exhibit 9-56.
   b. Sight distance for a right-turn from minor road to the major road is determined by Exhibit 9-59.
   c. Sight distance for the crossing maneuver from minor-road across of major-road is determined by Exhibit 9-59.

Figure 4

METRIC



US CUSTOMARY

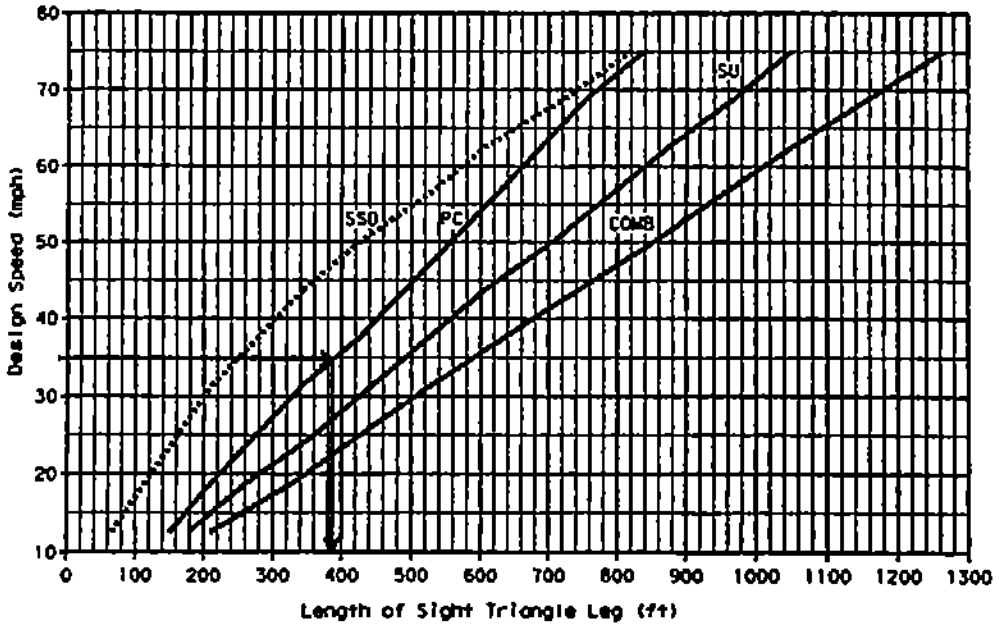
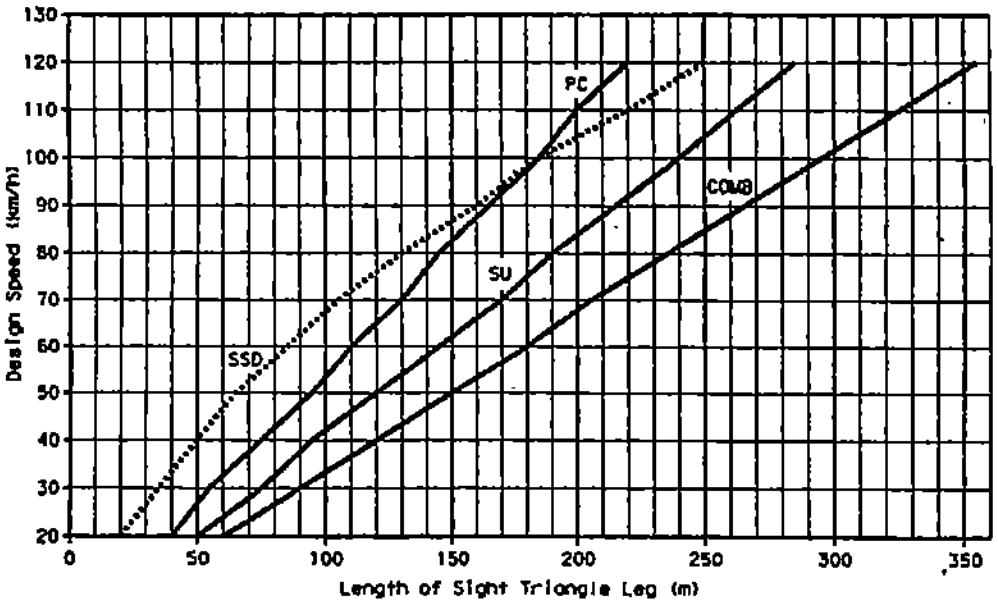


Exhibit 9-56. Intersection Sight Distance—Case B1—Left Turn from Stop

METRIC



US CUSTOMARY

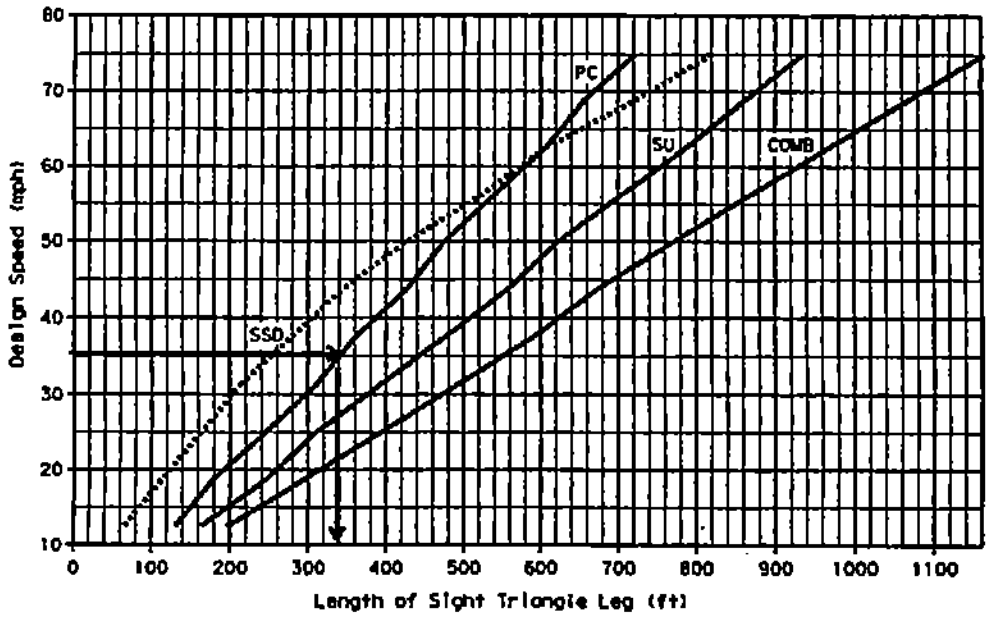


Exhibit 9-59. Intersection Sight Distance—Case B2—Right Turn from Stop and Case B3—Crossing Maneuver

START ALIGNMENTS #1 AND #2
STA 1+72
INTERSECTION #1

SIGHT DISTANCE TRIANGLE FOR RIGHT-TURN DEPARTURE. NO OBSTRUCTIONS IN THIS AREA.

ALIGNMENT #1 CENTERLINE

TRUE NORTH
SCALE: 1 in. = 50 ft.

SEE FIGURE 6

MATCHLINE STA. 15+00

SIGHT DISTANCE TRIANGLE FOR LEFT-TURN DEPARTURE. NO OBSTRUCTIONS IN THIS AREA

EXISTING CIVIL DEFENSE SIREN (APPROXIMATE LOCATION)

PLAN
SCALE: 1" = 50'

50' 25' 0 50' 100'
SCALE: 1" = 50'

60
50
40
30
20
10

PROPOSED GROUND AT ℄ OF BYPASS ROAD

EXISTING GROUND AT ℄ OF BYPASS ROAD

-0.57%

START ALIGNMENT #1
STA 1+72
36.10

PROFILE
SCALE: HORIZ 1" = 50'
VERT 1" = 5'

50' 25' 0 50' 100'
SCALE: 1" = 50'

5' 0 5' 10'
SCALE: 1" = 5'

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00

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Suite 20
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Pohoiki Road Bypass

Puna, HI

TMK: ____

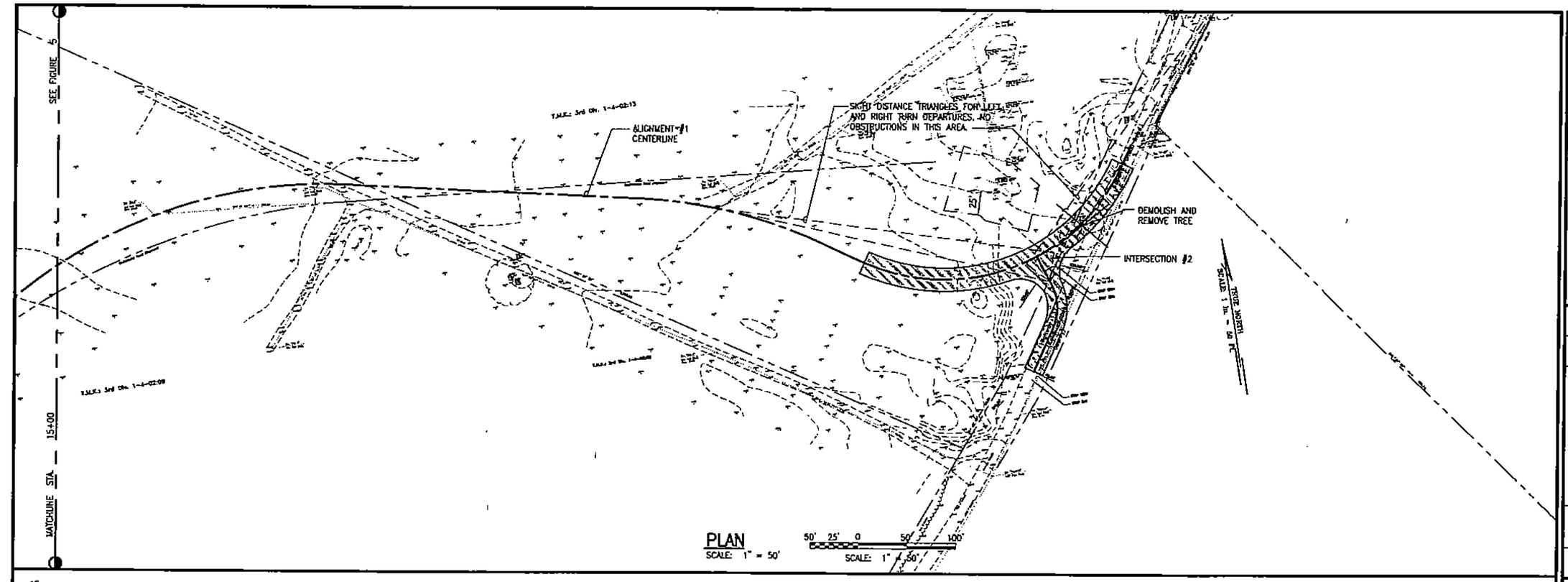
DRAWING TITLE

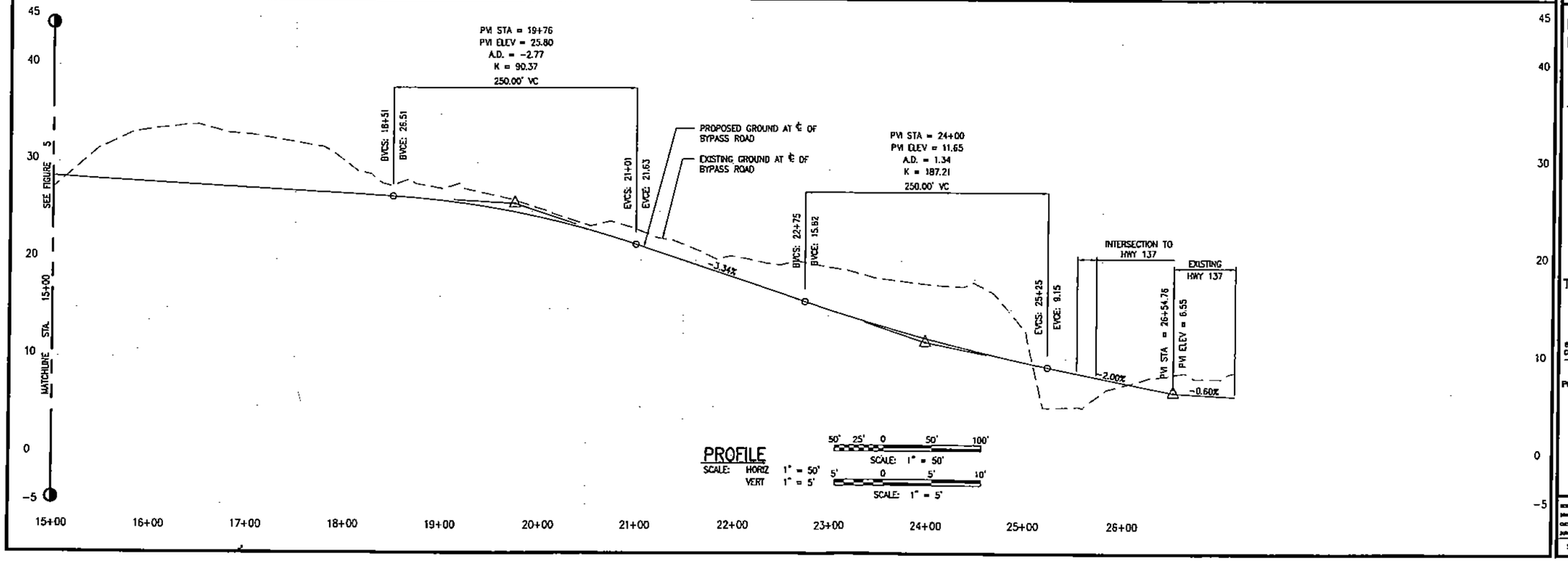
POHOIKI BYPASS ROAD - ALIGNMENT #1 PLAN AND PROFILE STA 1+72 TO STA 15+00

DRAWING NO. Fig. 5

SHEET NO. 6F

2004_152.000





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Pohoiki Road Bypass

Puna, HI

TMK: ____

Subdivision Title
DPW Folder No.

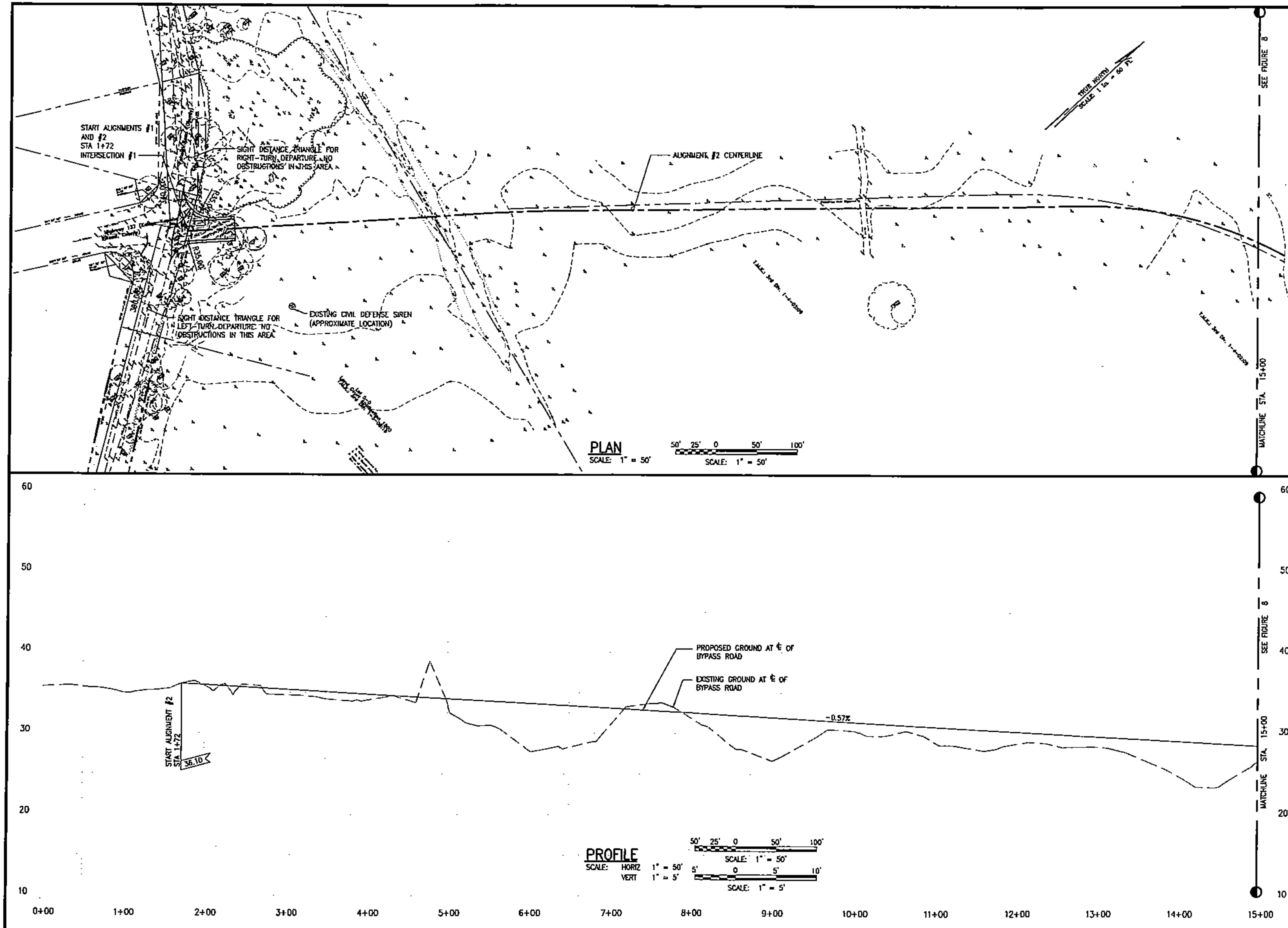
DRAWING TITLE

POHOIKI BYPASS ROAD - ALIGNMENT #1 PLAN AND PROFILE STA 15+00 TO STA 26+54.76

DRAWING NO. Fig. 6

SHEET NO. OF

2004_152.000


START ALIGNMENTS #1 AND #2 STA 1+72 INTERSECTION #1
SIGHT DISTANCE TRIANGLE FOR RIGHT-TURN DEPARTURE. NO OBSTRUCTIONS IN THIS AREA
ALIGNMENT #2 CENTERLINE
TRUE NORTH
SCALE 1 in. = 60 ft.
SIGHT DISTANCE TRIANGLE FOR LEFT-TURN DEPARTURE. NO OBSTRUCTIONS IN THIS AREA
EXISTING CIVIL DEFENSE SIREN (APPROXIMATE LOCATION)
PLAN
SCALE: 1" = 50'
50' 25' 0 50' 100'
SCALE: 1" = 50'
SEE FIGURE 8
MATCHLINE STA. 15+00
PROPOSED GROUND AT ℄ OF BYPASS ROAD
EXISTING GROUND AT ℄ OF BYPASS ROAD
-0.57%
START ALIGNMENT #2 STA 1+72
36.10
PROFILE
SCALE: HORIZ 1" = 50'
VERT 1" = 5'
50' 25' 0 50' 100'
SCALE: 1" = 50'
5' 0 5' 10'
SCALE: 1" = 5'
60
50
40
30
20
10
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
11+00
12+00
13+00
14+00
15+00

