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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

JUN 25 2015

Ms. Jessica Wooley, Director
Department of Health
Office of Environmental Quality Control
235 S. Beretania Street, Room 702
Honolulu, Hawaii 96813

Dear Ms. Wooley:

OFC. OF ENVIRONMENTAL
QUALITY CONTROL

15 JUN 25 AM 1:30

RECEIVED

**Draft Environmental Assessment
Mana Drag Race Strip Electrical and Lighting Upgrades
Waimea District, Island of Kauai
Tax Map Key: (4) 1-2-002: 009, 036 &040**

The Department of Land and Natural Resources is providing OEQC with a draft environmental assessment and anticipated finding of no significant impact (DEA-AFONSI) for the Mana Drag Race Strip Electrical and Lighting Upgrades project situated at TMK: (4)1-2-002: 009, 036 & 040, in the Waimea District on the island of Kauai for publication in the next available edition of the Environmental Notice.

Enclosed are two copies of the DEA-AFONSI, a completed OEQC Publication Form, an Adobe Acrobat PDF file of the same, and an electronic copy of the publication form in MS Word. We have simultaneously submitted to your office the summary of the action in a text file by electronic mail.

If there are any questions, please contact Mr. Adrian Chang at 587-0260 or via email at adrian.n.chang@hawaii.gov.

Sincerely,

SUZANNE D. CASE
Chairperson

Enclosures: DEA-AFONSI (2 copies)
OEQC Publication Form (1 copy)
CD containing the DEA, OEQC Publication Form and summary

AGENCY ACTIONS
SECTION 343-5(B), HRS
PUBLICATION FORM (FEBRUARY 2013 REVISION)

Project: Mana Drag Race Strip Upgrades
Island: Kauai
District: Waimea
TMK: (4)1-2-002: 009, 036 & 040
Permits: Conservation District Use Permit, Shoreline Setback Determination, Special Management Area Permit, National Pollutant Discharge Elimination System Permit

Proposing/Determination Agency:

Department of Land and Natural Resources
Engineering Division
1151 Punchbowl Street, Room 221
Honolulu, Hawaii 96813
Contact: Adrian Chang
Ph: (808) 587-0260
Email: adrian.n.chang@hawaii.gov

Accepting Authority:

(for EIS submittals only)

Consultant:

The Limtiaco Consulting Group
1622 Kananui Street
Honolulu, Hawaii 96817
Contact: Kyle Kaneshiro
Ph: (808) 596-7790
Email: kyle@tlcgohawaii.com

Status (check one only):

DEA-AFNSI

Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day comment period ensues upon publication in the periodic bulletin.

FEA-FONSI

Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

FEA-EISPN

Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day consultation period ensues upon publication in the periodic bulletin.

Act 172-12 EISPN

Submit the proposing agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqchawaii@doh.hawaii.gov). NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.

DEIS

The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqchawaii@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.

FEIS

The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

___ Section 11-200-23
Determination

The accepting authority simultaneously transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the proposing agency. No comment period ensues upon publication in the periodic bulletin.

___Section 11-200-27
Determination

The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.

___Withdrawal (explain)

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page):

The State of Hawaii, Department of Land and Natural Resources (DLNR), in cooperation with the Garden Isle Racing Association (GIRA), proposes electrical and lighting improvements at the Kauai Raceway Park (KRP) located in Mana, Kauai, Hawaii. The KRP does not currently have a permanent electrical power connection; portable generators are brought to the site to power lighting, electrical equipment, and mechanical equipment for GIRA's monthly race events at the facility. A mixture of temporary lighting and street-light style light poles are currently used to light the facility for evening events.

The proposed electrical and lighting improvements include installation of approximately 19 stadium-style light poles along the length of the existing race track. The lighting will be downcast to mitigate potential adverse effects to the local seabird population. Additionally, overhead power lines will be extended from the Kauai Island Utility Cooperative distribution system on Kaumualii Highway to the KRP to provide permanent electrical power to the facility.

The project will increase visibility at the facility during evening events, providing a safer and more enjoyable experience for participants. The project will also reduce the KRP reliance on temporary lighting and portable generators.

Draft Environmental Assessment

Mana Drag Race Strip Electrical and Lighting Upgrades Mana, Kauai, Hawaii

June 2015



Prepared for:



State of Hawaii
Department of Land and Natural Resources

Prepared by:



Draft Environmental Assessment

MANA DRAG RACE STRIP ELECTRICAL AND LIGHTING UPGRADES

**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

Mana, Kauai, Hawaii

Prepared For:

**State of Hawaii
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813**

Prepared By:

**The Limtiaco Consulting Group
Civil Engineering and Environmental Consultants
1622 Kananui Street
Honolulu, Hawaii 96817**

June 2015

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LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Definition</u>
%	Percent
AC	Asphalt concrete
AIS	Archaeological Inventory Survey
BLNR	Board of Land and Natural Resources
BMPs	Best Management Practices
CAB	Clean Air Branch
CDUP	Conservation District Use Permit
County	Kauai County
CWB	Clean Water Branch
CZM	Coastal Zone Management
CZO	Comprehensive Zoning Ordinance
dBA	A-weighted decibels
DLNR	State of Hawaii, Department of Land and Natural Resources
DoFAW	Division of Forestry and Wildlife
DOH	State of Hawaii, Department of Health
DPW	Kauai County, Department of Public Works
EA	Environmental Assessment
ft	Foot/feet
GIRA	Garden Isle Racing Association
HAR	Hawaii Administrative Rules
HRS	Hawaii Revised Statutes
IRHB	Indoor and Radiological Health Branch
KFD	Kauai Fire Department
KIUC	Kauai Island Utility Cooperative
KRP	Kauai Raceway Park
KPD	Kauai Police Department
NAAQS	National Ambient Air Quality Standards
NHRA	National Hot Rod Association
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OCCL	Office of Conservation and Coastal Lands
OHA	Office of Hawaiian Affairs
SAAQS	State Ambient Air Quality Standards

<u>Abbreviation</u>	<u>Definition</u>
SHPD	State Historic Preservation Division
SMA	Special Management Area
SMA Rules	Special Management Area Rules and Regulations of the County of Kauai
State	State of Hawaii
TMDLs	Total maximum daily loads
TMK	Tax Map Key
USFWS	U.S. Fish and Wildlife Service

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EXECUTIVE SUMMARY

The State of Hawaii, Department of Land and Natural Resources (DLNR), in cooperation with the Garden Isle Racing Association (GIRA), proposes electrical and lighting improvements at the Kauai Raceway Park (KRP) located in Mana, Kauai, Hawaii. The KRP does not currently have a permanent electrical power connection; portable generators are brought to the site to power lighting, electrical equipment, and mechanical equipment for GIRA's monthly race events at the facility.

The project site is located on portions of Tax Map Key parcels (4)1-2-002: 036 & 040, which are owned by the State and operated by GIRA. GIRA operates the KRP on a month-to-month lease granted by the DLNR. The project site is adjacent to the shoreline, and surrounding uses include the Kekaha Landfill, Kekaha Rifle Range, a shrimp farm, and agricultural properties. The project site is located along Kaumualii Highway with Kekaha to the southeast and the United States Navy's Pacific Missile Range at Barking Sands to the northwest.

The proposed electrical and lighting improvements include installation of approximately of 19 stadium-style light poles along the length of the existing race track. The number of lights may vary based on the location of the final Kauai County (County) shoreline setback line.

In order to provide power to the proposed lighting, overhead power lines will be extended from the existing Kauai Island Utility Cooperative (KIUC) distribution system on Kaumualii Highway to the project site along an existing access road. Also proposed is installation of approximately 0.8 miles of new overhead electrical lines strung on utility poles installed at a maximum spacing of 200 ft. A maximum of 26 utility poles are anticipated for installation. Finally, appurtenant electrical structures such as transformers, electric meters, pull boxes, and underground electrical conduits will be installed. These improvements are herein referred to as the "Project".

The Project will not have significant adverse impacts to climate, topography, groundwater, socio-economic considerations, drainage, and water and wastewater utilities.

Because the Project is located adjacent to the shoreline, a Coastal Assessment was prepared in support of the Project in April 2015. The Coastal Assessment noted that the beach adjacent to the project site is highly dynamic and its depth has the potential to vary greatly due to seasonal erosion and accretion. An erosional trend was noted near the eastern end of the drag race strip. The Project improvements will be located *mauka* of the County's shoreline setback line to mitigate any impacts of coastal erosion to the proposed Project, and to minimize any impact the Project may

have on coastal resources. The Project will be designed in accordance with applicable design standards for development within the coastal high hazard area in accordance with National Flood Insurance Program standards.

The project site serves as potential habitat for numerous threatened and endangered species. The Hawaiian petrel, Newell's shearwater, band-rumped storm petrel, Hawaiian Stilt, Hawaiian common moorhen, Hawaiian coot, Hawaiian duck, Hawaiian hoary bat, green sea turtle, Hawaiian monk seal, and panicum niihauense are species which may have critical habitat in or near the project site. Proposed activities that have a potential to impact these species are the installation of artificial lighting, installation of overhead electrical lines, and grubbing associated with construction.

Artificial lighting has been known to disorient the fledgling for a number of these seabird species. Downcast lighting – special light fixtures that direct light toward the ground, limiting the amount of light projected to the surrounding area – is proposed to mitigate this impact. Artificial lighting can also potentially impact the green sea turtle, disorienting hatchlings as they try to find their way to the ocean. To mitigate this impact, the lighting will be directed *mauka*, limiting the artificial light that is projected toward the shoreline.

Seabirds have been known to strike overhead electrical lines when traveling between their nesting grounds in mountainous areas and their feeding grounds in at the coastline. To mitigate this impact, the proposed overhead electrical lines will be installed at a height lower than that of the treeline surrounding the project site.

Grubbing (removal of plants) associated with construction has the potential to impact species that nest and feed in lower elevation areas along the shoreline. To mitigate this impact, a biological monitor will survey the project site prior to construction to ensure no endangered or threatened species are present in areas to be grubbed. While panicum niihauense – an endangered species of grass – is not known to occur in the area, the project site could potentially serve as habitat for this species. The Project will not affect the areas potential as a habitat for panicum niihauense since it involves only minimal trenching and no grading.

The project site consists primarily of sandy soils, which have been known to produce native Hawaiian burials. Archaeologists performed a surface and sub-surface survey of the project site and did not find any archaeological or historic materials. An archaeological inventory survey (AIS) outlining their findings will be prepared and submitted to the State Historic Preservation Division (SHPD) for review. Archaeological monitoring may be conducted during construction, pending SHPD review and comment on the AIS.

The Project proposes installation of numerous vertical structures, including light-emitting stadium lighting, which has the potential to impact visual resources in the surrounding area. The proposed improvements will be located in an area of the project site where surrounding trees obstruct views of these structures from most vantage points. These structures may still be visible from areas to the southeast of the Project, including Kekaha and portions of Kaunualii Highway. Public views of the project site from Kekaha and Kaunualii Highway are located over a mile away, thus the proposed lighting will not have a significant visual impact during the day. Downcast lighting will mitigate visual impacts of the proposed lighting at night.

The Project will not have significant adverse impacts to the KIUC distribution system. The additional lighting does not represent a significant load to the KIUC system, and GIRA runs race events at the KRP once a month on average. KIUC will be consulted throughout the design and construction process.

The Project will result in temporary impacts to geology and soils, surface waters, air quality, noise, and traffic during construction. These impacts will be of the type and magnitude typical of minor construction projects. For example, ground disturbance for installation of underground utilities has the potential to release fugitive dust into the air and increases the potential for erosion due to stormwater runoff. Construction will also result in increased noise and traffic for the duration of construction. Appropriate construction best management practices will be used to mitigate these impacts. The contractor will comply with all applicable State and County regulations regarding air quality, stormwater runoff quality, noise, and traffic control.

The Project will obtain a Conservation District Use Permit (departmental permit) and a National Pollutant Discharge Elimination System Permit from the State, and a Shoreline Setback Application and Special Management Area Use Permit application will be submitted to the County.

The Project is located on lands of the State and proposes the use of State funds. Thus, it is subject to the State environmental review process pursuant to Chapter 343, Hawaii Revised Statutes (HRS) and Chapter 11-200, Hawaii Administrative Rules (HAR). This Environmental Assessment (EA) identifies and evaluates potential impacts associated with the Project, and is submitted on behalf of the DLNR, which is the proposing agency for the Project.

This Draft EA has been prepared in accordance with the requirements of Chapter 343, HRS and Chapter 11-200, HAR, including performing consultation with agencies that may have jurisdiction or expertise regarding the Project. A Finding of No Significant Impact is anticipated.