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Pohoiki Road Bypass

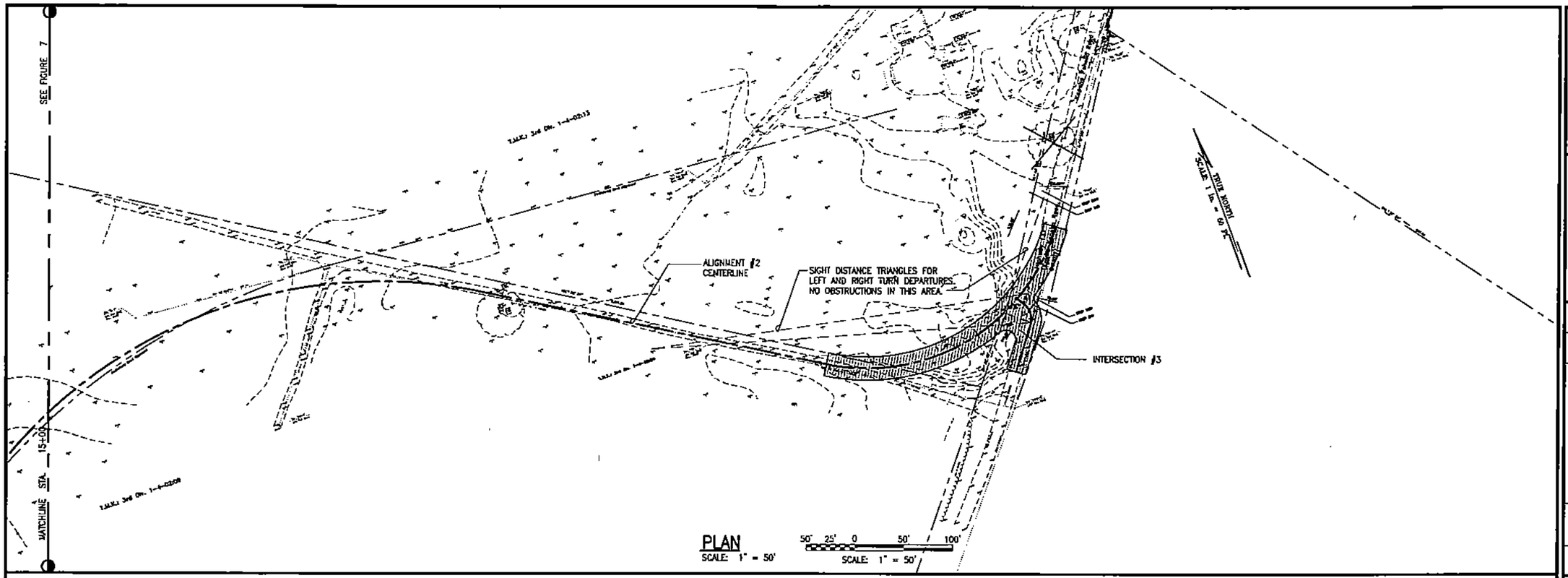
Puna, HI

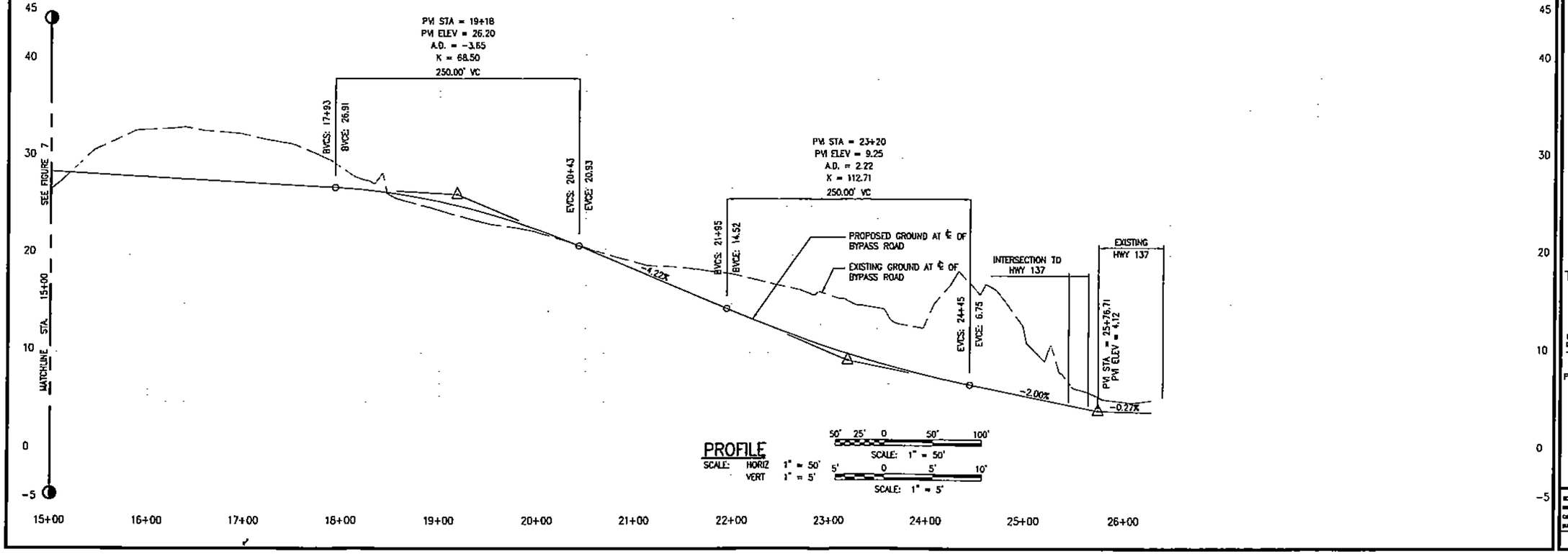
TMK: ____

DRAWING TITLE
POHOIKI BYPASS ROAD - ALIGNMENT #2
PLAN AND PROFILE
STA 1+72 TO
STA 15+00

DRAWING NO. Fig. 7
SHEET NO. OF

2004_152000





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Pohoiki Road Bypass

Puna, HI

TMK: ____

Subdivision No.
DPW Folder No.

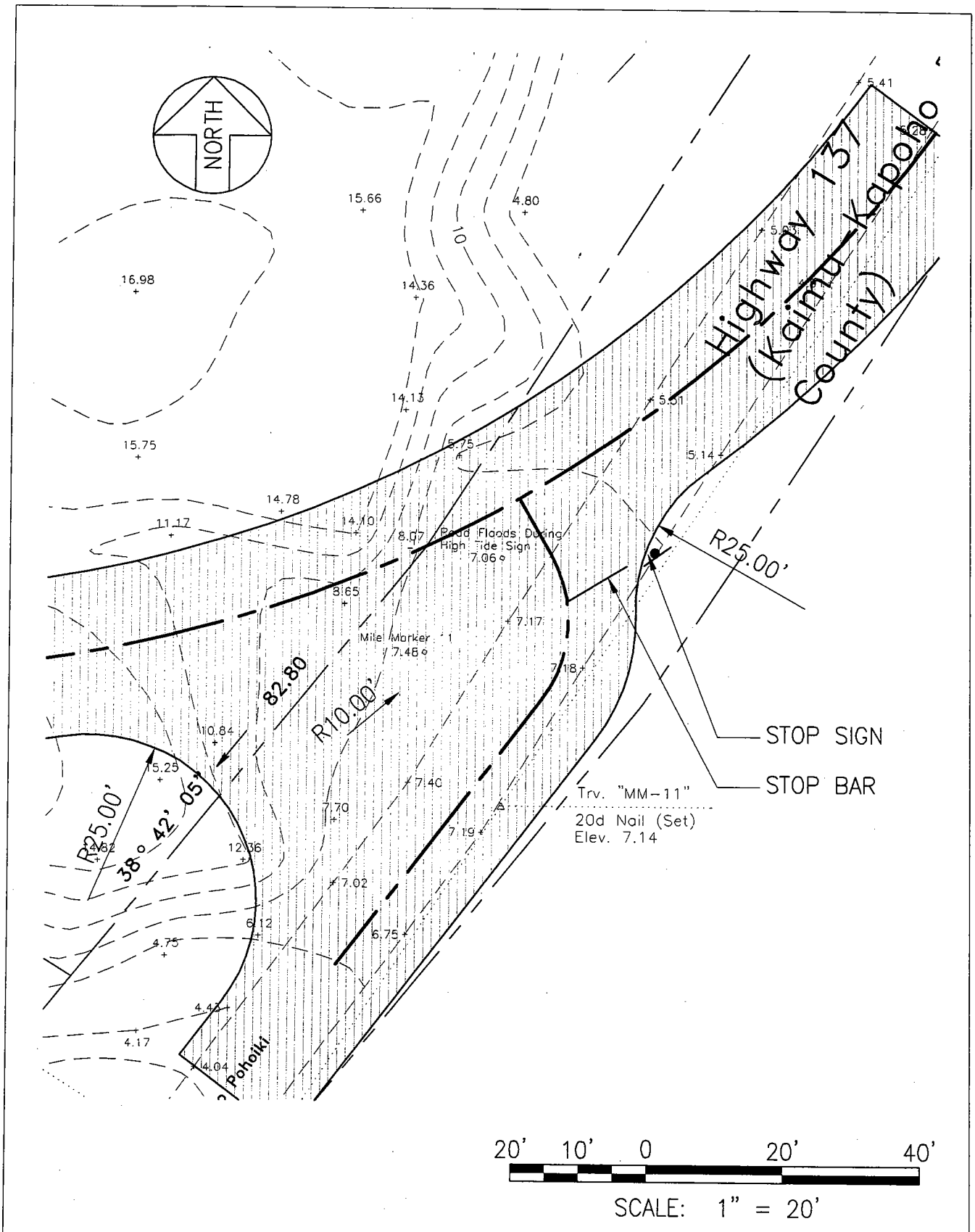
DRAWING TITLE

POHOIKI BYPASS ROAD - ALIGNMENT #2
PLAN AND PROFILE
STA 15+00 TO STA 25+76.71

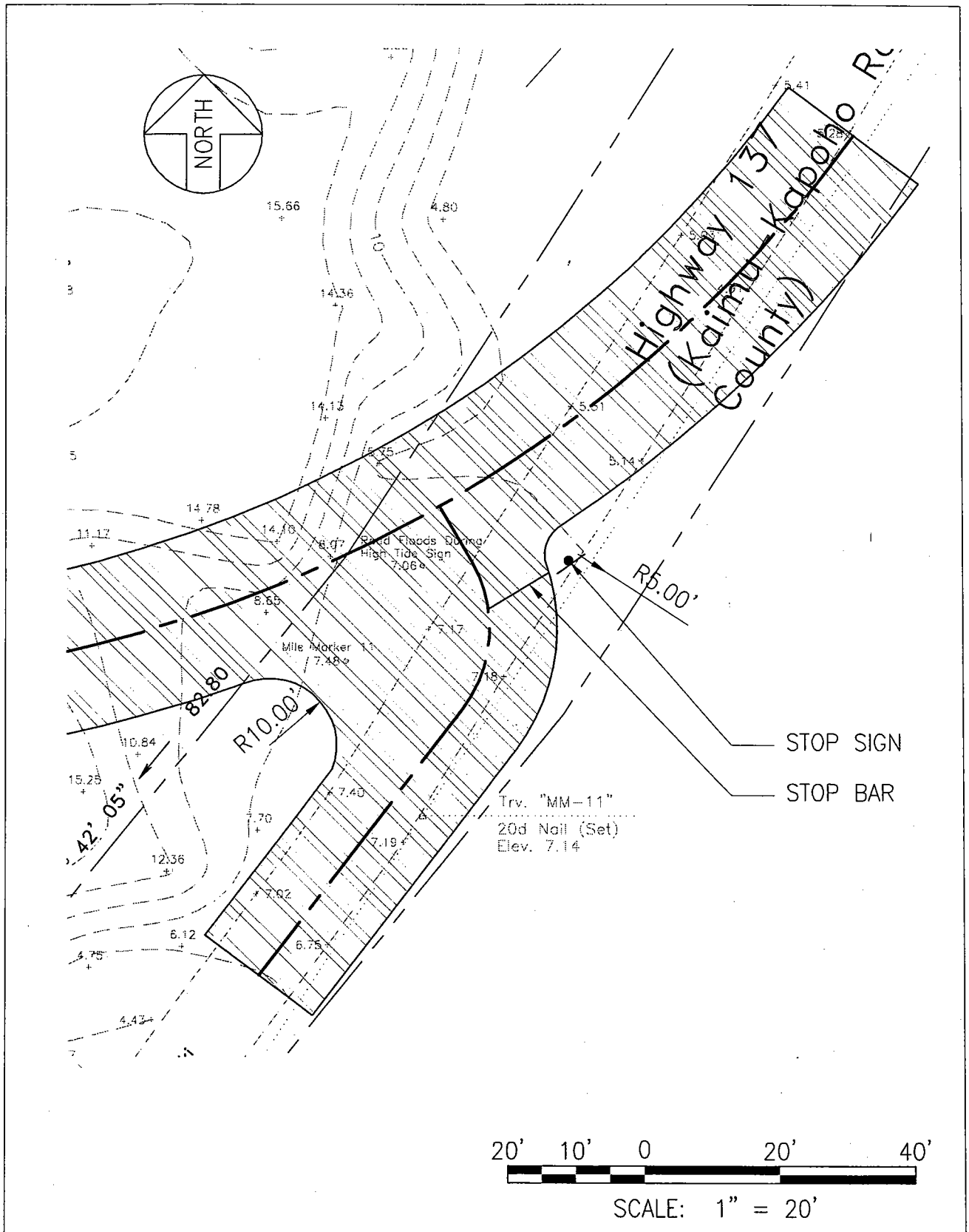
DRAWING NO. Fig. 8

SHEET NO. OF

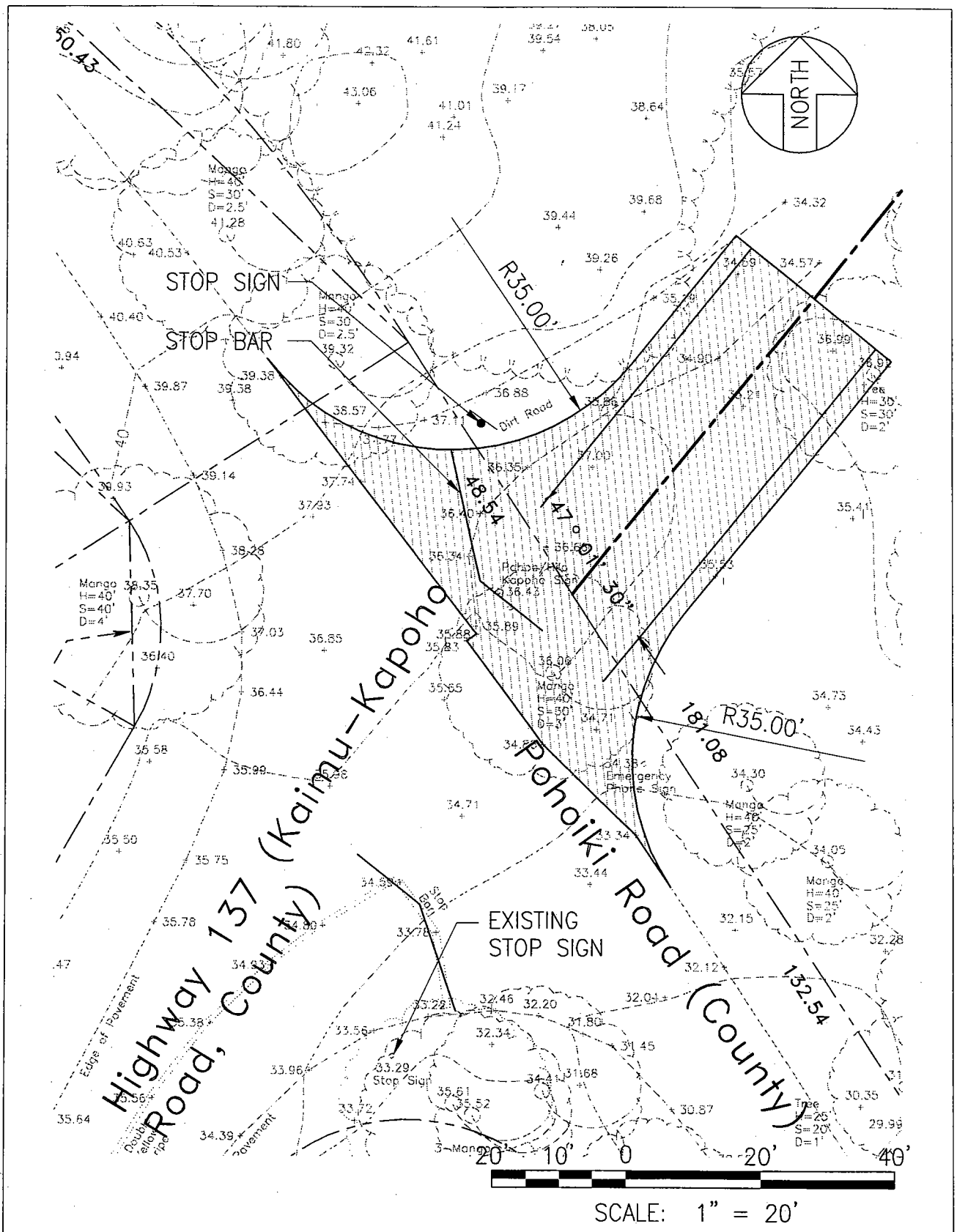
2004_152.000



SSFM International, Inc. 501 Sumner Street, Suite 620 Honolulu, Hawaii 96817	POHOIKI BYPASS ROAD FIGURE ALIGNMENT #1 – INTERSECTION 2	PAGE 9
	SCALE: AS SHOWN DATE: MAY 2005	



SSFM International, Inc. 501 Sumner Street, Suite 620 Honolulu, Hawaii 96817	POHOIKI BYPASS ROAD ALIGNMENT #2 – INTERSECTION 3		FIGURE 10
	SCALE: AS SHOWN	DATE: MAY 2005	



SSFM International, Inc. 501 Sumner Street, Suite 620 Honolulu, Hawaii 96817	POHOIKI BYPASS ROAD INTERSECTION #1–POHOIKI/BYPASS ROAD	FIGURE 11
	SCALE: AS SHOWN / DATE: MAY 2005	

POHOIKI BYPASS

PUNA DISTRICT, COUNTY OF HAWAI'I

DRAFT ENVIRONMENTAL ASSESSMENT

APPENDIX 3

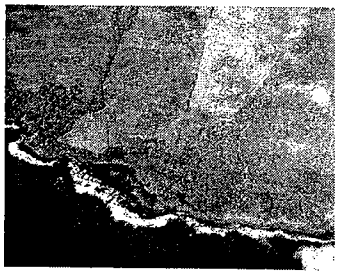
ARCHAEOLOGICAL INVENTORY SURVEY

RC-0279

Archaeological Assessment Survey for the Pohoiki Road Realignment Project

(TMKs: 3-1-4-02:9, 13 and 3-1-3-08:16)

Oneloa Ahupua'a
Puna District
Island of Hawai'i



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PREPARED FOR:

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April 2005

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phone: (808) 966-7636 fax: (808) 443-0065
e-mail: bob@rechtmanconsulting.com
ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL STUDIES

Archaeological Assessment Survey for the Pohoiki Road Realignment Project

(TMKs: 3-1-4-02:9, 13 and 3-1-3-08:16)

Oneloa Ahupua'a
Puna District
Island of Hawai'i

RECHTMAN CONSULTING

EXECUTIVE SUMMARY

At the request of Ron Terry, Ph.D. of Geometrician Associates, LLC, on behalf of his client the County of Hawai'i, Rechtman Consulting, LLC conducted an archaeological assessment survey for the proposed realignment of a portion of the Kapoho-Kalapana Road (Highway 137) near Pohoiki Bay. The purpose of the realignment is to move vehicle traffic away from an area of the existing roadway that is continually subsiding and floods at high tide, creating an unsafe condition for motorists. This area is also an environmentally sensitive wetland. The County of Hawai'i desires to provide a safe, passable road between Kapoho and Pohoiki. The proposed road realignment corridor traverses both private property (TMKs:3-1-4-02:13 and 3-1-4-02:9) and County-owned land (TMK:3-1-3-08:16) in Oneloa Ahupua'a, Puna District, Island of Hawai'i. The portion of the current project area within TMK:3-1-4-02:13 has already been the subject of an archaeological inventory survey (Dunn et al. 1995; Kennedy et al. 1990; Kennedy et al. 1991) and a earlier reconnaissance survey (Bevacqua and Dye 1972). As a result of those studies, five features were identified within the current study area that were assigned agricultural functions as part of a larger "carpet" of 611 agricultural features described as SIHP Site 12157 (Dunn et al. 1995:35). This site was initially evaluated as significant under Criterion D, but following the inventory work was considered "no longer significant," and recommended for no further work (Dunn et al. 1995:102). The Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) approved the no further work treatment for SIHP Site 12157. The portion of the project area within TMK 3-1-3-08:16 was also part of an earlier inventory survey (Devereux et al. 1998); there were no sites found within the current study area during that study. The portion of the project area in TMK:3-1-4-02:9 had not been previously surveyed for archaeological sites.