PROJECT SUMMARY

Proposing Agency:	State of Hawaii Department of Land and Natural Resources
Location:	Mana, Kauai, Hawaii
Tax Map Key:	(4)1-2-002: 009, 036 & 040
Land Area:	20 acres
Recorded Fee Owner:	State of Hawaii
Existing Use:	Mana Drag Race Strip
State Land Use Classification:	Conservation District, Limited Subzone
General Plan Land Use Designation:	Agriculture
County Zoning Designation:	Parcel 009 – Conservation Parcel 036 – Ag/Conservation Parcel 040 - Conservation
Proposed Action:	The State of Hawaii, Department of Land and Natural Resources proposed electrical and lighting improvements at the Kauai Raceway Park. The proposed project involves installation of approximately 19 stadium-style light poles along the drag race strip. Overhead electrical lines will be extended from Kaumualii Highway to the facility to provide power to the proposed lights. The project includes appurtenant electrical facilities such as transformers and underground electrical conduits.
Impacts:	The proposed improvements will be setback from the shoreline so that it will not impact coastal resources. The use of downcast lighting and constructing overhead electrical lines along an existing treeline will mitigate potential impacts to endangered and threatened species. Temporary construction related impacts will be mitigated with the use of best management practices.
Anticipated Determination:	Finding of No Significant Impact

1. INTRODUCTION

The State of Hawaii, Department of Land and Natural Resources (DLNR), in cooperation with the Garden Isle Racing Association (GIRA), proposes electrical and lighting improvements at the Kauai Raceway Park (KRP) located in Mana, Kauai, Hawaii. The proposed improvements include the installation of permanent stadium-style lighting at the facility, installation of electrical service from the Kauai Island Utility Cooperative (KIUC), and installation of appurtenant electrical facilities such as transformers, underground electrical conduits, electrical meters, and pull boxes. The facility will be connected to the KIUC power distribution system by extension of overhead electrical lines from Kaunualii Highway to the KRP. These improvements are herein referred to as the "Project."

The Project is located on lands of the State of Hawaii (State) and proposes the use of State funds, and is subject to the State environmental review process pursuant to Chapter 343, Hawaii Revised Statutes (HRS) and Chapter 11-200, Hawaii Administrative Rules (HAR). This Environmental Assessment (EA) identifies and evaluates potential impacts associated with the project, and is submitted on behalf of the DLNR, which is the proposing agency for the project.

This Draft EA has been prepared in accordance with the requirements of Chapter 343, HRS and Chapter 11-200, HAR, including performing consultation with agencies that may have jurisdiction or expertise regarding the proposed projects. A Finding of No Significant Impact is anticipated.

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2. SETTING AND PROJECT DESCRIPTION

2.1. Project Need and Objectives

The KRP, located in Mana, Kauai, is home to a National Hot Rod Association (NHRA) sanctioned quarter-mile race track. The facility – one of only two NHRA sanctioned race tracks in the State – is operated by GIRA. GIRA is a non-profit corporation which runs monthly events at the KRP, promoting safe motorsports and responsible street driving.

From March through September, these monthly events run into the evening. The preferred time for drag race events is the evening because heat can adversely affect car performance. Lighting during evening events is currently provided by a mixture of streetlight-style light poles and portable lights. Both the street lights and portable lights are powered with the use of portable generators. During the months of October and November, racing events occur during the day. No events are run at the KRP from the months of December through February. GIRA, in consultation with the USFWS, has decided not to use night-time lighting from the months of October through February to avoid impacts on threatened and endangered seabirds. Seabirds have been known to become disoriented by artificial lighting.

The Project proposes installation of stadium-style light poles to provide additional lighting along the length of the race track. The Project will increase visibility at the facility during nighttime and twilight events, providing a safer and more enjoyable experience for racers. The Project will also reduce the KRP reliance on temporary lighting and portable generators. Project construction will not impact the race schedule; evening events will continue to occur only between the months of March and September.

2.2. Project Location

Figure 2-1 shows a location map of the proposed Project.

The Project is located in the Mana area on the southwest shore of Kauai. KRP – which includes the drag race strip, bleacher seating, control building, parking and pit areas, and other associated facilities – is located on a portion of Tax Map Key (TMK) parcels (4)1-2-002: 036 & 040, which are owned by the State and operated by GIRA. The facility occupies *makai* portions of Parcels 036 and 040, while agricultural uses occupy *mauka* areas of the parcels.

The facility is accessed via a gravel-paved road located on TMK parcel (4)1-2-002:009, which is owned by the State and operated by the Kauai County, Department of Public Works (DPW) as part of the Kekaha Landfill. The access road is utilized by both the Kekaha Landfill and the Mana Race Track facilities. The access road occupies an approximately 2-acre portion of parcel 009.

The Project is located approximately 1 mile northwest of Kekaha on the *makai* side of Kaunualii Highway (State Route 50). The project site is bordered by the Kekaha landfill to the northwest, agricultural land to the northeast, a shrimp farm to the southeast, and the beach and Pacific Ocean to the southwest.

2.3. Existing Conditions

Figure 2-2 shows the existing conditions at the KRP.

KRP is a well-maintained facility operated by GIRA. GIRA hosts monthly events at the park, providing a safe venue for local motor enthusiasts to race street-legal cars, imports, Jr. Dragsters, and professional race cars at this NHRA-sanctioned facility.

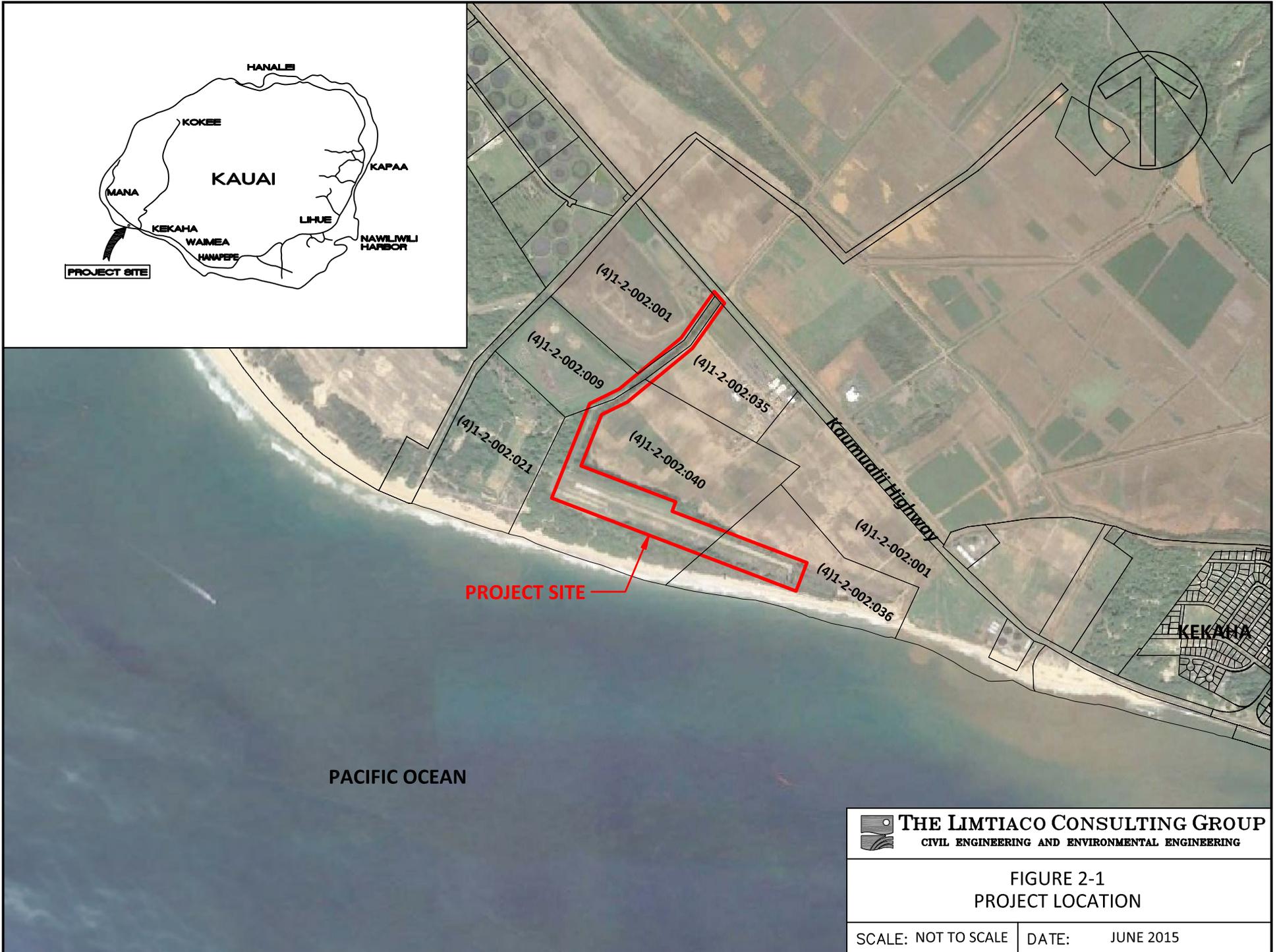
The focus of the facility is a 55-foot (ft) wide drag race strip with two tandem lanes that stretches approximately 0.8 miles along the shoreline. The drag race strip is paved partially in concrete (near the starting line) and partially in asphalt-concrete (AC) pavement. The first quarter mile of the drag race strip is used for racing, while the remainder of the track is required for staging and shutdown (to allow vehicles to come to a stop after crossing the finish line) areas. The track is lighted by street-light style light posts spaced out along the *mauka* edge of the drag race strip. Light posts on both the *mauka* and *makai* side of the drag race strip provide lighting at the starting and staging areas. Existing lighting at the KRP is powered by portable generators which are brought to the track during race events.

Running parallel to the drag race strip along its *makai* edge is a return road. This road allows cars to return the pit area once their heat is completed. The return road is accessed via a number of turnaround points located along the length of the track.

A two-story control structure is located *makai* of the starting line. The second story of the structure is enclosed, and is used by GIRA personnel to control events. The first story is partially enclosed and is used for event registration.

Makai of the control structure is an AC-paved pit area where cars are parked between heats. During events, participants are allowed to set up equipment and work on their cars in the pit area. Portable generators and portable lighting are set up in the pit area during events to provide power and light for participants. The generators and lighting are removed upon completion of each event.

Located *mauka* of the starting line is an AC-paved parking area. Wooden bleachers in the parking area are used by spectators for viewing events.



PROJECT SITE

PROJECT SITE

PACIFIC OCEAN

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FIGURE 2-1
 PROJECT LOCATION

SCALE: NOT TO SCALE | DATE: JUNE 2015

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- LEGEND**
- █ Access Road
 - █ Bleachers/Parking
 - █ Control Structure
 - █ Drag Race Strip
 - █ Pit



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 CIVIL ENGINEERING AND ENVIRONMENTAL ENGINEERING

FIGURE 2-2
 EXISTING CONDITIONS

SCALE: NOT TO SCALE DATE: JUNE 2015

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A gravel-paved access road is used to access the KRP from Kaumualii Highway. The access road runs from northeast to southwest through TMK parcel (4)1-2-002:009, and connects to AC-paved parking area of the KRP at the northeastern corner of the facility. Trees run along the southeast edge of the access road, partially obscuring views of neighboring properties.

The drag race strip and its appurtenant facilities are located on a large level area that has been cleared of vegetation.

2.4. Proposed Improvements

The Project proposes installation of numerous stadium-style light poles. The proposed light poles and fixtures are similar to those showing in **Photo 1**.



Photo 1 – Lighting at the nearby H.P Faye park, similar to the lighting proposed as part of the Project.

Because of the Project's proximity to the shoreline, downcast lighting is proposed to mitigate any possible adverse effects to the local seabird population. Artificial lighting close to the shoreline can potentially disorient threatened and endangered seabirds, including the Hawaiian petrel, Newell's shearwater, and Band-rumped petrel. Downcast lighting uses special visors to direct light toward the ground, as opposed to typical stadium lighting that spreads light across a broad area. Downcast lighting will prevent light from projecting shoreward and will reduce its visibility to nearby shorebirds. An example of downcast lighting is shown in **Appendix A**.

In order to provide power to the proposed lighting, overhead power lines will be extended from the existing KIUC system on Kaumualii Highway to the project site. The Project proposes installation of approximately 0.8 miles of new overhead electrical lines, strung on utility poles installed at a maximum spacing of 200 ft. It is anticipated that 26 utility poles will be installed as part of the Project. The exact number of utility poles required will be determined during Project design, after completion of the EA process.

The new overhead lines will extend from Kaumualii Highway down the facility access road to the entrance of the KRP, turn East to run parallel to the drag strip, and finally cross to the *makai* side of the drag strip at approximately the halfway point of the track. **Figure 2-3** shows the approximate location of the proposed electrical lines. In order to mitigate the potential for seabirds striking the overhead lines, the proposed

electrical lines will be constructed below the ironwood treeline that runs adjacent to the facility access road.

From the final overhead utility pole, electrical lines will be run in an underground conduit parallel to the drag race strip. The underground conduit, which is shown on **Figure 2-3**, will run from the start of the drag race strip to the Shoreline Setback Line. The proposed lighting will draw power from this underground electrical conduit.

The project area, including the overhead electrical lines and electrical and lighting improvements at the KRP, is approximately 20 acres.

2.5. Land Ownership

TMK parcels (4)1-2-002:009, 036 & 040 are owned by the State. GIRA operates the KRP on a month-to-month lease granted by the DLNR.