The results of the field investigation are that there were no new sites found anywhere with the overall project area. The portion of the study area within Parcels 02:9 and 08:16 had been totally mechanically grubbed in the past. In the portion of the study area within Parcel 02:13 the previously identified features of SIHP Site 12157 (Dunn et al. 1995; Kennedy et al. 1990; Kennedy et al. 1991) were encountered. The formal attributes of these features generally matched the descriptions provided in the earlier studies. No new features were observed. Additionally, two previously recorded burial sites were located in an effort to determine the precise spatial relationships between these sites and the northern boundary of the triangular subunit of the current study area and the location of the proposed alternative realignment corridors. Site 12153 is a platform situated 8 meters north the boundary and 69 meters north of northernmost alternative realignment corridor. Site 12156 is a lava tube blister located 30 meters north of the boundary and 90 meters north of northernmost alternative realignment corridor. Currently these sites are 45 meters (SIHP Site 21153) and 100 meters (SIHP Site 21156) *mauka* of the existing Highway 137 roadway corridor.

As a result of the intensive on-foot archaeological survey, several previously documented and mitigated features of SIHP Site 12157 were encountered, the locations of two previously recorded burial sites (SIHP Sites 12153 and 12156) outside of the current study area were verified, and no new sites were observed anywhere within the current study area. As no new sites were encountered and the observed features of SIHP Site 12157 have already been mitigated (Dunn et al. 1995), it is the conclusion of the current study that the proposed realignment of Highway 137 will not directly impact any known archaeological sites. Some consideration has also been given to potential indirect impacts to the aforementioned burial sites as a result of possible increased foot traffic (people parking on the roadside and walking into the bush). It is concluded, however, that in and of itself the new roadway will not bring added foot traffic to the area and that the distance of the roadway shoulder will be no closer to these sites than is the current existing condition. Therefore there will be no increased potential for indirect impacts.

Contents

Figures

INTRODUCTION

At the request of Ron Terry, Ph.D. of Geometrician Associates, LLC, on behalf of his client the County of Hawai'i, Rechtman Consulting, LLC conducted an archaeological assessment survey for the proposed realignment of a portion of the Kapoho-Kalapana Road (Highway 137) near Pohoiki Bay (Figure 1). The purpose of the realignment is to move vehicle traffic away from an area of the existing roadway that is continually subsiding and floods at high tide, creating an unsafe condition for motorists. This area is also an environmentally sensitive wetland. The County of Hawai'i desires to provide a safe, passable road between Kapoho and Pohoiki. The proposed road realignment corridor traverses both private property (TMKs:3-1-4-02:13 and 3-1-4-02:9) and County-owned land (TMK:3-1-3-08:16) in Oneloa Ahupua'a, Puna District, Island of Hawai'i (Figure 2).

The portion of the current project area within TMK:3-1-4-02:13 (see Figure 2) has already been the subject of an archaeological inventory survey (Dunn et al. 1995; Kennedy et al. 1990; Kennedy et al. 1991) and a earlier reconnaissance survey (Bevacqua and Dye 1972). As a result of those studies, five features were identified within the current study area that were assigned agricultural functions as part of a larger "carpet" of 611 agricultural features described as SIHP Site 12157 (Dunn et al. 1995:35). This site was initially evaluated as significant under Criterion D, but following the inventory work was considered "no longer significant," and recommended for no further work (Dunn et al. 1995:102). The Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) approved the no further work treatment for SIHP Site 12157. The portion of the project area within TMK 3-1-3-08:16 was also part of an earlier inventory survey (Devereux et al. 1998); there were no sites found within the current study area during that study. The portion of the project area in TMK:3-1-4-02:9 had not been previously surveyed for archaeological sites.

The purpose of this archaeological study is to document the presence of any historic properties that might exist within the project area and provide a statement of impact to any such resources resulting from proposed road realignment. This report is intended to accompany an Environmental Assessment (EA) being prepared in compliance with Chapter 343, Hawai'i Revised Statues. As such this archaeological study adheres to the regulations contained in HAR 13§13-276, and is subject to review by the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) under that regulatory authority.

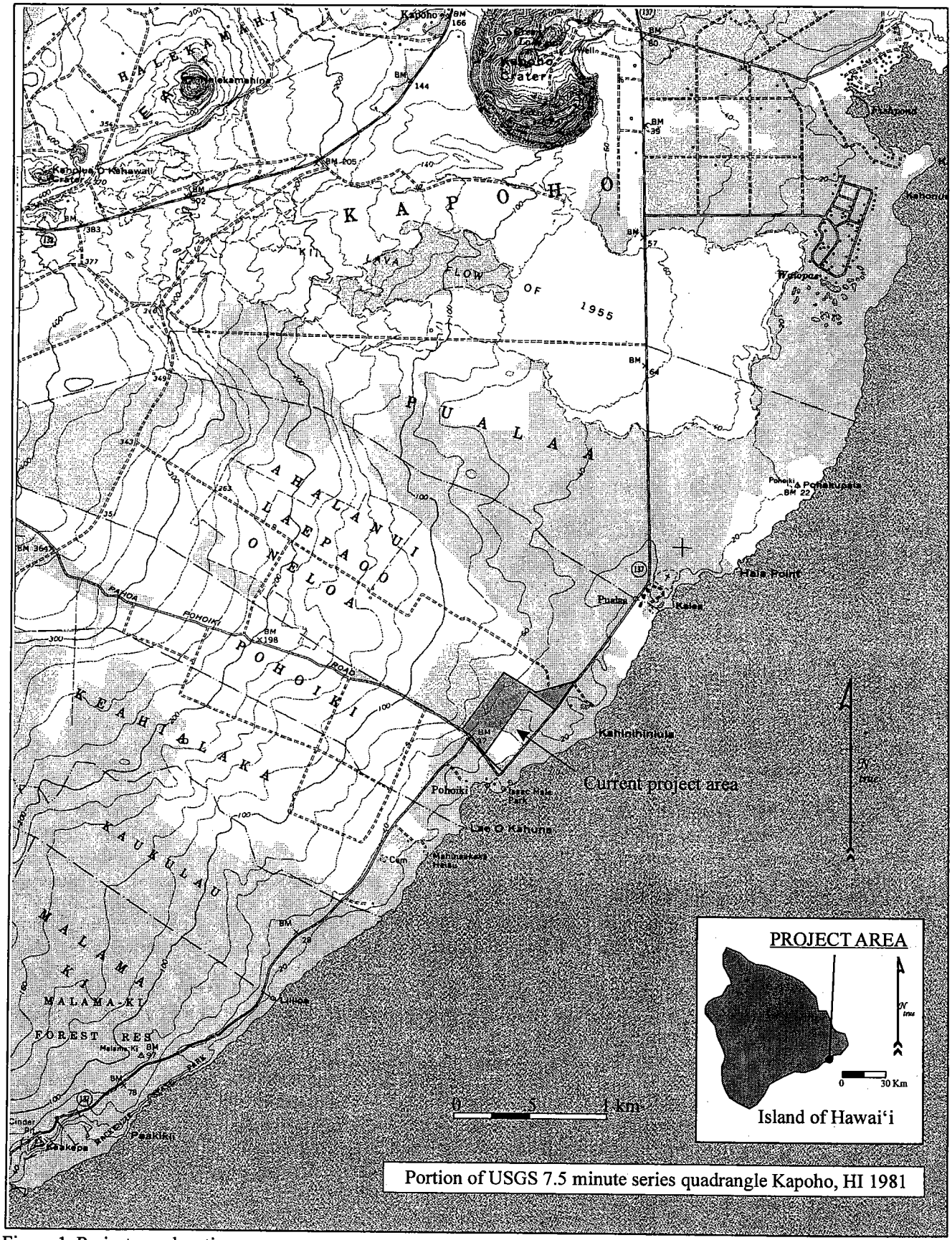

Figure 1. Project area location.

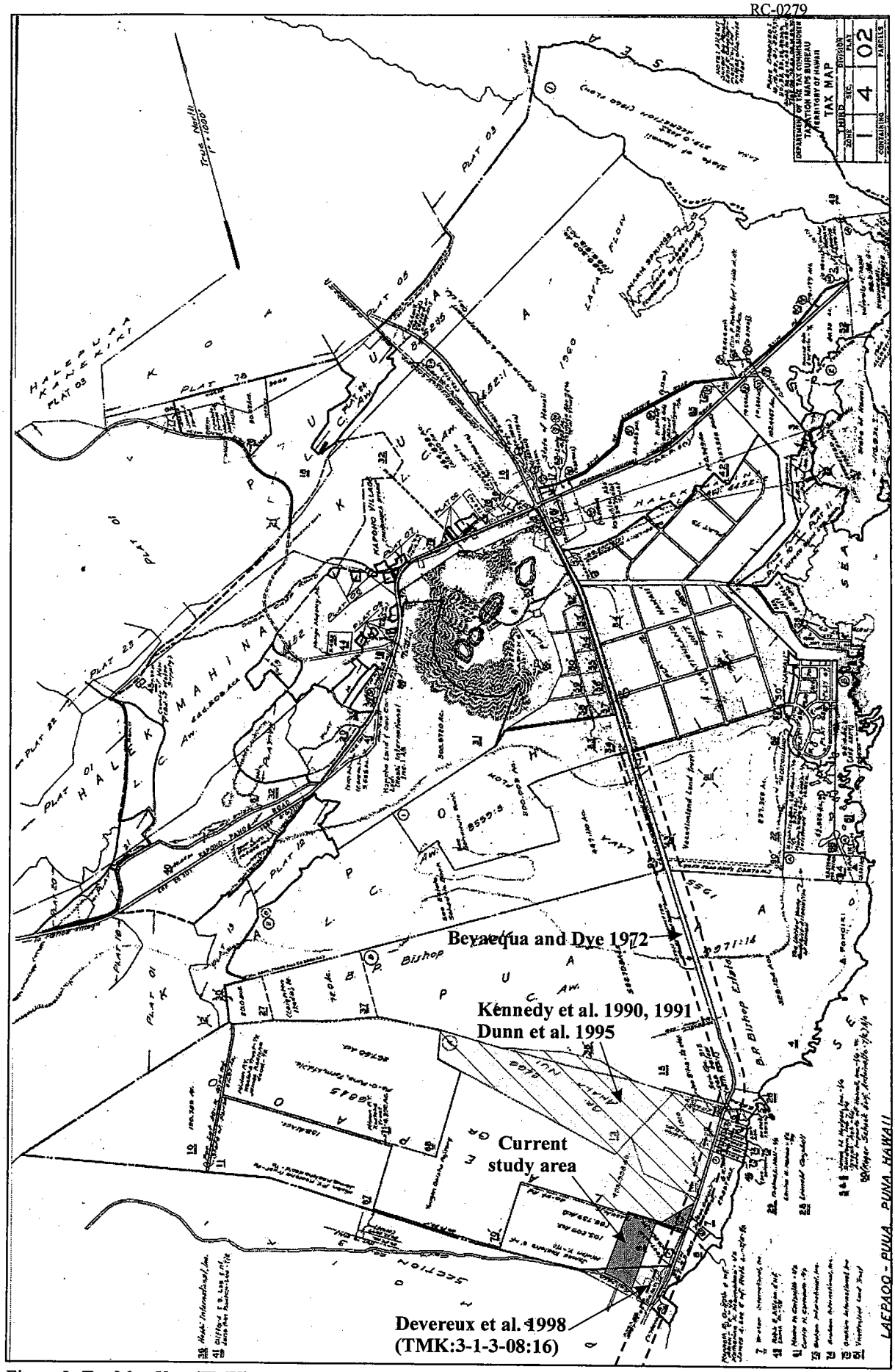

Figure 2. Tax Map Key (TMK):3-1-4-02 showing the location of the current study area and previous study areas.

PROJECT AREA DESCRIPTION

To accommodate the proposed realignment corridor a study area for archaeological survey was defined commencing roughly 800 meters northeast along Highway 137 from its intersection with Pohoiki Road. The study area is on the *mauka* side of the highway, and includes highway frontage from its commencement point (at a former, currently blocked, *mauka* running dirt access road) southwest to another (currently accessible) existing dirt road that runs roughly perpendicular to the highway. This existing dirt road accesses a former papaya farm and marks the northern limit of the wetland. The overall study area then continues *mauka* of the wetland between the existing dirt road and Pohoiki Road. Thus, the overall study area is defined by two shapes, a triangle formed by the existing dirt road, Highway 137, and a survey boundary running from the point of commencement in a westerly direction for roughly 300 meters, and a rectangle 200 meters wide by nearly 500 meters long (Figure 3). Prior environmental and archaeological knowledge helped shape the current study area: sufficient elevation was necessary to accomplish the goal of routing the roadway out of harms way, and avoidance of both the existing environmentally sensitive wetland and known locations of culturally sensitive (burial) archaeological sites was a priority. Elevation within the study area ranges between 8 and 50 feet (2.4 and 15.2 meters) above sea level. Terrain is markedly different in the differently shaped project subunits (Figure 4). The triangular subunit is dominated by exposed *pāhoehoe* and *'a'ā* flows with a moderate vegetation cover typical of a disturbed coastal forest including native species such as *'ōhi'a* (*Metrosideros polymorpha*), *hala* (*Pandanus tectorius*), and *alahe'e* (*Canthium odoratum*), and invasive introduced species like *waiawī* (*Psidium cattleianum*), and assorted vines and weeds. The rectangular subunit is a former agricultural (papaya) field and has been thoroughly mechanically altered. It currently supports an open grassland environment with a centrally located large mango tree. Sato et al. (1973) define two soil series in the study area; Malama extremely stony muck and Opihikao extremely rocky muck, both are thin, organic soils surrounding exposed bedrock outcroppings. Rainfall in this portion of coastal Puna averages 100 inches annually (Armstrong 1983).

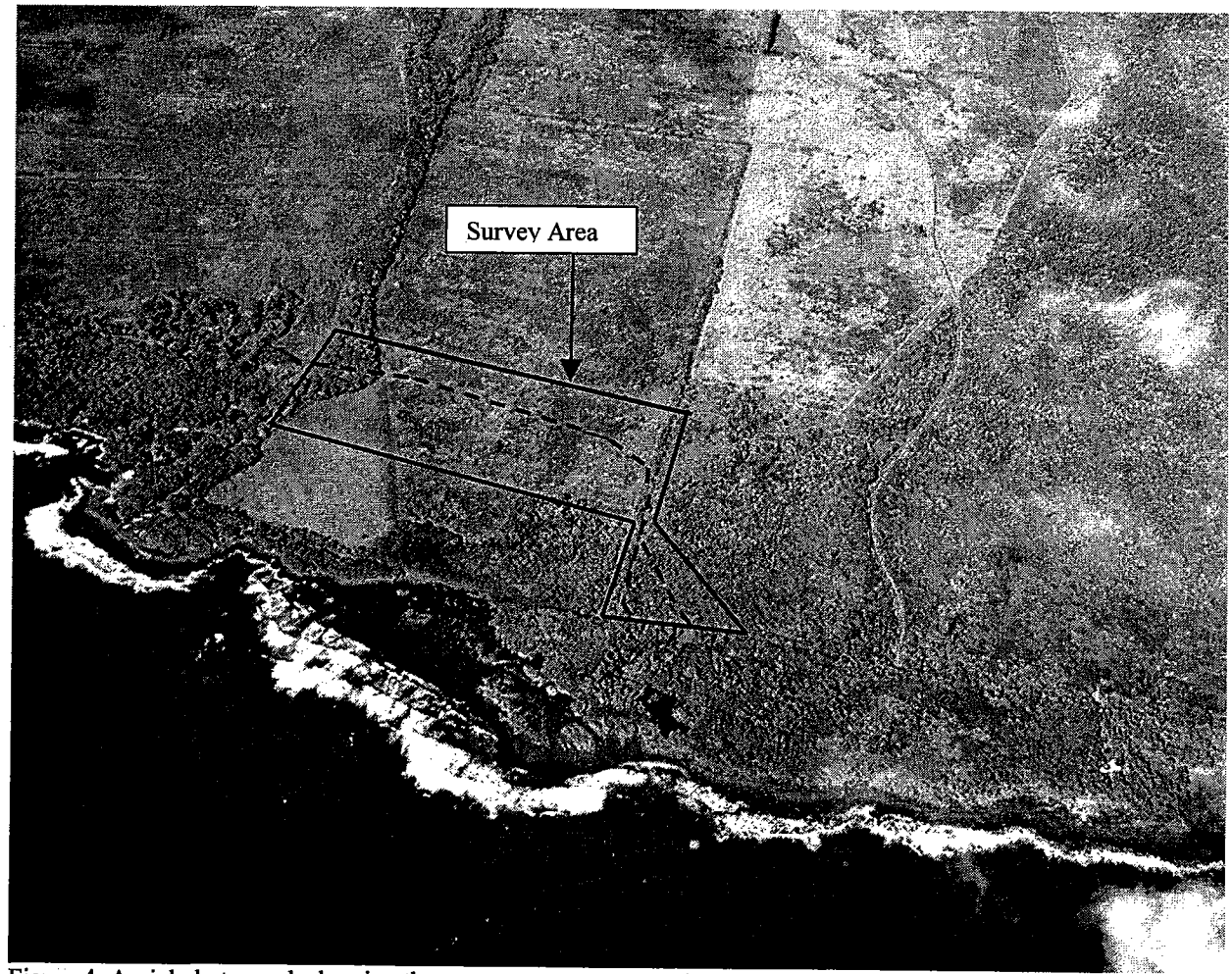

Figure 4. Aerial photograph showing the current survey area and proposed new alternative routes of Highway 137.