2.6. Surrounding Uses

The facility is located in an agricultural area just north of Kekaha and is surrounded by various uses. Northwest of the property are the Kekaha Rifle Range and the Kekaha Landfill, northeast are agricultural lands, southeast is a shrimp farm, and southwest is a stretch of sandy beach and the Pacific Ocean. Further to the northwest is the Pacific Missile Range at Barking Sands, which is operated by the United States Navy. **Figure 2-4** shows the different uses surrounding the KRP.

2.7. State Land Use

KRP is located within the Limited subzone of the Conservation land use district, as designated by the State. GIRA has operated the KRP by right-of-entry since 1999. Areas *mauka* of the facility have been designated as part of the Agricultural land use district and areas to the southeast have been designated as part of the Urban land use district. **Figure 2-5** shows a map of the State land use districts.

§13-5-12, HAR states that the objective of the Limited subzone of the Conservation land use district is to limit uses where natural conditions suggest constraints on human activities. Consultation with the DLNR, Office of Conservation and Coastal Lands (OCCL) indicates that the Project will be required to obtain a Conservation District Use Permit (CDUP). Pursuant to §13-5-22, HAR, a “Departmental Permit” will be required. Departmental Permits are approved by the Chairperson of the Board of Land and Natural Resources (BLNR). The OCCL has indicated that a public hearing will not be required for the CDUP.



Proposed 151' Shoreline Setback Line

Shoreline as Surveyed on January 23, 2015

PACIFIC OCEAN

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FIGURE 2-3
PROPOSED SHORELINE SETBACK

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FIGURE 2-5
STATE LAND USE DISTRICTS

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DATE: JUNE 2015

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2.8. County Zoning

Figure 2-6 shows the Kauai County (County) zoning districts at the project site and in the immediately surrounding areas. Note that the County does appoint zoning designations for areas within the State Conservation District. As such, the majority of the Project is located on land which does not have a County zoning designation.

Portions of the facility access road on TMK (4)1-2-002:009 are located within the County Agricultural zoning district. Article 8 of the County Comprehensive Zoning Ordinance (CZO) states the following objectives within the Agricultural Zoning District:

(a) To protect the agriculture potential of lands within the County of Kauai to insure a resource base adequate to meet the needs and activities of the present and future.

(b) To assure a reasonable relationship between the availability of agriculture lands for various agriculture uses and the feasibility of those uses.

(c) To limit and control the dispersal of residential and urban uses within agricultural lands.

The proposed overhead electrical lines located in the agricultural district are consistent with the zoning objectives stated in the CZO. The overhead lines are located along an existing access road, which has limited potential for agricultural development. Construction of the electrical lines will not promote further development of urban uses within the agricultural zoning district.

2.9. Special Management Area

The Project is located within the County Special Management Area (SMA), and is subject to the *Special Management Area Rules and Regulations of the County of Kauai* (SMA Rules). **Figure 2-7** indicates parcels which are located in the SMA.

Section 5.0 of the SMA Rules states that any use, activity, or operation proposed within the SMA defined as “Development” is subject to review by the County Planning Department. Section 1.4.H. of the SMA Rules states that development includes installation of underground utility lines and appurtenant aboveground fixtures. As such, an SMA permit application will be submitted to the County Planning Department for the Project.

2.10. Shoreline Setback

The Project is located in a parcel which abuts the shoreline. As such, it is subject to the Shoreline Setback and Coastal Protection rules outlined in Article 27 of the County CZO. The proposed shoreline setback is shown in **Figure 2-8**. This proposed shoreline setback is subject to approval by the County Planning Department, and a Shoreline Setback Determination is being submitted concurrently with the review period for this Draft EA. The Project will be designed so that no development takes place within the Shoreline Setback Area.

2.11. Project Schedule

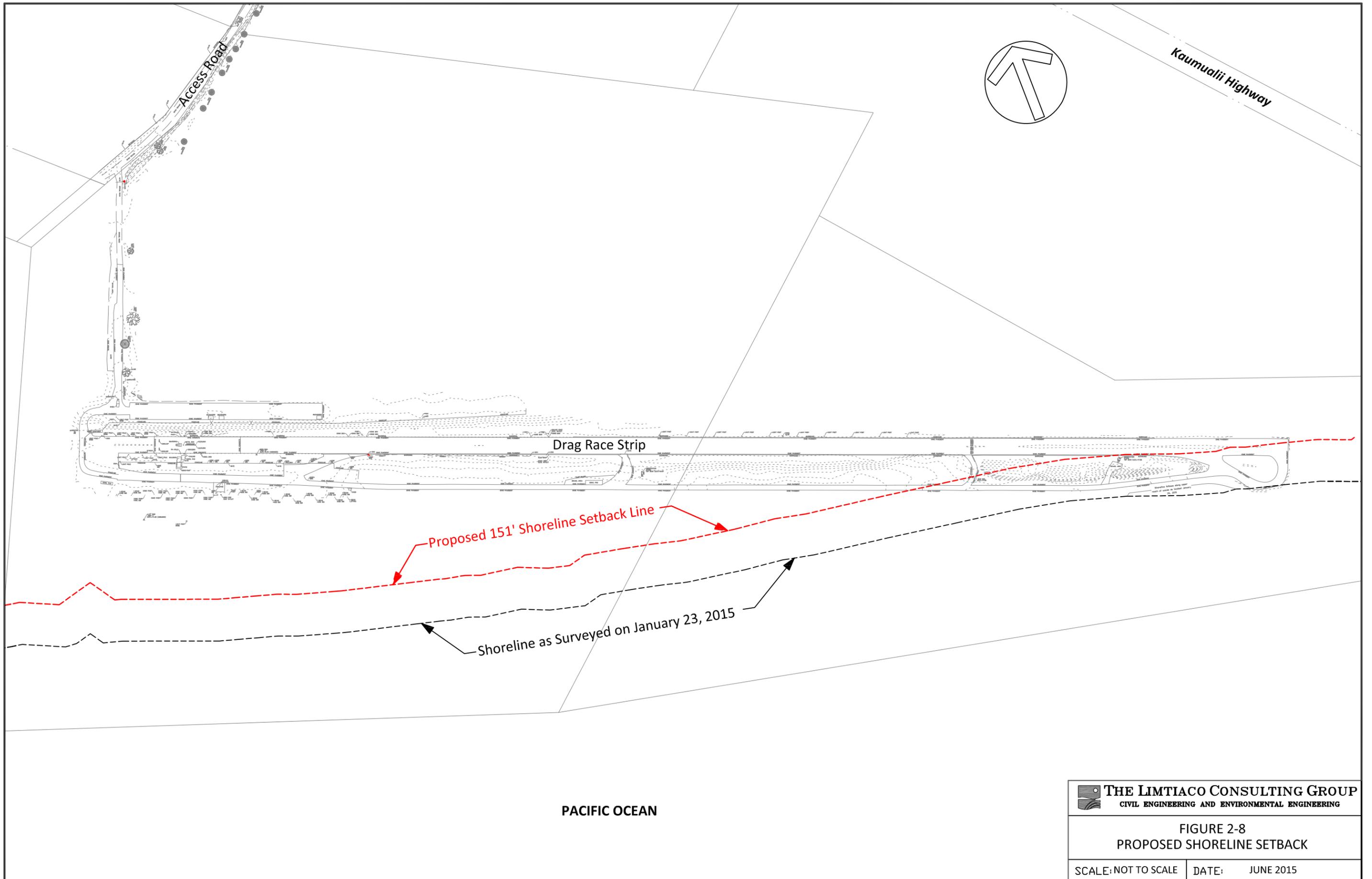
Planning and design for the Project are anticipated for completion in January 2016. Construction is anticipated to start in August 2016 and to be completed by December 2016.