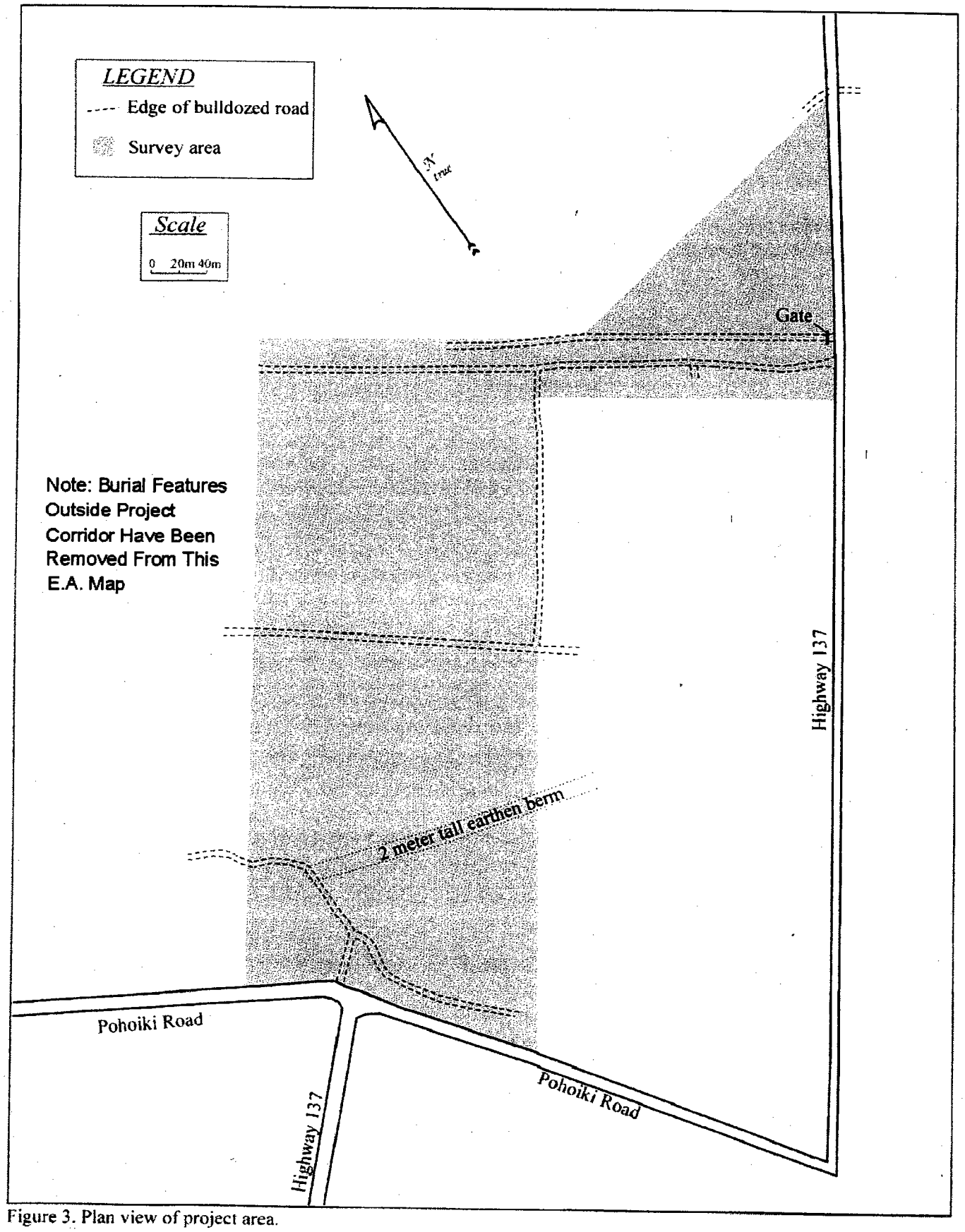

Figure 3. Plan view of project area.

PREVIOUS ARCHAEOLOGICAL RESEARCH

As mentioned above, three previously conducted archaeological surveys have included portions of the current project area. Two studies were conducted at TMK:3-1-4-02:13 (Dunn et al. 1995; Kennedy et al. 1990; Kennedy et al. 1991), and another at TMK 3-1-3-08:16 (Devereux et al. 1998). In addition to this a 1972 reconnaissance survey for the Kapoho-Kalapana Road corridor included portions of all three of these previous study areas and a portions of the current project area (Bevacqua and Dye 1972). The findings of each of these studies is discussed below and their locations are shown on Figure 2.

In 1972, the Bishop Museum conducted an archaeological reconnaissance survey of the then proposed Kapoho-Kalapana Road corridor (Bevacqua and Dye 1972). They located seven sites within the road corridor in the vicinity of the current project area. The sites included several walled complexes and enclosures interpreted as habitation and/or agricultural, numerous depressions and mounds interpreted as agricultural, and a platform interpreted as a possible religious structure. None of the recorded sites were located within the current project area.

In 1989-1990 Archaeological Consultants of Hawai'i, Inc. (ACH) conducted an archaeological inventory survey of roughly 200 acres within 'Ahalanui, Oneloa, and Laepāo'o *ahupua'a* (TMK:3-1-4-02:13) for a proposed golf course development (Kennedy et al. 1990, 1991). The ACH survey included 100% pedestrian coverage of the entire project area, test excavations at selected sites and features, and preparation of significance evaluations and treatment recommendations. The report on the findings of the project was originally submitted to DLNR-SHPD in 1990 (Kennedy et al. 1990), and then revised and submitted again in 1991 (Kennedy et al. 1991). However, DLNR-SHPD was unable concur with ACH findings, and the property owner switched archaeological consultants to PHRI prior to ACH preparing a DLNR-SHPD acceptable final report.

In 1991, Paul H. Rosendahl, Inc. (PHRI) took over work on the 200-acre golf course project and conducted some additional inventory survey work (Fager and Rosendahl 1991). The additional work conducted by PHRI included some limited survey and excavation, but consisted primarily of using ACH's data to prepare final, detailed site significance evaluations and treatment recommendations (Dunn et al. 1995). As a result of the work conducted by these two archaeological firms 47 sites encompassing 1,000 distinct features were recorded on TMK:3-1-4-02:13. The sites included 21 single feature sites and 26 complexes. Overall, a total of 138 test units were excavated of 87 features at 32 sites. Six of the single feature sites were found to contain human burials. One of the complexes (Site 12157) included 611 agricultural features that spanned the entire project area, five of which (three mounds and two modified outcrops) were recorded by ACH as being present within the current project area (Kennedy et al 1991). PHRI identified twelve formal feature types on the subject parcel including alignment, cave, C-shape, enclosure, hearth, indeterminate agriculture, modified outcrop, mound, platform, terrace, trail, and wall. Functional categories assigned to these feature types included agriculture, habitation, ancillary habitation, temporary habitation, boundary wall, burial, animal husbandry, and transportation. Dates obtained through radiocarbon age determination, suggested an initial occupation of the project area by A.D. 1250, an intensification of use around A.D. 1400-1700, and decline throughout the Historic Period.

In 1998, Cultural Surveys Hawaii (CSH) conducted an archaeological inventory survey of two possible locations for future park development and improvement within Pohoiki, Oneloa, and 'Ahalanui *ahupua'a* (Devereux et al. 1998). One of the surveyed parcels (TMK: 3-1-3-08:16) included a portion of the current project area (see Figure 2). On that parcel CSH rerecorded a single Historic habitation complex (Site 2507) consisting of two enclosures that had been previously recorded by (Bevacqua and Dye 1972). This site is located well outside the boundaries of the current project area.

CULTURAL-HISTORICAL CONTEXTS

In addition to the archaeological studies discussed above, Kumu Pono Associates conducted a cultural assessment survey of the *ahupua'a* of 'Ahalanui, Laepāo'o, and Oneloa for the proposed golf course development at TMK:3-1-4-02:13 (Maly 1998). Much of the following information is abstracted from that document and augmented by information contained in Devereux et al. (1998), Dunn et al. (1995), and Kennedy et al. (1990, 1991). These previous studies provide an extensive amount of cultural-historical information specific to the current project area and a general cultural background against which to assess this information. The information pertaining to the current project area is presented below. For more general information pertaining to the Island of Hawai'i and the District of Puna see the above-mentioned studies and McEldowney (1979).

Maly (1998) describes the three *ahupua'a* discussed in his cultural survey thusly:

> 'Ahalanui, Laepāo'o, and Oneloa are three of some 50 *ahupua'a* found in the district of Puna. These *ahupua'a* extend from the fisheries fronting them, approximately 4 miles inland reaching about the 390 foot elevation, where they are terminated (cut off) by the larger *ahupua'a* of Kapoho. Within these *ahupua'a* are found resources for deep sea and near shore fisheries, fresh and brackish water wells or springs, humus covered lava flows, which, with ample rains allow for extensive cultivation and the growth of forest resources. Thus, residents in these *ahupua'a* were able to sustain their families and contribute to the larger community which supported the *ali'i* of Puna. (1998:9)

Oneloa, which literally translates as "long sand" or "long cinder" (Maly 1998:10), is the southern most of the three aforementioned *ahupua'a*. However, as noted by Kennedy et al. (1991:11), the boundaries of these *ahupua'a* are not clearly depicted on any cartographic resources. In fact, on the Tax Map Key for the current project area (see Figure 2), Oneloa is not listed with the other two *ahupua'a* (see Dunn et al. 1995:13-15 for a discussion of this phenomenon). Despite the inconsistencies between maps, all the maps that depict Oneloa Ahupua'a, depict it as the southernmost of the three *ahupua'a* bordering Pohoiki Ahupua'a and the location of the current project area (Figure 5).

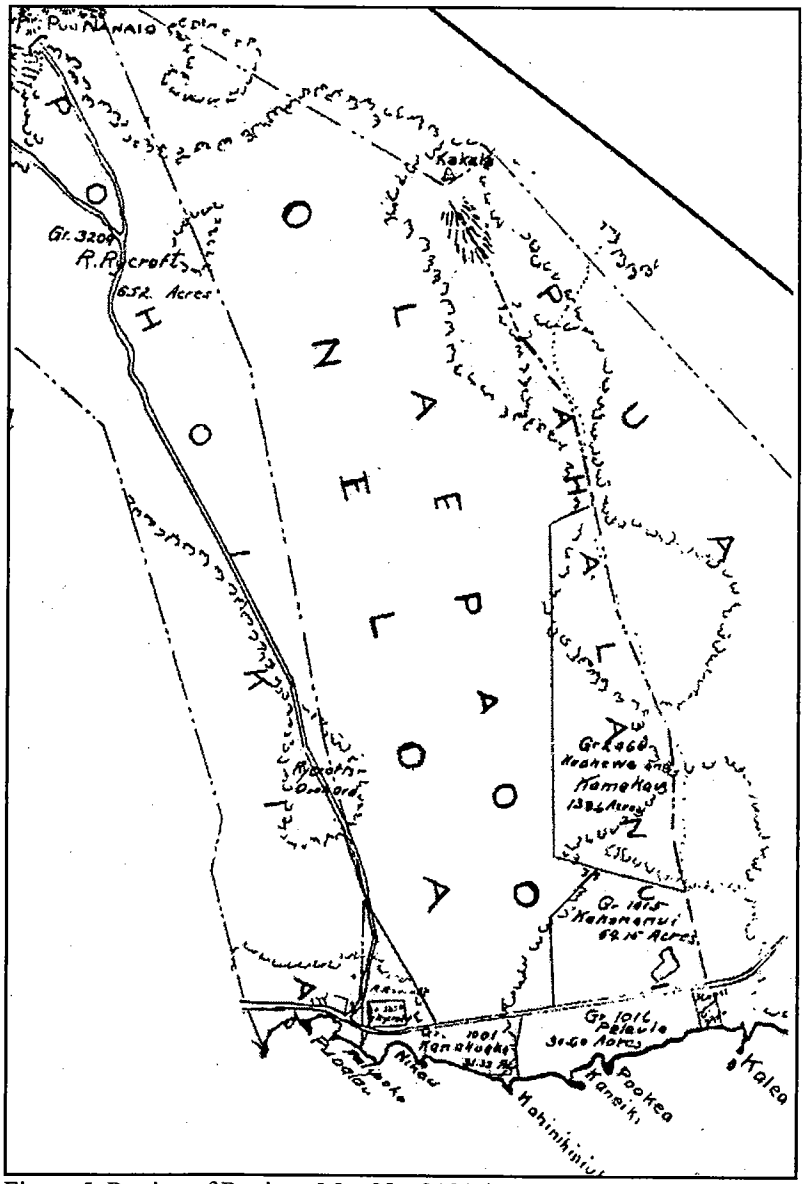

Figure 5. Portion of Register Map No. 2191 (June 1904) showing 'Ahalanui, Laepāo'o, and Oneloa *ahupua'a*.

No specific mention of Oneloa Ahupua'a could be found in the early traditional accounts of Puna (for accounts pertaining to the general Puna region see Maly 1998:13-27). Written accounts left by early European visitors to the island of Hawai'i offer insight into what life may have been like for the earliest residents of Puna. Captain King, who sailed with Captain Cook along the Puna shoreline aboard the ships Resolution and Discovery in March of 1779, described Puna as a sparsely populated, but verdant and fertile land (Maly 1998:28). Although a number of Europeans must have visited Puna in the years following Captain Cook's arrival, the first journey to the area to be recorded in detail did not occur until 1823 when the Missionary William Ellis visited on tour of the island. Ellis writes of the Kaimū area, to the south of the current project area:

> The population in this part of Puna, though somewhat numerous, did not appear to possess the means of subsistence in any great variety or abundance; and we have often been surprised to find desolate coasts more thickly inhabited than some of the fertile tracts in the interior; a circumstance we can only account for, by supposing that the facilities which the former afford for fishing, induce the natives to prefer them as places of abode; for they find that where the coast is low, the adjacent water is usually shallow.
>
> We saw several fowls and a few hogs here, but a tolerable number of dogs, and quantities of dried salt fish, principally albacores and bonitos. This latter article, with their [*poi*] and sweet potatoes, constitutes nearly the entire support of inhabitants...(Ellis 1963:190)

By the time Ellis visited Puna, less than fifty years after the arrival of the first Europeans, the population of Hawai'i was already beginning to decline. Ellis estimated the island had a population of roughly 85,000 individuals in 1823 (Schmitt 1973:8). An 1835-1836 census of the island found that Puna was the least populated district with only 4,800 individuals residing there. In 1841, another missionary, Titus Coan estimated that most of the districts 4,371 residents lived near the shore, but that hundreds of individuals lived inland (Maly 1998:31). During an 1846 visit to Pohoiki (near the current project area) with Mr. Coan, Chester Lyman noted that the population was aging, with only a few children present (Maly 1998:35). By 1850, the population of Hawai'i Island had dropped to 25, 846 individuals (Schmitt 1973:8). Maly (1998) summarizes the reasons for the rapid decline of native populations thusly:

> Overall, historic records document the significant effect that western settlement practices had on Hawaiians throughout thee islands. Drawing people from isolated native communities into selected village parishes and Hawaiian ports-of-call, had a dramatic, and perhaps unforeseen impact on native residency patterns, health, and social and political affairs. In single epidemics hundreds, and even thousands of Hawaiians died in short periods of time. (1998:36)

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

During the *Māhele* all lands were placed in one of three categories: Crown Lands (for the occupant of the throne), Government Lands, and *Konohiki* Lands. All three types of land were subject to the rights of the native tenants therein. In 1862, the Commission of Boundaries (Boundary Commission) was established in the Kingdom of Hawai'i to legally set the boundaries of all the *ahupua'a* that had been awarded as a part of the *Māhele.* Subsequently, in 1874, the Commissioners of Boundaries were authorized to certify the boundaries for lands brought before them. The primary informants for the boundary descriptions were old native residents of the lands, many of which had also been claimants for *kuleana* during the *Māhele.* This information was collected primarily between A.D. 1873 and 1885 and was usually given in Hawaiian and transcribed in English as they occurred.

The *ahupua'a* of Oneloa was retained as Government Lands during the *Māhele.* No claims for *kuleana* lots were made within the *ahupua'a.* In fact, as noted by Maly (1998:37), with the exception of the islands of Kaho'olawe and Ni'ihau, no other land division of comparable size, had fewer claims for *kuleana* from native tenants than the district of Puna. After the *Māhele,* Oneloa Ahupua'a, along with neighboring *ahupua'a,* were divided into smaller parcels

and sold as grants. The current project area passes through portions of two former grants (Grants 3940 and 6485; see Figure 2). Grant 3940, encompassing 14.78 acres, was purchased by R. R. Rycroft on July 31, 1895 (Figure 6). Rycroft had moved to the area in 1877 and previously purchased two adjoining grants; Grant 3670 in Oneloa Ahupua'a, and Grant 3209, which included all of Pohoiki Ahupua'a.