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FIGURE 2-8
 PROPOSED SHORELINE SETBACK

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3. DESCRIPTION OF THE EXISTING ENVIRONMENT, PROJECT IMPACTS, AND MITIGATION MEASURES

3.1. Climate

The climate throughout the State is generally characterized by mild temperatures with low daily and monthly variability, moderate humidity, persistent trade winds, and abundant sunshine. The Hawaiian climate is further characterized by a two-season year: the summer season from May through September is generally warmer and less wet than the cooler, winter season from October through April (WRCC, 2015). Rainfall distribution across the State varies greatly according to geographic conditions, elevation and long-term climatic cycles.

The project site is on Kauai's drier leeward coast, and receives less than 20 inches of rainfall per year (UHGD, 2013). Average air temperatures range from a low of 72° Fahrenheit in January to a high of 79° Fahrenheit in August (UHGD [2], 2014).

Impacts and Mitigation Measures

The Project will not have any impacts on climatic conditions. No mitigation measures are necessary.

3.2. Geology and Soils

The *Web Soil Survey* of the Natural Resources Conservation Service (NRCS) indicates that the property is comprised entirely of Jaucas loamy fine sand, with zero to eight percent slopes (NRCS, 2013). The NRCS gives this soil type the designation "JfB". JfB soils are typically found in old beach areas and windblown sand deposits in the western and southern parts of Kauai. Soil characteristics include high permeability, slow runoff, slight erosion hazard due to water, and high erosion hazard due to wind. Workability of this type of soil can be difficult due to the loose and unstable nature of the soil (SCS, 1972). A map of soils in the vicinity of the project site, as classified by the *Web Soil Survey*, is provided in **Figure 3-1**.

Impacts and Mitigation Measures

The Project will involve trenching for installation of approximately 2,250 linear-ft of underground electrical conduit. A typical trench for electrical conduit installation may be approximately 1 ft wide and 2 to 3 ft deep. The trench could be backfilled with native material or approved borrow material, to be determined during the design phase. This trench will cover only a small area of the project site (approximately 0.05 acres) and, as such, is not expected to have a significant impact on soils or geologic conditions. Minor trenching may also be required for the installation of each utility pole for the proposed overhead electrical line.

Areas disturbed by trenching and other construction activities will temporarily be more susceptible to wind and stormwater erosion. Construction best management practices (BMPs) will be employed to mitigate impacts that soil erosion may have on local air and surface water quality. A National Pollutant Discharge Elimination System (NPDES) permit will be obtained from the State Department of Health (DOH), Clean Water Branch (CWB) prior to commencing any construction activities. The contractor will be required to comply with all NPDES permit conditions and State regulations regarding storm water quality. The contractor will also be responsible for implementing an appropriate dust mitigation plan and complying with the DOH, Clean Air Branch (CAB) air quality standards. Proper implementation of BMPs will mitigate temporary construction related impacts due to soils.

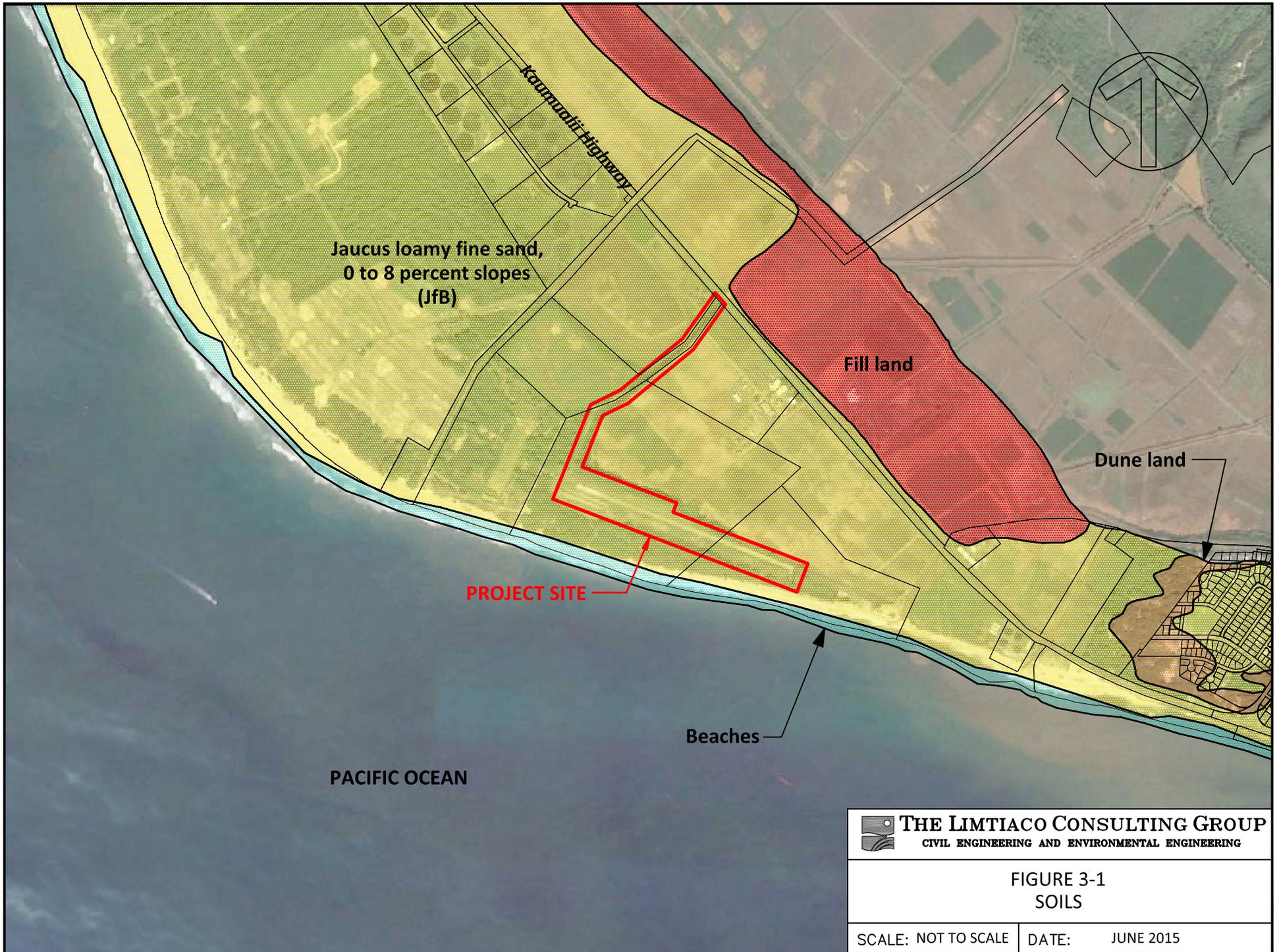
The Project will not cause long-term impacts to soils and geology. No permanent mitigation measures are necessary.

3.3. Topography

The KRP is located on the coastal plains on the southwest side of the island. The site is fairly level and there are no distinguishing topographic features within the facility. Based on a topographic survey performed in support of the Project on February 6, 2015, elevations at the KRP range from 9 to 12 ft above sea level. The topographic survey is provided in **Appendix C**.

Impacts and Mitigation Measures

No grading is proposed as a part of the Project. As such, there will be no impact to any topographic features. No mitigation measures are necessary.



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3.4. Shoreline



Photo 2 – Sand encroaching on the East end of the drag race strip.

East end of the facility. **Figure 2-8** shows the approximate location of the shoreline relative to KRP. The beach in the vicinity of the project site is sandy, and varies in depth depending on seasonal erosion/accretion patterns. On the West end of the facility, a vegetated earthen mound separates the drag race strip from the beach. On the East end of the facility, the sandy beach runs up against the facility, with sand often found on paved areas of the track. **Photo 2** shows proximity of the beach to the East end of the facility.

KRP is located on two shoreline parcels. The shoreline, which runs at a shallow angle adjacent to the drag race strip, is further from the drag race strip on the West end of the track and is directly adjacent to the drag race strip on the East end of the track. Based on a shoreline survey performed on January 23, 2015, the shoreline is located over 500 ft from the KRP on the West end of the facility, and is directly adjacent to the drag race strip on the

As was discussed in **Section 2.10**, the Project is subject to County Shoreline Setback rules because it is located on parcels that abut the shoreline. **Figure 2-8** provides a location of the proposed shoreline setback line. The proposed shoreline setback line is subject to County approval, and a Shoreline Setback Determination will be submitted concurrently with the review period for this Draft EA. The Project will be designed so that no development takes place within the Shoreline Setback Area.

Due to the proximity of the KRP and the Project to the shoreline, a Coastal Assessment was performed in support of the Project. The Coastal Assessment, which is included in **Appendix D**, was completed in April 2015. The Coastal Assessment addresses the coastal setting in the area adjacent to the project site, evaluates possible coastal hazards, describes ongoing shoreline processes (i.e., waves, currents, and sediment movements), analyzes historic coastal erosion/accretion patterns, and discusses possible coastal impacts of the Project.

The Coastal Assessment noted that the beach adjacent to the project site is highly dynamic and that its depth has the potential to vary greatly depending on seasonal

conditions. An erosional trend was noted toward the eastern end of the drag race strip, which is consistent with the conditions shown in **Photo 2** above.

Impacts and Mitigation Measures

As discussed in the Coastal Assessment, the East portion of the facility may be susceptible to coastal erosion. However, the proposed improvements are located sufficiently to the West of this area and over 200 ft inland from the shoreline. The Coastal Assessment concludes that the Project is located sufficiently distant from the shoreline that it is not expected to impact any coastal processes. As such we do not anticipate the proposed improvements to have any impact on typical shoreline processes or to be impacted by typical shoreline processes.

The Coastal Assessment also noted the approximant inundation line that occurred when Hurricane Iniki struck Kauai on September 11, 1992. It should be noted that the Eastern-most portions of the proposed Project are located within area inundated during hurricane Iniki and that similar storm inundation could occur in the event of a similar magnitude storm. However, this was an exceptional storm event that is not indicative of typical conditions.

3.5. Groundwater

According to the DLNR, Commission on Water Resource Management aquifer classification system, Project is located over the Kekaha Aquifer System Area of the Waimea Aquifer Sector Area (CWRM, 2008). Due to the property's proximity to the ocean and sandy soil conditions at the project site, it is likely that groundwater at the property is highly saline. As such, it is unlikely that groundwater in the vicinity of the property could potentially serve as a source of potable water.

Because no geotechnical study was performed as a part of this Project, the depth to groundwater is unknown. However, it can reasonably be expected that the depth to groundwater at the project site is relatively shallow due to the site's proximity to the ocean and the low elevation at the project site. Proximity to the ocean and sandy soil conditions make it likely that groundwater at the project site is hydrologically linked to nearby coastal areas.

Impacts and Mitigation Measures

The Project will not have any long-term effects on local groundwater resources. No permanent mitigation measures are necessary.

Temporary construction activities with the potential to cause groundwater contamination will be mitigated with the use of BMPs. The contractor will be

required to implement a BMP plan to address potential construction impacts such as minor leaks of oil or gasoline from construction equipment.

The contractor will determine the means and methods of construction. As such, it is unknown at this time whether dewatering will be required for installation of foundations for the proposed light poles. If dewatering is required, the contractor will be required to comply with all State regulations for dewatering, including Chapter 11-54, HAR. If dewatering is required, it will not be in quantities large enough to have an adverse effect on local groundwater or nearshore waters.

3.6. Surface Waters

The property is located along the shoreline Northwest of Kekaha Beach Park. A small drainage channel discharges into the Pacific Ocean just east of the project site.

According to the CWB Water Quality Standards Maps, the Pacific Ocean is a Class A Marine Water (DOH, 2014). The Chapter 11-54, HAR states the objective for Class A Marine Waters is that “their use for recreational purposes and aesthetic enjoyment be protected” (HAR 11-54, 2009).

Nearby Kekaha Beach park is listed as an impaired waterbody in the *2014 State of Hawaii Water Quality Monitoring and Assessment Report*, a biennial report prepared by the DOH pursuant to §303(d), Clean Water Act. This report documents the results of DOH sampling efforts Statewide and assesses waterbodies with respect to the State water quality standards. According to the report, Kekaha Beach Park has not met the State water quality standard for levels of turbidity. The site was assigned a “low” priority for development of “total maximum daily loads” (TMDLs): the maximum level of a given pollutant that the stream can receive in order to meet the State water quality standards (DOH [2], 2014).