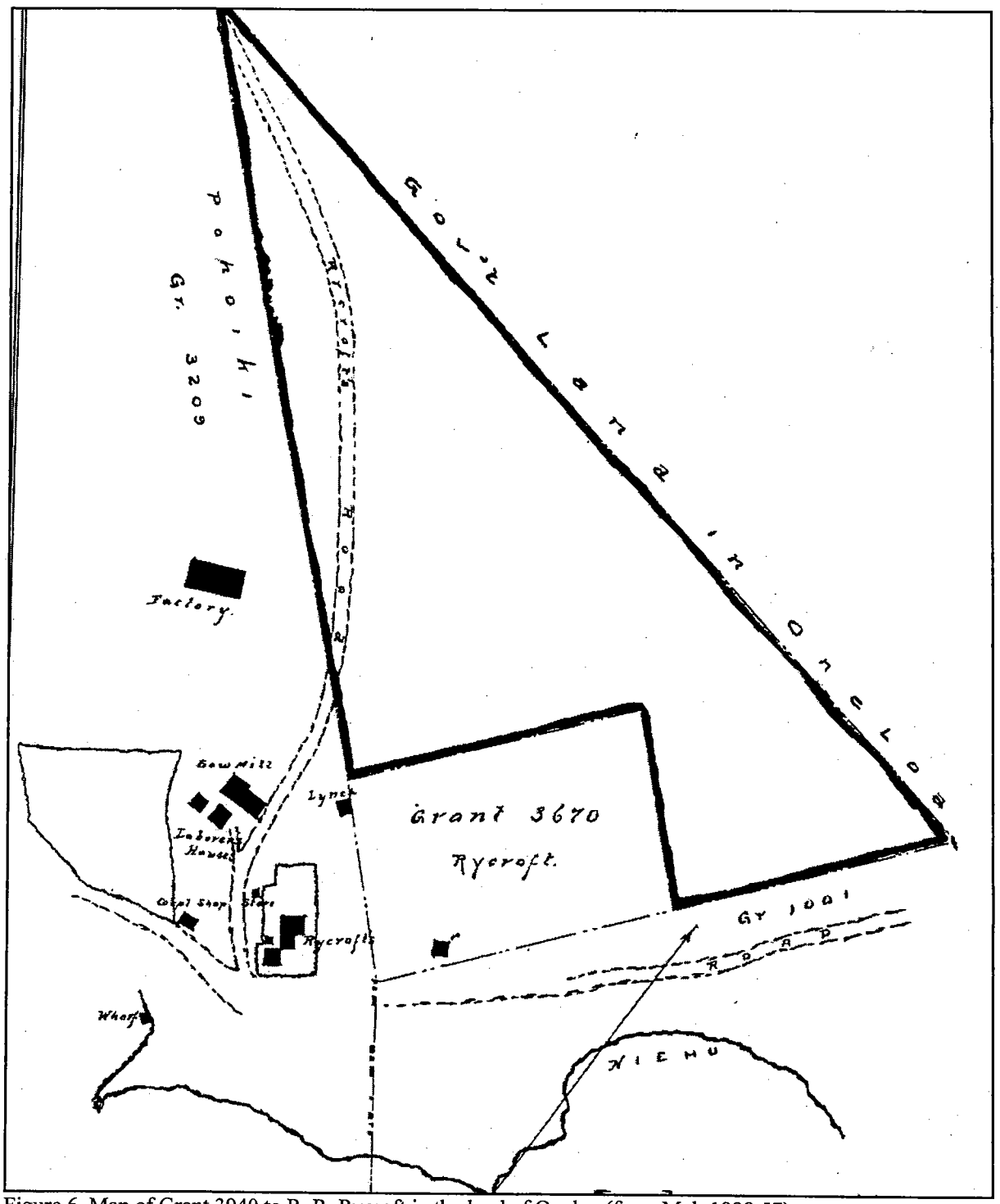

Figure 6. Map of Grant 3940 to R. R. Rycroft in the land of Oneloa (from Maly1998:57).

According to Bureau of Conveyances documents contained in Maly (1998:48-59) Rycroft originally obtained a lease for land in Pohoiki on June 13, 1877 from R. Oliver. The land included the store of the grantor, out buildings, fixtures and appurtenances, 20 acres of pastureland, cultivated and uncultivated *awa*, and one half interest in the *Awa* License at Hilo. In 1882, Rycroft petitioned for, and was granted, a year-to-year rental for the remaining unoccupied lands of Oneloa, Laepāo'o, 'Ahalanui, Malama, and Kaukulau, District of Puna (including all of the

current project area). However, J. E. Elderts of the Kapaho Ranch disputed Rycroft's right to use the land. In a series of letters dated January to July, 1884, Elderts discusses the Kapoho Ranch claims to the land and his dislike of Rycroft's tactics in taking the land. Elderts writes:

> Now, Mr. Rycroft knew that I had been, and was occupying, and paying the rent year after year for the whole of the lands of Oneloa, Laepaoho, and Ahalanui. For when he first came to Pohoiki to live [c. 1877], the natives wished to make him trouble for allowing his stock to run on the above three lands, but as I saw him soon after that, I told him that I had all the Government Lands between him and me rented [the lands from Oneloa to Kopoho], and that I was willing for him to let his stock run without any charge to him for it...(letter dated April 26, 1884; Maly 1998:51)

> Now, I cannot get a lease from the Govt. to show that I am entitled to the land and what Cocoanuts, breadfruit, &c grows on it, to them, and as I cannot get them without being in trouble and hot water all the time the aforementioned R. Rycroft, and as I prefer to live in peace with my neighbors, I now hereby notify you that I give up and relinquish all my rights to the aforesaid lands. (letter dated July 28, 1884; Maly 1998:51)

Later that same year [1884] Rycroft began building a wharf at Pohoiki Bay, but it was swept away before completion, and not rebuilt until 1887. Upon completion of the wharf the Territory of Hawai'i paid him $350 dollars to allow for public use of the landing, which was on his private property (Maly 1998:52). It also appears that Rycroft made other improvements to his lands in Pohoiki as Figure 6 shows a sawmill and a factory in addition to the store on Grant 3209. In 1893 and 1895, Rycroft increased his land holdings to their maximum size by purchasing the two aforementioned grants in Oneloa Ahupua'a (Grants 3670 and 3940)(see Figure 6).

In 1902, the grant that makes up the northern portion of the current study parcel (Grant 6485), consisting of approximately 999 acres in Oneloa and 'Ahalanui *ahupua'a* was sold to Napalapalai for pasture. This grant included a large portion of the area that had previously been disputed over by Rycroft and Kapoho Ranch (Figure 7). The grant required that:

> The lessor herein, on behalf of the Territory of Hawaii, reserves the right to take any fifty foot strips across their Lot for Roads, also the right to quarry rock, or reserve a portion of this Lot for a quarry, for Road building purposes, whenever the same may be required; and to take same without compensation, if from uniproved land. All trails crossing this Lot are reserved for the use of the Public... (Right of Purchase Lease No. 424; Maly 1998:55)

By 1911, however, Napalapalai, lost his leasehold for non-compliance with conditions stated in the lease (Maly 1998:59). Napalapalai appealed the loss of the lease by writing a letter, in which he states in his defense:

> I am 46 years of age, and a laborer. I applied for and received the 999 acre pastoral lease and moved on the land in March 1903. My wife and I resided there continually between March 1903 to 1906. At present, we live in Waimea.
>
> We built a frame house, 16 x 20 ft.; 3 rooms, iron roofing, and habitable at all seasons of the year. It is valued at $50.00. The house was built by myself and a Japanese in January 1903. The house was moderately furnished when we lived there.
>
> On average, there are over 2000 trees per acre planted and/or maintained on the land. Because I am employed by Parker Ranch, I have lived at Waimea. I use the land as pasture. (Maly 1998:59)

The location of Napalapalai house mentioned in the above letter is unknown. It is likely that it was bulldozed away in the 1960s or 70s when a large portion of Grant 6485 (including the portion of the current project area on TMK:3-1-4-02:9) was bulldozed and turned into papaya fields (Devereux et al. 1998:23). TMK: 3-1-3-08:16 (including Grant 3940) was also bulldozed around this time to create a papaya field (Devereux et al. 1998:3). Only the small triangular shaped subunit at the northern end of the current project area located on TMK:3-1-4-02:13 escaped the widespread bulldozing of Modern times (see Figure 4); a single bulldozed road crosses that portion of the project area. The papaya fields are now defunct and the jungle is slowly reclaiming the bulldozed sections of the study area.

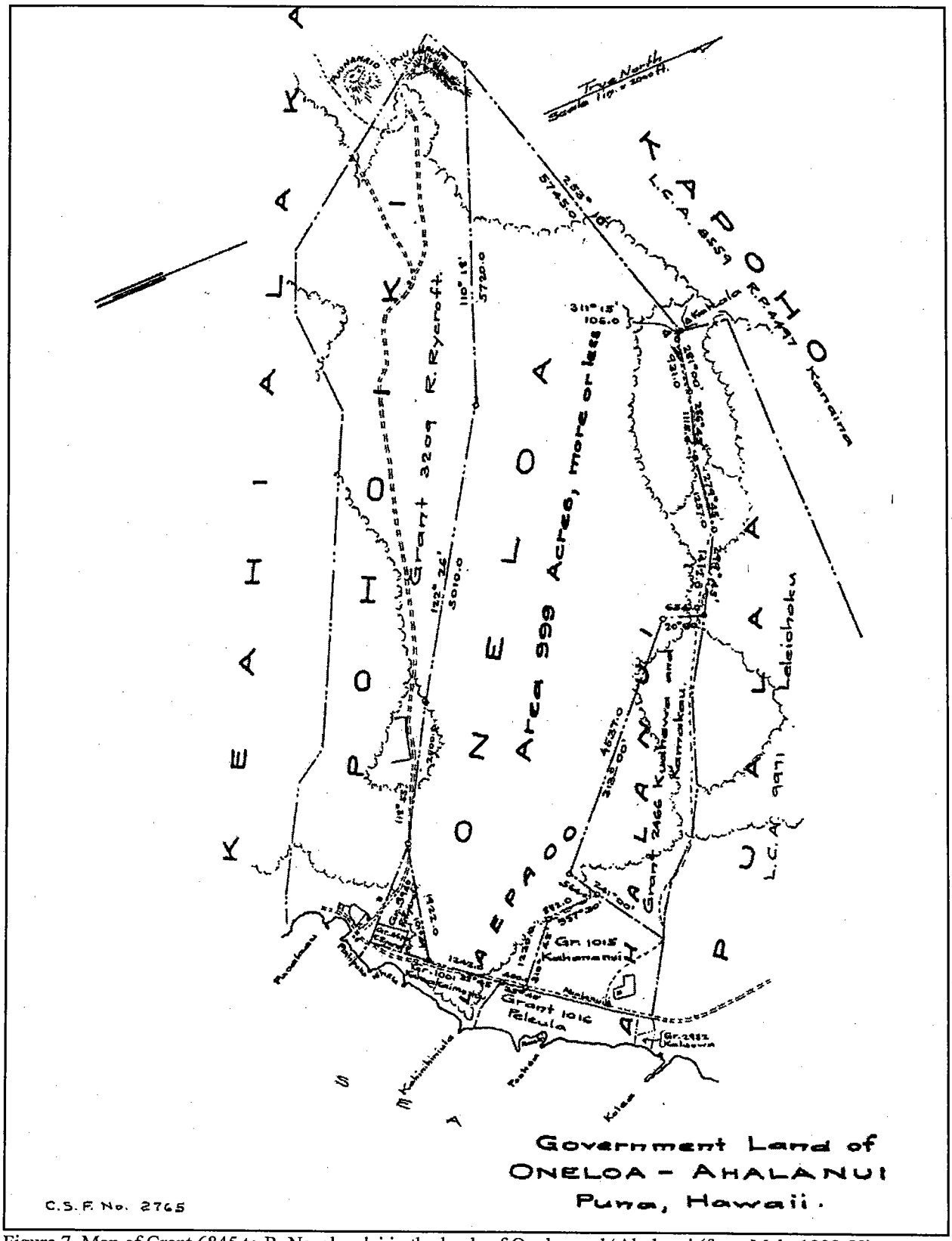

Figure 7. Map of Grant 6845 to R. Napalapalai in the lands of Oneloa and 'Ahalanui (from Maly 1998:58).

CURRENT PROJECT EXPECTATIONS

A general model of Precontact settlement patterns for the Puna coastline includes both habitation sites and agricultural complexes along with ceremonial and burial areas, associated with a fairly dense population. By early historic times a drastic population reduction occurred with a concomitant abandonment of traditional sites. The later Historic Period saw a minor expansion of settlement in this area of both transplanted Hawaiians and non-Hawaiians alike. This was primarily due to Government grant programs. Grantees often modified their lands obscuring if not obliterating prior residential and agricultural sites. The influx of people during this period waned by the early twentieth century as a result of commercial economic failures, and the population once again dipped. It was not until the successful commercialization of crops like papaya in the middle twentieth century that the coastal lands of Puna once again were economically productive. The wholesale mechanized land-altering activities associated with these large-scale agricultural venture further removed the Precontact archaeological record. There are however, properties that for whatever reasons escaped the ravages of commercial development. Evidence of such areas can be found in the Devereux et al. (1998), Dunn et al. (1995), and Kennedy et al. (1990, and 1991) studies.

This general settlement pattern model can be refined for the specific study area based on the results of these prior archaeological investigations, along with the above-outlined archival and oral based land use history (Maly 1998). Collectively, these studies indicate that the portions of the project area in Parcels 02:9 and 08:16 have been substantially mechanically altered in the past and are not likely to contain any archaeological features. Prior archaeological survey of the Parcel 02:13 portion of the current study area identified a very low density distribution of agricultural features. However unlikely, it is possible that previously undocumented features and/or sites might be identified in this area of relatively undisturbed lowland forest. Based on the earlier results (Devereux et al. 1998; Dunn et al. 1995; Kennedy et al. 1990; and Kennedy et al. 1991) such finds might include additional agricultural features, temporary habitation sites, trails, and both platform and lava tube burial sites.

FIELDWORK METHODS AND RESULTS

Under the supervision of Robert Rechtman, Ph.D., fieldwork for the current project was conducted between January 14–31, 2005 by Oliver Bautista, B.A., Christopher Hand, B.A., Dave Nelson, B.A., Michael Rivera, B.A., and Mark A. Winburn, B.A. Within the triangular survey subunit (see Figure 3), fieldworkers walked transects spaced at five meter intervals oriented parallel with the northern survey boundary. The previously documented feature of SIHP Site 12157 were identified and reexamined, as were the locations of two previously identified burial sites (SIHP Site 12153 and 12156) outside and to the north of the current survey boundary. In the rectangular survey subunit (see Figure 3) pedestrian transect spacing increased to ten meter.

The results of the field investigation are that there were no new sites found anywhere with the overall project area. The rectangular subunit (within Parcels 02:9 and 08:16) had been totally mechanically grubbed in the past, this grubbing having spared several large mango trees along Pohoiki Road and one large mango tree in center of this survey subunit. There was a distinct earthen berm, two meters high, marking the boundary between Parcels 02:9 and 08:16. In the triangular survey subunit (within Parcel 02-13) the previously identified features of SIHP Site 12157 (Dunn et al. 1995; Kennedy et al. 1990; Kennedy et al. 1991) were encountered (labeled site tags and/or weathered flagging was observed). The formal attributes of these features generally matched the descriptions provided in the earlier studies. No new features were observed.

Additionally, two previously recorded burial sites were located in an effort to determine the precise spatial relationships between these sites and the northern boundary of the triangular subunit of the current study area and the location of the proposed alternative realignment corridors. Site 12153 is a platform situated 8 meters north the boundary and 69 meters north of northernmost alternative realignment corridor. Site 12156 is a lava tube blister located 30 meters north of the boundary and 90 meters north of northernmost alternative realignment corridor (see Figure 3). Currently these sites are 45 meters (SIHP Site 21153) and 100 meters (SIHP Site 21156) *mauka* of the existing Highway 137 roadway corridor.

CONCLUSION AND RECOMMENDATION

As a result of the intensive on-foot archaeological survey, several previously documented and mitigated features of SIHP Site 12157 were encountered, the locations of two previously recorded burial sites (SIHP Sites 12153 and 12156) outside of the current study area were verified, and no new sites were observed anywhere within the current study area (see Figure 3). As no new sites were encountered and the observed features of SIHP Site 12157 have already been mitigated (Dunn et al. 1995), it is the conclusion of the current study that the proposed realignment of Highway 137 will not directly impact any known archaeological sites. Some consideration has also been given to potential indirect impacts to the aforementioned burial sites as a result of possible increased foot traffic (people parking on the roadside and walking into the bush). It is concluded, however, that in and of itself the new roadway will not bring added foot traffic to the area and that the distance of the roadway shoulder will be no closer to these sites than is the current existing condition. Therefore there will be no increased potential for indirect impacts.

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POHOIKI BYPASS

PUNA DISTRICT, COUNTY OF HAWAI'I

DRAFT ENVIRONMENTAL ASSESSMENT

APPENDIX 4

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT

This report is prepared for:

Geometrician
HC 2 Box 9575
Keaau, Hawaii 96749

PHASE I
ENVIRONMENTAL SITE ASSESSMENT REPORT
FOR
PROPOSED BYPASS ROUTE THROUGH
TMKS 1-4-002:009, 1-4-002:013, & 1-3-008:016
POHOIKI, ISLAND OF HAWAII

MNA Job No. 20331

March 9, 2005

Joanna Boyette
Project Manager

Myounghee Noh
Principal Consulting Chemist

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LIST OF ABBREVIATIONS

CERCLIS	Comprehensive Environmental Response, Compensation & Liability Information System
CFR	Code of Federal Regulations
CORRACTS	RCRA Facilities that are undergoing "corrective action"
DLNR	Department of Land and Natural Resources
EDR	Environmental Data Resources, Inc.
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
HDOH	Hawaii Department of Health
HEER	Hazard Evaluation and Emergency Response
LUST	Leaking Underground Storage Tank
MNA	Myounghee Noh & Associates, L.L.C.
NPL	National Priorities List
PCB	Polychlorinated Biphenyls
RCRA	Resource Conservation and Recovery Act
TSD	Treatment, Storage, and Disposal (of hazardous waste)
TRIS	Toxic Release Inventory System
USGS	United States Geological Survey
UST	Underground Storage Tank

EXECUTIVE SUMMARY

Myounghee Noh & Associates, L.L.C. (MNA), was retained to conduct an Environmental Site Assessment (ESA) for the subject property in December 2004. This work was completed for Geometrician, HC 2 Box 9575, Keaau, Hawaii 96749. The subject site was a proposed bypass route running through TMKs 1-4-002:009, 1-4-002:013, and 1-3-008:016 on the Island of Hawaii. The subject site was undeveloped and forested at the time of the site visit.

Based on the information obtained during the site assessment performed in January 2005, MNA provides the following summary and recommendations:

- **Database Search for Subject and Adjoining Property**: The subject and adjoining properties were not listed in any of the federal and state databases searched by EDR (Appendix B). The findings are summarized in the following table:

Search Type	Distance Searched	Findings
Federal NPL Site List	1 mile	None
Federal RCRA CORRACTS TSD Facilities List	1 mile	None
State Hazardous Waste Sites	1 mile	None
Federal CERCLIS List	1/2 mile	None
Federal RCRA Non-CORRACTS TSD Facilities List	1/2 mile	None
State-Equivalent CERCLIS	1/2 mile	None
State Landfill and/or Solid Waste Disposal Site List	1/2 mile	None
State Leaking UST List	1/2 mile	None
Federal RCRA Generators List	1/2 mile	None
State Registered UST List	1/4 mile	None
Federal ERNS List	Subject site	None
State Spill List	Subject site	None

- **Site Check**: During a site check conducted on August 20, 2004, MNA observed the subject site to be vacant and undeveloped.
- **Storage Tanks**: MNA found no evidence of the presence of USTs or aboveground storage tanks on the subject property.
- **Potential Asbestos-, PCB- or Lead-Containing Material:** There was no evidence of potential asbestos-, polychlorinated biphenyls (PCB)-, or lead-containing material on the subject site, except for the area with the abandoned vehicles. The soil under the abandoned vehicles may contain PCBs and heavy metals including lead. Sampling & analysis of material or other potential hazardous substances was not part of this ESA.
- **Offsite Contamination Source:** MNA found no potential offsite contamination sources that may migrate to the subject site.

This Phase I ESA has revealed no evidence of adverse environmental conditions in connection with the subject property. MNA recommends no further assessments.

1.0 INTRODUCTION

Myounghee Noh & Associates, L.L.C. (MNA), was retained to conduct an Environmental Site Assessment (ESA) for the subject property in December 2004. This work was completed for Geometrician, HC 2 Box 9575, Keaau, Hawaii 96749. The subject site was a proposed bypass route running through TMKs 1-4-002:009, 1-4-002:013, and 1-3-008:016 on the Island of Hawaii. The subject site was undeveloped and forested at the time of the site visit.

1.1 SCOPE OF WORK

This Phase I ESA has four components: Records Review; Site Reconnaissance; Interview; Reporting. MNA conducted the Phase I using information sources with the potential to identify past or current releases of hazardous materials at the property. No interviews were conducted. MNA performed the following:

1.1.1 Site History

MNA examined documents consisting of site maps and topographic maps. The purpose of this basic research was to identify previous and current uses of the property, adjoining properties, and the surrounding area.

1.1.2 Regulatory Records

MNA examined government records with respect to environmental conditions, citations, complaints, and permits at the site, at adjoining properties, and the surrounding area. MNA reviewed records from the following databases:

- National Priorities List (NPL)
- Resource Conservation and Recovery Act (RCRA) facilities that are undergoing "corrective action" (CORRACTS)
- RCRA-Treatment, Storage, & Disposal (TSD)
- Comprehensive Environmental Response, Compensation & Liability Information System (CERCLIS) List
- Solid Waste & Landfill
- Leaking Underground Storage Tank (LUST)
- Water Wells
- RCRA-Violators/Enforcement
- Underground Storage Tank (UST) list
- Emergency Response Notification System (ERNS)
- RCRA-Large Generator
- RCRA-Small Generator
- Spill

1.1.3 Site Reconnaissance

MNA performed a site reconnaissance to obtain information indicating the likelihood of contamination, and conducted a brief assessment of the adjoining properties. During the site reconnaissance, MNA looked for stained surface soil, dead or stressed vegetation, hazardous materials, aboveground and underground storage tanks, disposal areas, groundwater wells, sumps, and storm drains.

Sampling and testing of soil and potentially hazardous materials was not part of this scope of work.

1.1.4 Site Geology and Hydrogeology

MNA reviewed published information on surface and subsurface conditions at the site and surrounding area. MNA used this information to assess topography, drainage, surface water bodies, subsurface geology, and groundwater occurrence in the area to assess the impact of migration of any potentially hazardous materials in connection with the property.

1.1.5 Data Evaluation and Reporting

MNA evaluated the information collected and prepared this report documenting the assessment. Section 2 presents the site background information, Section 3 results of record review, Section 4 interviews, Section 5 information collected during the site reconnaissance, and Section 6 summary & recommendation.

1.2 LIMITATIONS

This ESA provides a "snap shot" of the site conditions and is, by its nature, limited. Summary and conclusions apply to site conditions existing at the time of our investigation and those reasonably foreseeable. They cannot apply to site changes of which MNA is not aware of and has not had the opportunity to evaluate.

The conclusions presented are based upon visual observations of the site and vicinity, and interpretation of the available historical and regulatory information and documents reviewed. MNA cannot ensure the accuracy of the historical or regulatory information. This report is intended exclusively for the purpose outlined and applies only to the subject property.

This ESA does not include investigations regarding asbestos, lead paint, or geotechnical concerns. No subsurface investigation or sampling was involved.

2.0 BACKGROUND INFORMATION

2.1 SITE LOCATION

The subject sites are located at TMKs 1-4-002:009, 1-4-002:013, & 1-3-008:016 Pohoiki, Island of Hawaii (Figure 1). The site's Zoning is Agricultural; Flood Zone X area determined to be inside the 100-year flood plain.

2.2 VICINITY & SITE OVERVIEW

Pohoiki is known as a fishing village. The relatively secluded area is surrounded by various agricultural activities in the Puna district such as the production of coffee.

The U.S. Army Engineer District, Honolulu, described the vicinity as follows (U.S. Army Engineer District, Honolulu, 1978):

> "The first historic reference to Pohoiki dates from 1846, when there may have been as many as 200 people living in the area. A search of historic documents show that the local legend that Pohoiki served as a whaling port probably derives its origin from the boat landing there in the 1890s, which was used to transport coffee from the Rycroft coffee mill to waiting ships."
>
> "The economy of the Puna District is based primarily on the sugar industry. The cultivation and processing of macadamia nuts is also a significant industry. Rapid growth since the 1970s has been demonstrated in diversified agriculture in the form of truck farms in the volcano region; papaya groves in the Kapoho region, and more recently in the Pohoiki region; and flower fields, principally anthuriums and vanda orchids, in the Mountain View, Pahoa, and Kapoho regions. Except for visitor attractions like the Kaimu Black Sand Beach, Lava Tree State Park, and the flower fields, the visitor industry has very little impact on the district. Currently no hotels or resort facilities are in Puna and local opposition to resort development in the Kaimu Beach region suggests that Puna would remain undeveloped for at least the near future. In conjunction with geothermal exploration currently underway, there has been some thought among private interests given to establishing a health spa which would in effect function as a resort destination. Commercial fishing became popular in the Pohoiki area in the 1960s and has more than tripled in tonnage to date. In 1976 at least 300,000 pounds were caught. This tonnage is expected to grow since Pohoiki is adjacent to one of the best fishing grounds in the Islands."

2.3 PHYSICAL STRUCTURES ON THE SITE

At the time of the site visit, there were no physical structures on the site (Photograph 1).

2.4 CURRENT USE OF THE SUBJECT SITE

Currently the property is unused and heavily vegetated (Photograph 1).

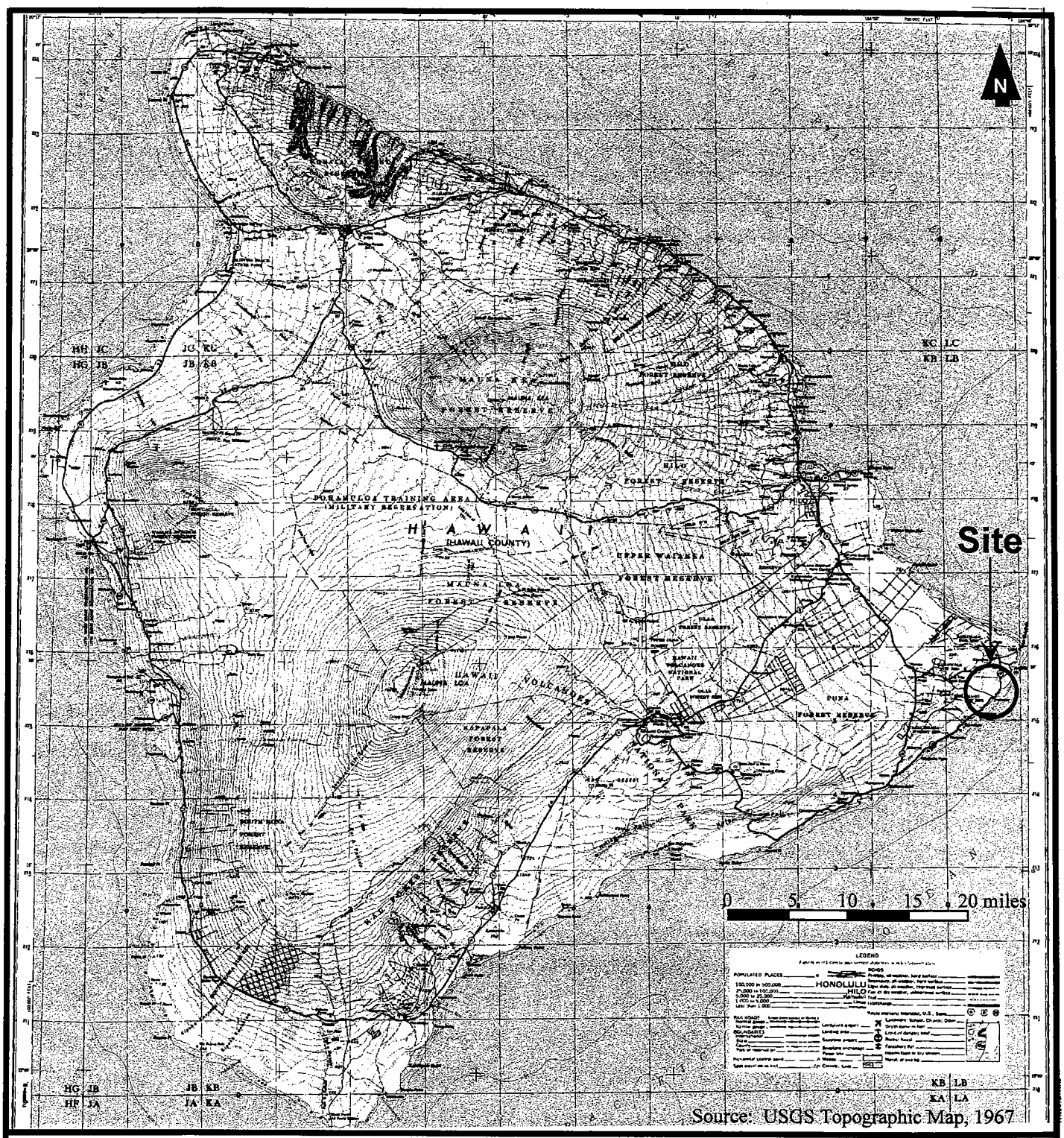
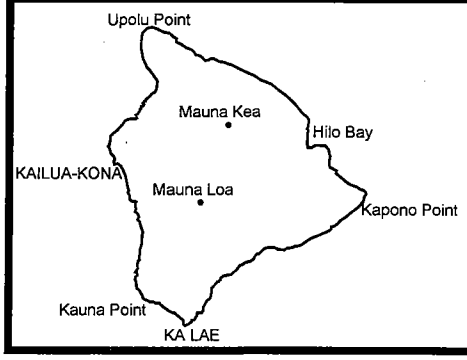


Figure 1. Site Location



Phase I ESA
Proposed Pohoiki Bypass
Pohoiki, Island of Hawaii

March 2005
MNA Job No. 20331

Myounghee Noh & Associates, L.L.C.

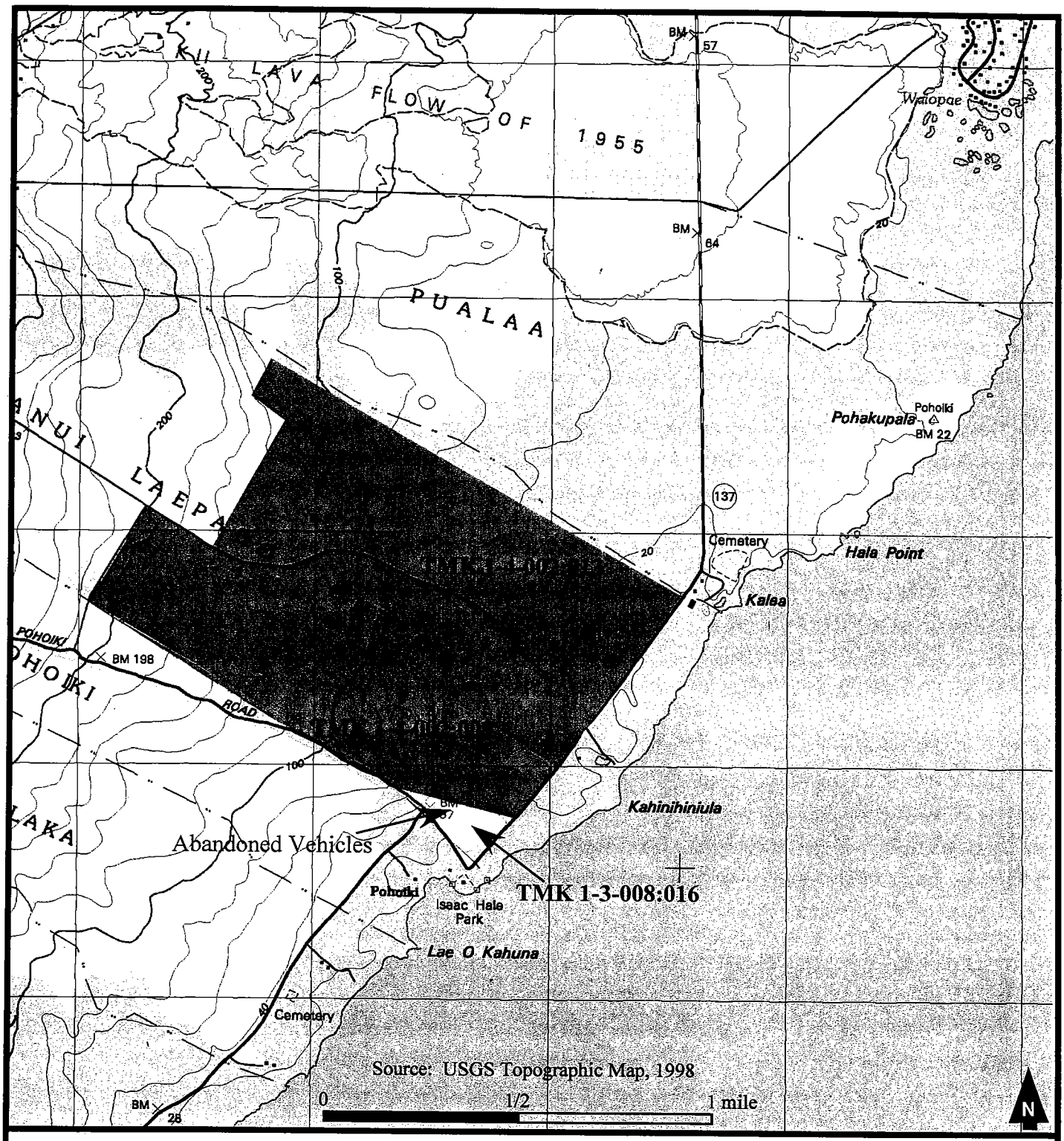
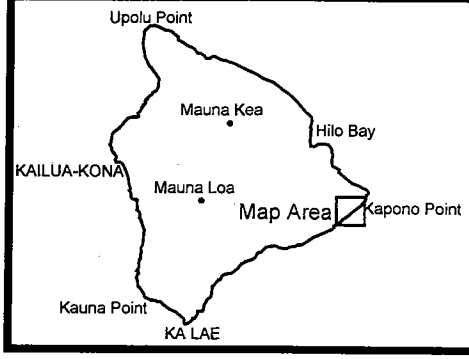


Figure 2. Site Map



Phase I ESA
Proposed Pohoiki Bypass
Pohoiki, Island of Hawaii

March 2005
MNA Job No. 20331

Myounghee Noh & Associates, L.L.C.

2.5 PAST USES OF THE SUBJECT SITE

Information regarding past uses of the subject site was obtained from review of tax records, aerial photos, and topographic maps. Table 1 lists the users and property uses of the subject sites.

Table 1. Users and Primary Uses of the Subject Sites

Period (approx.)	Property User	Area (acre)	Primary Use
TMK 1-4-002:009			
1990-2005	Miulan P.Y Kealoha Trust Estate Bank of Hawaii Trust	103.209	Vacant
1987-1990	Miulan P.Y Kealoha Trust Estate James Kealoha	103.209	Vacant
1970-1987	James Kealoha Miulan Kealoha	401.18	Vacant
1966-1970	Papuna Farm, Ltd. James Kealoha Miulan Kealoha	401.18	Farm land
1955-1966	James Kealoha Miulan Kealoha	803.41	Undocumented
1951-1955	Robert Napalapalai, Jr.	803.41	Undocumented
TMK 1-4-002:013			
2004-2005	Onipaa, L.L.C.	493.598	Vacant
1997-2004	A&O International, Corp.	493.598	Vacant
1989-1997	Yuugen Gaisha Fujitory	493.598	Vacant
1980-1989	Graham International, Inc.	132.486	Vacant
1966-1980	Harold F. Lishman	143.439	Vacant
1960-1966	Margaret Pua Racke Harold F. Lishman	139.6	Vacant
TMK 1-4-008:016			
1999-2005	County of Hawaii	17.929	Vacant
1986-1999	W.F. Barnes Corp.	17.929	Vacant
1960-1996	Puna Sugar Company	17.929	Sugar plantation assumed

3.0 RECORDS REVIEW

3.1 STANDARD ENVIRONMENTAL RECORD SOURCES

3.1.1 General Overview

MNA used Environmental Data Resources, Inc., (EDR) (800.352.0050) for searching standard federal and state government databases of known or potential sources of hazardous materials or waste. The EDR assessment report is provided in Appendix B.

The following sources are specified for incidents or sites within one mile of the subject property:

- Federal NPL site list
- Federal RCRA CORRACTS TSD facilities list
- State hazardous waste sites (State-equivalent NPL)

The following sources are specified for incidents or sites within one-half mile of the subject property:

- Federal CERCLIS list
- Federal RCRA non-CORRACTS TSD facilities list
- State-equivalent CERCLIS
- State landfill and/or solid waste disposal site lists
- State leaking UST lists

The following sources are for incidents on the subject and adjoining properties:

- Federal RCRA generators list
- State registered UST lists

Finally, the following is for incidents for the subject property:

- Federal ERNS list

3.1.2 Federal National Priorities List

The NPL, compiled by the Environmental Protection Agency (EPA), is a list of sites with the highest priority for cleanup under the EPA's Hazard Ranking System [40 Code of Federal Regulations (CFR) Part 300]. EDR found no NPL sites within one mile of the subject property (EDR, 2004).

3.1.3 Federal RCRA CORRACTS TSD Facilities List

The RCRA CORRACTS TSD facilities list is compiled by the EPA and contains those RCRA regulated facilities which are undergoing "corrective action" due to a release of hazardous substance. EDR found no facilities listed within one mile of the subject site (EDR, 2004).

3.1.4 State Hazardous Waste Sites (State-equivalent NPL)

EDR found no hazardous waste sites listed within one mile of the subject property (EDR, 2004).

3.1.5 Federal CERCLIS List

The CERCLIS list, compiled by the EPA, contains sites currently or formerly under review by EPA for potential hazardous substance contamination for possible inclusion on the NPL. EDR found no CERCLIS sites listed within 1/2 mile of the subject property (EDR, 2004).

3.1.6 Federal RCRA non-CORRACTS TSD facilities list

The RCRA non-CORRACTS TSD facilities list, compiled by the EPA, contains RCRA permitted treatment, storage, and disposal facilities. EDR found no RCRA TSD site listed within 1/2 mile of the subject property (EDR, 2004).

3.1.7 State-equivalent CERCLIS List

Hawaii Department of Health's (HDOH) Hazard Evaluation and Emergency Response (HEER) office evaluates potential hazardous waste sites using EPA's Hazard Ranking System by the federal CERCLIS list (HEER, 2000). No further search was conducted.

3.1.8 State Landfill / Solid Waste Disposal Sites

EDR found no permitted solid waste landfills, incinerators, or transfer stations within 1/2 mile of the subject property (EDR, 2004).

3.1.9 State Leaking UST List

This database is compiled by HDOH Solid and Hazardous Waste Branch, UST section. EDR and HDOH's database searches found no LUST sites within 1/2 mile of the subject property (EDR, 2004).

3.1.10 Federal RCRA Generators List

This database, compiled by the EPA, contains RCRA registered small or large generators of hazardous waste. RCRA Large Generators are facilities which generate at least 1,000 kg/month or non-acutely hazardous waste (or 1kg/month of acutely hazardous waste). RCRA Small and Very Small Generators are facilities which generate less than 1,000 kg/month or non-acutely

hazardous waste. EDR's search found no generators within 1/2 mile of the subject property (EDR 2004).

3.1.11 State registered UST List

This database is compiled by the HDOH Solid and Hazardous Waste Branch, UST section. EDR's search revealed no USTs within 1/4 mile of the subject property (EDR, 2004).

3.1.12 Federal ERNS List

The ERNS list, compiled by the EPA, contains reported CERCLA hazardous substance releases or spills in quantities greater than the reportable quantity, as maintained at the National Response Center. EDR's search revealed no reported incident on the subject property (EDR, 2004).

3.1.13 State Spill List

This database is compiled by HDOH HEER office. EDR and MNA's search revealed no spill incidents on the subject and adjoining properties (EDR, 2004; HEER, 2000).

3.2 PHYSICAL SETTING SOURCES

3.2.1 USGS Topographic Map

Topographic coverage of the site vicinity was provided by the 1965, 1981, and 1995 U.S. Geological Survey (USGS) Kapoho quadrangle at a scale of 1:24,000. No detailed structural information can be obtained for the subject or surrounding properties; only landmark buildings, cemeteries, and roadways are shown on the topographic maps.

3.2.2 Current Land Use and Zoning

The subject property is zoned as Agricultural. The entire property is in a flood zone X area determined to be within the 100-year flood plain.

3.2.3 Geologic and Hydrogeologic Setting

Geology: Published geologic and hydrogeologic reports and maps were reviewed to obtain information regarding subsurface conditions in the general area of the property. The Island of Hawaii is the youngest island in the Hawaiian group. The island was formed by the Kohala, Mauna Kea, Hualalai, Mauna Loa, and Kilauea volcanoes. The Kilauea volcano formed the Puna area. Lava flows from Kilauea are primarily olivine basalt. Today volcanic activity continues at Kilauea forming new land masses in the Kalapana-Kapoho region south of Pahoa (Wilson Okamoto and Associates, Inc., 1998).

Because of the recent eruptions in Puna, there is a lack of "true" soils. Tropofolist soils, predominating at Pohoiki, are well-drained, very shallow organic soils, mostly underlain by a'a or clinker type lava (U.S. Army Engineer District, Honolulu, 1978).

Hydrogeology: The U.S. Engineer District, Honolulu described the hydrogeological setting as follows (U.S. Army Engineer District, Honolulu, 1978):

> "The waters on the southeastern coast of Hawaii are classified 'Class AA waters' in Chapter 37-A, State of Hawaii Department of Health, Water Quality Standards. These waters are to be protected for oceanographic research, support and propagation of shellfish and other marine life, conservation of coral reef and wilderness areas, compatible recreation, and aesthetic enjoyment. The established parameters for Class AA waters may not be met in their entirety at Pohoiki Bay because in part of unique natural conditions prevailing there as a result of the natural discharge of heated brackish water within the bay."

3.3 HISTORICAL USE INFORMATION

3.3.1 Historical Topographic Maps

Historic topographic maps for the subject property and vicinity were reviewed for the years 1965, 1981, and 1995. The maps depicted the following:

Quadrangle: Kapoho, Hawaii Scale: 1:24,000 Series 7.5 Minute

1965: Pohoiki Road was visible to the south of the subject site. Isaac Hale Park and Pohoiki were visible with only three small structures between them. North of the subject site the lava flow of 1955 was visible, and Pualaa was visible with three large structures. TMK 1-4-002:013 of the subject site appeared to be in use as an orchard (possibly coffee) and the remaining was vegetated and unused.

1981: No visible changes were depicted in the 1981 map, except for the expanded area of the orchard.

1995: No visible changes were depicted in the 1995 map.

No readily apparent evidence of *recognized environmental conditions* at the subject or adjoining properties was noted on the topographic maps reviewed.

3.3.2 Sanborn Fire Insurance Maps

Sanborn Fire Insurance map coverage of the area was not available.

3.3.3 Aerial Photographs

Aerial photographs, including the subject and adjoining properties, were reviewed at R.M. Towill Corporation in Honolulu. Photographs reviewed are summarized as follows:

1951: There were no buildings on the subject site or surrounding areas. Pohoiki Road was visible. The subject site was covered with vegetation with a dirt road running across the properties.

1957: The subject site remained the same. To the southwest of the subject site, a large area of land was cleared for farming. No buildings were visible.

1970: The subject site remained the same. To the southwest of the subject site more parcels of land were cleared for farming.

1974: The subject site remained the same. To the southwest and north of the subject site more parcels of land were cleared for farming.

1977: No visible changes were depicted in the 1977 photograph.

No readily apparent evidence of *recognized environmental conditions* at the subject or adjoining properties was noted on the aerial photographs reviewed.

4.0 INTERVIEWS

4.1 COUNTY OF HAWAII ACCOUNTING DEPARTMENT

MNA interviewed Stanley Iwamoto (808-961-8241), of the County of Hawaii Accounting Department. He stated the parcel 1-3-008:016 was purchased through condemnation for $180,000 on June 10, 1998. It allowed 22-acre expansion to Isaac Hale Beach Park. This extension replaced three lower Puna parks buried under lava. The land is largely former papaya fields. Some works were planned since the purchase, but he did not have details and referred us to the Dept. of Parks & Recreation. Any request for the right-of-entry should go to the Dept. of Accounting.

4.2 LOCAL RESIDENT

MNA interviewed Arthur "Bird" Enriquez (808-936-9083), a resident at Isaac Hale Beach Park. He had been living the area since 1956 or 1957. Mr. Enriquez stated the upper areas were mostly farmland, and the near-water areas were mostly for recreational activities. There were two households in the beach park area, and many homeless have moved to the area. The area used to be papaya land with some lilikoi, coffee, sugar, and anthurium, but now people grow more noni and orchids.

Mr. Enriquez said, "About 5 years ago, the County installed a water system at the beach park, but that is about all the County has done. No other work has been done by the County at Isaac Hale Beach Park. Since we lost the Kapalama parks; we need this park, and also we need a new road and better one because we have hundreds of tourists during the weekends. Our narrow roads are bad and scary, and the coastal road gets flooded."

5.0 SITE RECONNAISSANCE

5.1 HAZARDOUS MATERIALS AND REGULATED WASTES

During the site check conducted on January 28, 2005, MNA found no hazardous materials or regulated wastes on the subject property (Photographs 1-5, Appendix C).

5.2 STORAGE TANKS

MNA observed no signs of storage tanks, such as dispenser pumps, fill pipes, or vent pipes.

5.3 ASBESTOS, LEAD, & PCB INDICATIONS

MNA observed no materials suspected of containing asbestos, lead, or polychlorinated biphenyls (PCB) at the subject site and immediately surrounding areas, except for the area with the abandoned vehicles. The soil under the abandoned vehicles may contain PCBs and heavy metals including lead.

5.4 SOLID WASTE DISPOSAL

MNA observed no signs of storage or accumulation of solid wastes on the subject property.

5.5 PHYSICAL SETTING ANALYSIS AGAINST POTENTIAL MIGRATION

MNA found no potential offsite contamination sources that may migrate to the subject site.

6.0 SUMMARY AND RECOMMENDATION

Based on the information obtained during the site assessment performed in January 2005, MNA provides the following summary and recommendations:

- **Database Search for Subject and Adjoining Property**: The subject and adjoining properties were not listed in any of the federal and state databases searched by EDR (Appendix B). The findings are summarized in the following table:

Search Type	Distance Searched	Findings
Federal NPL Site List	1 mile	None
Federal RCRA CORRACTS TSD Facilities List	1 mile	None
State Hazardous Waste Sites	1 mile	None
Federal CERCLIS List	1/2 mile	None
Federal RCRA Non-CORRACTS TSD Facilities List	1/2 mile	None
State-Equivalent CERCLIS	1/2 mile	None
State Landfill and/or Solid Waste Disposal Site List	1/2 mile	None
State Leaking UST List	1/2 mile	None
Federal RCRA Generators List	1/2 mile	None
State Registered UST List	1/4 mile	None
Federal ERNS List	Subject site	None
State Spill List	Subject site	None

- **Site Check**: During a site check conducted on August 20, 2004, MNA observed the subject site to be vacant and undeveloped.
- **Storage Tanks**: MNA found no evidence of the presence of USTs or aboveground storage tanks on the subject property.
- **Potential Asbestos-, PCB- or Lead-Containing Material:** There was no evidence of potential asbestos-, polychlorinated biphenyls (PCB)-, or lead-containing material on the subject site, except for the area with the abandoned vehicles. The soil under the abandoned vehicles may contain PCBs and heavy metals including lead. Sampling & analysis of material or other potential hazardous substances was not part of this ESA.
- **Offsite Contamination Source:** MNA found no potential offsite contamination sources that may migrate to the subject site.

This Phase I ESA has revealed no evidence of adverse environmental conditions in connection with the subject property. MNA recommends no further assessments.

REFERENCES

DLNR. **2000**. Hydrologic Units Sustainable Yield / Aquifer Code. http://www.state.hi.us/dlnr /cwrm/data.htm.

EDR. **2004**. *The EDR Radius Map with Geocheck for Pohoiki.* Environmental Data Resources, Inc., Southport, Connecticut.

Hazard Evaluation & Emergency Response. **2000**. Online databases provided at http://www.state.hi.us/health/eh/heer /record.html, updated February 24, 2000.

Hawaii Department of Health. **2002**. Online UST and LUST databases provided at http://www.state.hi.us/doh/eh/shwb/ust/data.html, updated January 2002.

U.S. Army Engineer District, Honolulu. **1978**, *Final Detailed Project Report and Environmental Statement, Pohoiki Bay Navigation Improvements, Pohoiki Bay, Hawaii.*

U.S. Geological Survey. **1965 1981, and 1995**. Topographic Maps. U.S. Department of Interior, U.S. Geological Survey, Washington.

Wilson Okamoto and Associates, Inc. **1998**. *Site Selection Report and Draft Environmental Impact Statement for the New Pahoa Elementary School, Pahoa, Hawaii.* Proposing Agency: Department of Accounting and General Services, State of Hawaii.

APPENDIX A

Regulatory Record Sources

- National Priorities List (NPL) - The NPL is the U.S. Environmental Protection Agency's (EPA) database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet three specific criteria set jointly by the U.S. Department of Health and Human Services and the EPA in order to become an NPL site.

- CORRACTS - The EPA maintains this database of Resource Conservation and Recovery Act (RCRA) facilities that are undergoing "corrective action." A "corrective action order" is issued pursuant to RCRA Section 3008(h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility's boundary and can be required regardless of when the release occurred, even if it predates RCRA.

- RCRA-Treatment, Storage, & Disposal (TSD) CORRACTS - The EPA's RCRA Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste.

- Comprehensive Environmental Response, Compensation & Liability Information System (CERCLIS) List - The CERCLIS list contains sites which are either proposed to or on the NPL and sites which are in the screening and assessment phase for possible inclusion on the NPL. The information on each site includes a history of all pre-remedial, remedial, removal and community relations activities or events at the site, financial funding information for the events, and unrestricted enforcement activities.

- NFRAP - NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

- RCRA-TSD - The RCRA Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA TSDs are facilities which treat, store and/or dispose of hazardous waste.

- Solid Waste & Landfill - The database can be obtained from the Hawaii Department of Health (HDOH), Solid and Hazardous Waste Branch (808.586.4240).

- Leaking Underground Storage Tank (LUST) - This database can be obtained from the HDOH Solid and Hazardous Waste Branch Underground Storage Tank (UST) Section (808.586.4226).

- Water Wells - The Ground Water Site Inventory (GWSI) database was provided by the U.S. Geological Survey (USGS, 702.648.6819). The database contains information for over

1,000,000 wells and other sources of groundwater which the USGS has studied, used, or otherwise had reason to document through the course of research.

- RCRA-Viol/Enf - The RCRA Program identifies and tracks hazardous waste from the point of generation to the point of disposal. RCRA Violators are facilities which have been cited for RCRA Violations at least once since 1980. RCRA Enforcements are enforcement actions taken against RCRA violators.

- UST list - This database can be obtained by the HDOH UST Section (808.586.4226). The agency release date for UST Section Database was January 2002.

- Toxic Release Inventory System (TRIS) - Section 313 of the Emergency Planning and Community Right-to-Know Act (also known as SARA Title III) of 1986 requires the EPA to establish an inventory of Toxic Chemicals emissions from certain facilities. Facilities subject to this reporting are required to complete a Toxic Chemical Release Forms (Form R) for specified chemicals.

- Emergency Response Notification System (ERNS) - This is a national database containing records from October 1986 to the release date below and is used to collect information for reported releases of oil and hazardous substances (202.260.2342). The database contains information from spill reports made to federal authorities including the EPA, the U.S. Coast Guard, the National Response Center, and the Department of Transportation.

- RCRA-LgGen - RCRA Large Generators are facilities which generate at least 1,000kg/month or non-acutely hazardous waste (or 1kg/month of acutely hazardous waste).

- RCRA-SmGen - RCRA Small and Very Small Generators are facilities which generate less than 1,000kg/month or non-acutely hazardous waste.

- SPILL - This database can be obtained from the HDOH Hazard Evaluation Emergency Response office (HEER, 808.586.4249). The Spills list provides a short description of circumstances of each spill.

APPENDIX B

EDR Site Assessment Report

EDR DataMap™ Corridor Study

Pohoiki
Pahoa, HI 96778

December 29, 2004

Inquiry number 01333584.1r

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR).

TARGET PROPERTY INFORMATION

ADDRESS

PAHOA, HI 96778
PAHOA, HI 96778

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

FEDERAL ASTM STANDARD

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned
CORRACTS ..... Corrective Action Report
RCRA-TSDF ..... Resource Conservation and Recovery Act Information
RCRA-LQG ..... Resource Conservation and Recovery Act Information
RCRA-SQG ..... Resource Conservation and Recovery Act Information
ERNS ..... Emergency Response Notification System

STATE ASTM STANDARD

SHWS ..... Sites List
SWF/LF ..... Permitted Landfills in the State of Hawaii
LUST ..... Leaking Underground Storage Tank Database
UST ..... Underground Storage Tank Database
VCP ..... Voluntary Response Program Sites

FEDERAL ASTM SUPPLEMENTAL

CONSENT ..... Superfund (CERCLA) Consent Decrees
ROD ..... Records Of Decision
Delisted NPL ..... National Priority List Deletions
FINDS ..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS ..... Hazardous Materials Information Reporting System
MLTS ..... Material Licensing Tracking System
MINES ..... Mines Master Index File
NPL Liens ..... Federal Superfund Liens
PADS ..... PCB Activity Database System

EXECUTIVE SUMMARY

ODI	Open Dump Inventory
UMTRA	Uranium Mill Tailings Sites
FUDS	Formerly Used Defense Sites
INDIAN RESERV	Indian Reservations
DOD	Department of Defense Sites
RAATS	RCRA Administrative Action Tracking System
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
SSTS	Section 7 Tracking Systems
FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

SPILLS	Release Notifications

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas	Former Manufactured Gas (Coal Gas) Sites

BROWNFIELDS DATABASES

US BROWNFIELDS	A Listing of Brownfields Sites
BROWNFIELDS	Brownfields Sites
VCP	Voluntary Response Program Sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Please refer to the end of the findings report for unmapped orphan sites due to poor or inadequate address information.

MAP FINDINGS SUMMARY

Database	Total Plotted
FEDERAL ASTM STANDARD	
NPL	0
Proposed NPL	0
CERCLIS	0
CERC-NFRAP	0
CORRACTS	0
RCRA TSD	0
RCRA Lg. Quan. Gen.	0
RCRA Sm. Quan. Gen.	0
ERNS	0
STATE ASTM STANDARD	
SHWS	0
State Landfill	0
LUST	0
UST	0
VCP	0
FEDERAL ASTM SUPPLEMENTAL	
CONSENT	0
ROD	0
Delisted NPL	0
FINDS	0
HMIRS	0
MLTS	0
MINES	0
NPL Liens	0
PADS	0
ODI	0
UMTRA	0
FUDS	0
INDIAN RESERV	0
DOD	0
RAATS	0
TRIS	0
TSCA	0
SSTS	0
FTTS	0
STATE OR LOCAL ASTM SUPPLEMENTAL	
SPILLS	0
EDR PROPRIETARY HISTORICAL DATABASES	
Coal Gas	0

MAP FINDINGS SUMMARY

Database	Total Plotted
BROWNFIELDS DATABASES	
US BROWNFIELDS	0
BROWNFIELDS	0
VCP	0

NOTES:

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Distance (ft.)	Site	Database(s)	EDR ID Number EPA ID Number

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)

NO SITES FOUND

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/12/04
Date Made Active at EDR: 12/09/04
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 11/02/04
Elapsed ASTM days: 37
Date of Last EDR Contact: 11/02/04

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 09/23/04
Date Made Active at EDR: 12/09/04
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 11/02/04
Elapsed ASTM days: 37
Date of Last EDR Contact: 11/02/04

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/10/04
Date Made Active at EDR: 10/27/04
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 09/21/04
Elapsed ASTM days: 36
Date of Last EDR Contact: 09/21/04

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 08/10/04
Date Made Active at EDR: 10/27/04
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 09/21/04
Elapsed ASTM days: 36
Date of Last EDR Contact: 09/21/04

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/23/04
Date Made Active at EDR: 11/18/04
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 10/07/04
Elapsed ASTM days: 42
Date of Last EDR Contact: 12/07/04

RCRA: Resource Conservation and Recovery Act Information
Source: EPA
Telephone: 800-424-9346
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 08/10/04
Date Made Active at EDR: 10/11/04
Database Release Frequency: Varies

Date of Data Arrival at EDR: 08/24/04
Elapsed ASTM days: 48
Date of Last EDR Contact: 11/24/04

ERNS: Emergency Response Notification System
Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/03
Date Made Active at EDR: 03/12/04
Database Release Frequency: Annually

Date of Data Arrival at EDR: 01/26/04
Elapsed ASTM days: 46
Date of Last EDR Contact: 10/25/04

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/01/01
Database Release Frequency: Biennially

Date of Last EDR Contact: 09/20/04
Date of Next Scheduled EDR Contact: 12/13/04

CONSENT: Superfund (CERCLA) Consent Decrees
Source: Department of Justice, Consent Decree Library
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/05/04
Database Release Frequency: Varies

Date of Last EDR Contact: 10/25/04
Date of Next Scheduled EDR Contact: 01/24/05

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/09/04
Database Release Frequency: Annually

Date of Last EDR Contact: 10/06/04
Date of Next Scheduled EDR Contact: 01/03/05

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/12/04
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/02/04
Date of Next Scheduled EDR Contact: 01/31/05

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 09/09/04
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/08/04
Date of Next Scheduled EDR Contact: 01/03/05

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/08/04
Database Release Frequency: Annually

Date of Last EDR Contact: 10/28/04
Date of Next Scheduled EDR Contact: 01/17/05

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/15/04
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/04/04
Date of Next Scheduled EDR Contact: 01/03/05

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 09/13/04
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/28/04
Date of Next Scheduled EDR Contact: 12/27/04

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 202-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/22/04
Date of Next Scheduled EDR Contact: 02/21/05

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/29/04
Database Release Frequency: Annually
Date of Last EDR Contact: 11/12/04
Date of Next Scheduled EDR Contact: 02/07/05

DOD: Department of Defense Sites
Source: USGS
Telephone: 703-692-8801
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 10/01/03
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 11/12/04
Date of Next Scheduled EDR Contact: 02/07/05

UMTRA: Uranium Mill Tailings Sites
Source: Department of Energy
Telephone: 505-845-0011
Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized. In 1978, 24 inactive uranium mill tailings sites in Oregon, Idaho, Wyoming, Utah, Colorado, New Mexico, Texas, North Dakota, South Dakota, Pennsylvania, and on Navajo and Hopi tribal lands, were targeted for cleanup by the Department of Energy.

Date of Government Version: 04/22/04
Database Release Frequency: Varies
Date of Last EDR Contact: 09/20/04
Date of Next Scheduled EDR Contact: 12/20/04

ODI: Open Dump Inventory
Source: Environmental Protection Agency
Telephone: 800-424-9346
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/85
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 05/23/95
Date of Next Scheduled EDR Contact: N/A

FUDS: Formerly Used Defense Sites
Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/03
Database Release Frequency: Varies
Date of Last EDR Contact: 10/04/04
Date of Next Scheduled EDR Contact: 01/03/05

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN RESERV: Indian Reservations
Source: USGS
Telephone: 202-208-3710
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 10/01/03
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/12/04
Date of Next Scheduled EDR Contact: 02/07/05

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 12/06/04
Date of Next Scheduled EDR Contact: 03/07/05

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-566-0250
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/02
Database Release Frequency: Annually

Date of Last EDR Contact: 09/20/04
Date of Next Scheduled EDR Contact: 12/20/04

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/02
Database Release Frequency: Every 4 Years

Date of Last EDR Contact: 12/06/04
Date of Next Scheduled EDR Contact: 03/07/05

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 04/13/04
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/07/04
Date of Next Scheduled EDR Contact: 12/20/04

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/01
Database Release Frequency: Annually

Date of Last EDR Contact: 10/18/04
Date of Next Scheduled EDR Contact: 01/17/05

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/13/04
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/07/04
Date of Next Scheduled EDR Contact: 12/20/04

STATE OF HAWAII ASTM STANDARD RECORDS

SHWS: Sites List
Source: Department of Health
Telephone: 808-586-4249
Facilities, sites or areas in which the Office of Hazard Evaluation and Emergency Response has an interest, has investigated or may investigate under HRS 128D (includes CERCLIS sites).

Date of Government Version: 07/12/01
Date Made Active at EDR: 10/16/01
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 09/24/01
Elapsed ASTM days: 22
Date of Last EDR Contact: 09/21/04

SWF/LF: Permitted Landfills in the State of Hawaii
Source: Department of Health
Telephone: 808-586-4245
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/19/04
Date Made Active at EDR: 06/22/04
Database Release Frequency: Varies

Date of Data Arrival at EDR: 05/20/04
Elapsed ASTM days: 33
Date of Last EDR Contact: 10/25/04

LUST: Leaking Underground Storage Tank Database
Source: Department of Health
Telephone: 808-586-4228
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 05/01/04
Date Made Active at EDR: 07/29/04
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 06/30/04
Elapsed ASTM days: 29
Date of Last EDR Contact: 09/27/04

UST: Underground Storage Tank Database
Source: Department of Health
Telephone: 808-586-4228
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 05/01/04
Date Made Active at EDR: 07/29/04
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 06/30/04
Elapsed ASTM days: 29
Date of Last EDR Contact: 09/27/04

VCP: Voluntary Response Program Sites
Source: Department of Health
Telephone: 808-586-4249

Date of Government Version: 10/10/03
Date Made Active at EDR: 10/21/03
Database Release Frequency: Varies

Date of Data Arrival at EDR: 10/13/03
Elapsed ASTM days: 8
Date of Last EDR Contact: 09/20/04

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE OF HAWAII ASTM SUPPLEMENTAL RECORDS

SPILLS: Release Notifications
Source: Department of Health
Telephone: 808-586-4249
Releases of hazardous substances to the environment reported to the Office of Hazard Evaluation and Emergency Response since 1988.

Date of Government Version: 09/01/00
Database Release Frequency: Varies

Date of Last EDR Contact: 09/21/04
Date of Next Scheduled EDR Contact: 12/20/04

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

BROWNFIELDS DATABASES

BROWNFIELDS: Brownfields Sites
Source: Department of Health
Telephone: 808-586-4249

Date of Government Version: 10/10/03
Database Release Frequency: Varies

Date of Last EDR Contact: 09/20/04
Date of Next Scheduled EDR Contact: 12/20/04

VCP: Voluntary Response Program Sites
Source: Department of Health
Telephone: 808-586-4249

Date of Government Version: 10/04/03
Database Release Frequency: Varies

Date of Last EDR Contact: 09/20/04
Date of Next Scheduled EDR Contact: 12/20/04

US BROWNFIELDS: A Listing of Brownfields Sites
Source: Environmental Protection Agency
Telephone: 202-566-2777
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

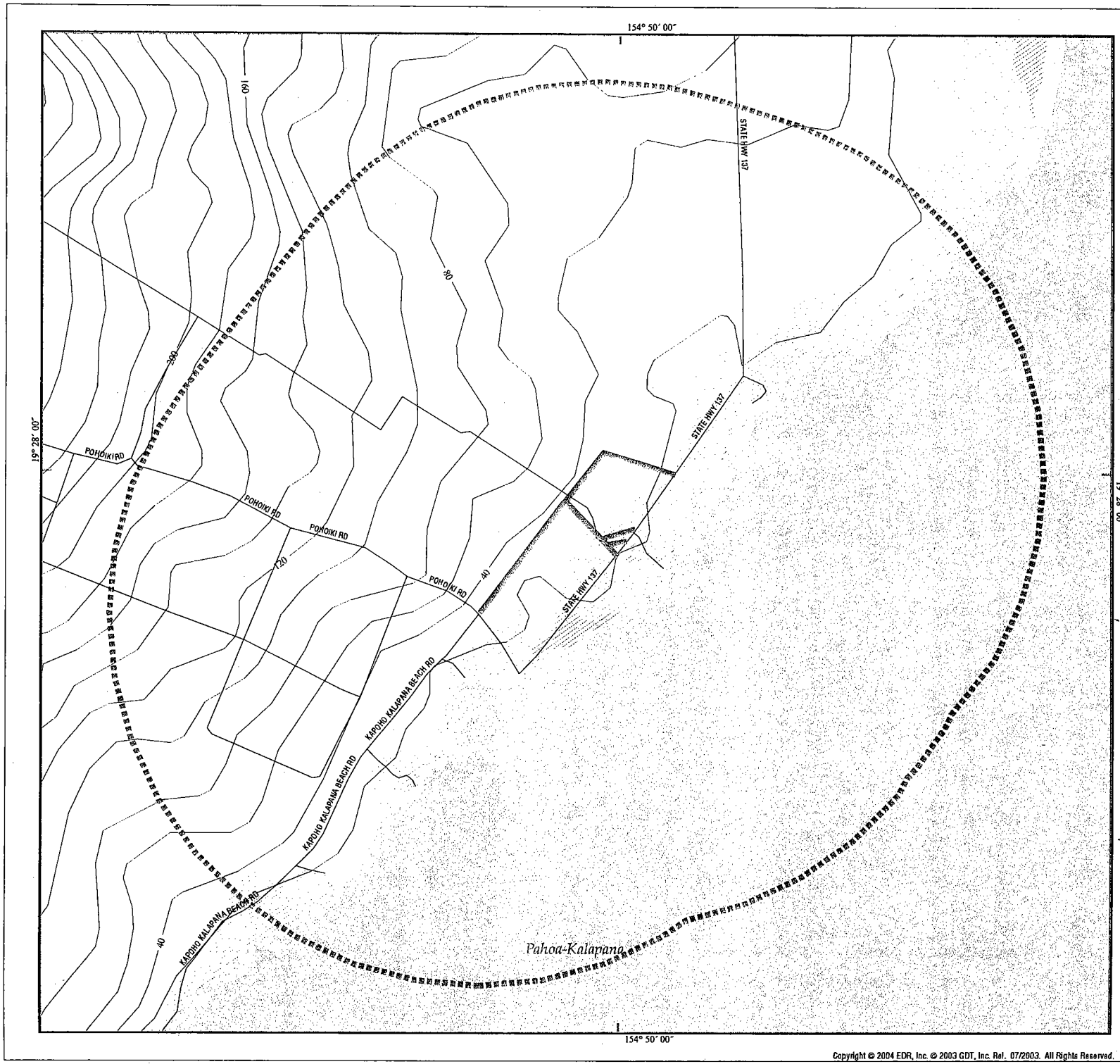
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.



Pohoiki

- Listed Sites
- Earthquake Epicenters (Richter 5 or greater)
- Search Boundary
- Roads
- Major Roads
- Waterways
- Railroads
- Contour Lines
- Pipelines
- Powerlines
- Fault Lines
- Water
- Superfund Sites
- Federal DOD Sites
- Indian Reservations BIA
- 100-Yr Flood Zones
- Wetlands

N

0 1/8 1/4

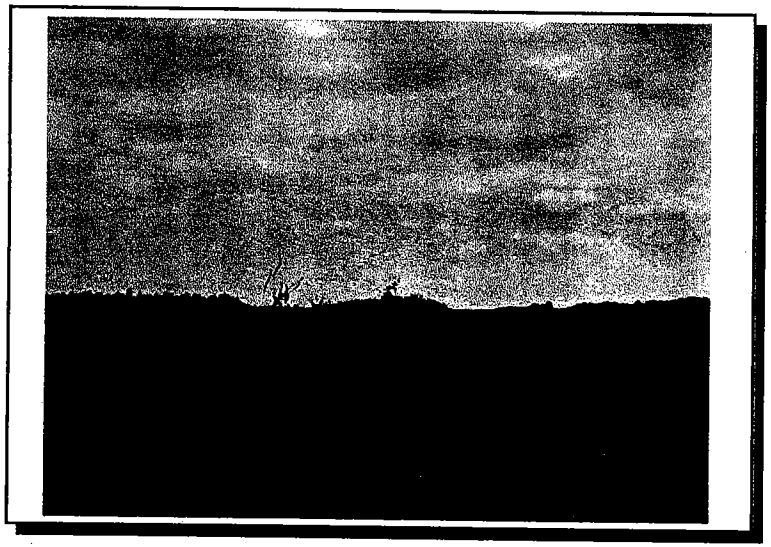
Scale in Miles

EDR Environmental Data Resources Inc

01333584.1r - 29 Dec 04

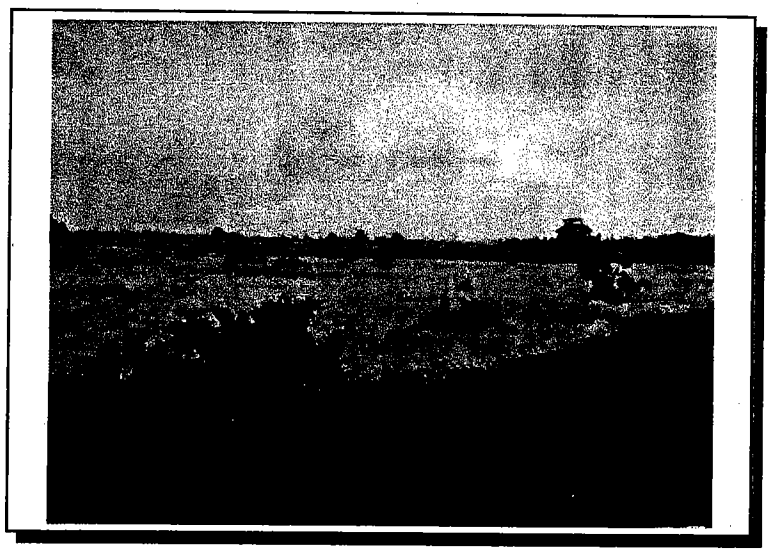
APPENDIX C

Photographs

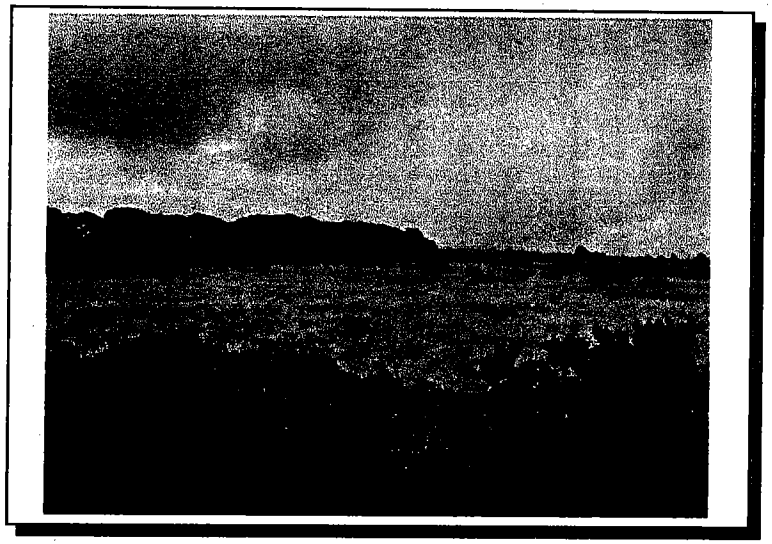


Photograph 1. A view of the south end of the subject site (January 28, 2005).

Photograph 2. A view of north end of the subject site. The entire subject site was undeveloped and vegetated (January 28, 2005).

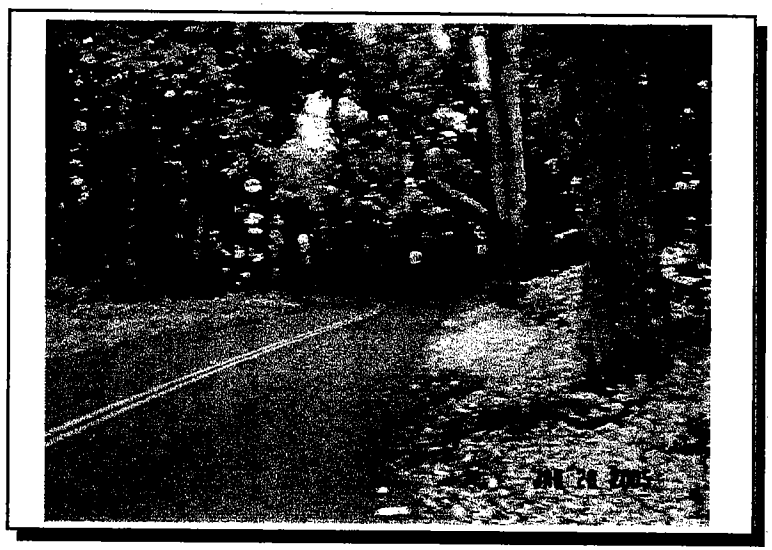


Photograph 3. A view of middle of the subject site. No signs of hazardous materials were found (January 28, 2005).



Photograph 4. A view of the middle of the subject site (January 28, 2005).

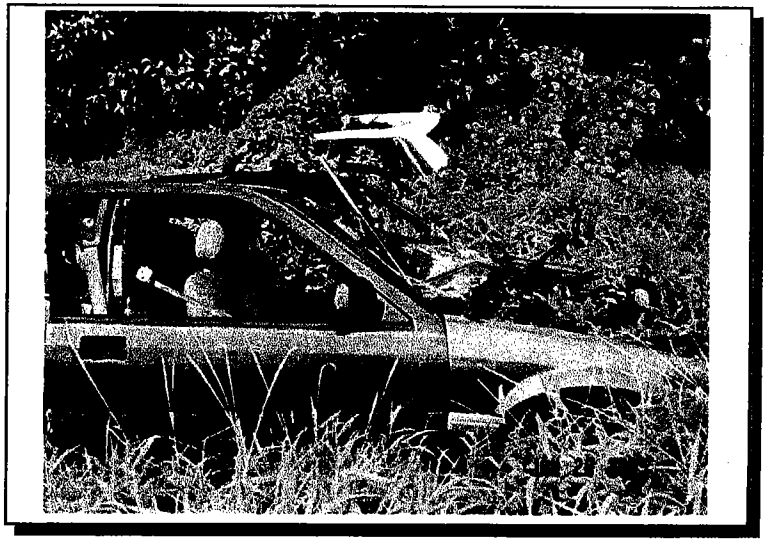
MNA 20331



Photograph 5. A view of Pohoiki Road adjoining the subject site to the southwest (January 28, 2005).

Photograph 6. A view of Isaac Hale Park to the south of the subject site (January 28, 2005).

Photograph 7. A view of the flooded road east of the subject site. This road meets Pohoiki Road to the north (January 28, 2005).



Photograph 8. A view of abandoned vehicles found at the south of the subject site (January 28, 2005).

MNA 20315

APPENDIX D

Qualifications of Environmental Professionals

Technical & Professional Training

ASTM

Joanna Boyette

Is Awarded 1.4 CEUs

for successful completion of the course on

Environmental Site Assessments for Commercial Real Estate

May 21 - 22, 2002
Las Vegas, NV

James A. Thomas
President

Scott W. Murphy
Manager, Technical & Professional Training