Impacts and Mitigation Measures

The Project is not expected to result in any long-term impacts to nearby surface water quality. The proposed improvements, which include the installation of stadium lighting, overhead and underground power lines, and appurtenant devices (e.g., transformers) will not result in the discharge of any pollutants to State waters. The Project will not result in increased areas of impermeable surfaces, and thus will not result in an increase of stormwater runoff from the project site. The Project does not propose any grading, and thus will not result in changes to stormwater runoff patterns.

Temporary construction activities have the potential to impact surface water quality. Although the proposed Project does not include major earthwork, some ground-disturbing activities will occur. As with any construction activity that includes ground disturbance, stormwater can potentially carry loose soil, excess nutrients, and other pollutants to nearby waterbodies. Operation and staging of construction equipment also carries the potential to release pollutants to nearby surface waters (e.g., fuel spills and oil leaks). The contractor will be required to implement BMPs to mitigate potential surface water contamination. For example, silt fence or filter socks may be used to reduce the potential for erosion from the construction site. Spill kits and daily inspection of construction equipment may be used to reduce the risk from fuel spills or leaking equipment. A BMP plan will be designed and implemented by the contractor.

An NPDES permit will be obtained from the CWB prior to commencing any construction activities. The contractor will be required to comply with all NPDES permit conditions and State regulations regarding storm water quality.

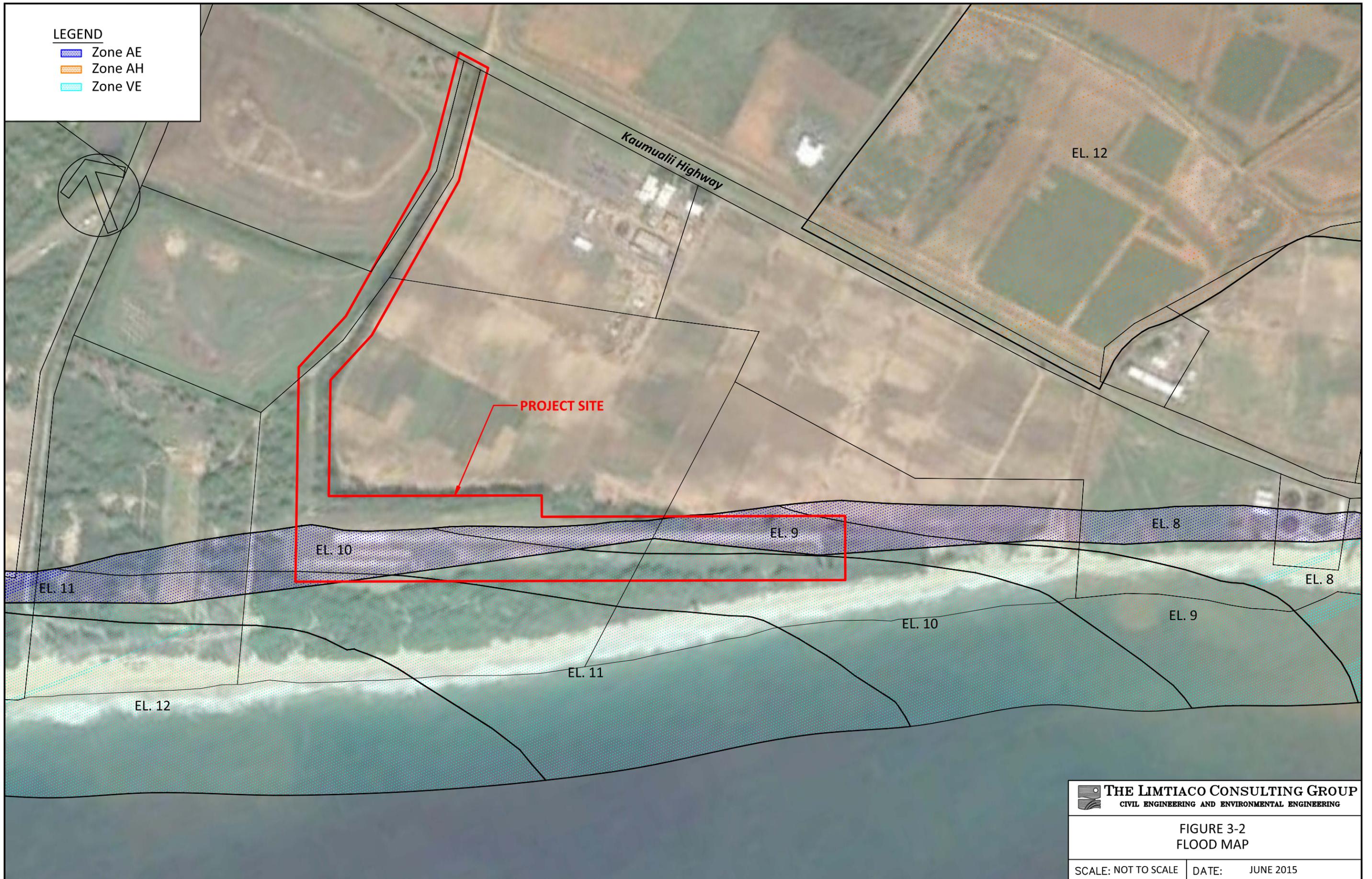
The potential for surface water contamination will be mitigated with the use of BMPs and by complying with NPDES permit conditions. As such, the Project will not threaten the designated uses of potentially effected waterbodies as defined in Chapter 11-54, HAR.

3.7. Flood Hazard

According to the Federal Emergency Management Agency Flood Insurance Rate Map, Community Panel Number 1500020251F (revised November 26, 2010), the project site is within Flood Zones AE and VE with flood elevations ranging from 8 to 10 ft. (see **Figure 3-2**). Areas within Flood Zone VE are considered to have a 1 percent (%) annual chance of a flood event with additional hazards due to storm-induced velocity wave action. Areas within Flood Zone AE are considered to have a 1% annual chance of flooding. A copy of panel 1500020251F is provided in **Appendix E**. The proposed improvements will be designed in accordance with standards for development within flood zones, as outlined in the CZO.

LEGEND

-  Zone AE
-  Zone AH
-  Zone VE



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FIGURE 3-2
FLOOD MAP

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Impacts and Mitigation Measures

The proposed Project does not involve any occupied structures. As such, minimum impacts are anticipated from potential flood hazards. Electrical equipment that may be susceptible to flood hazard will be designed to be outside of the flood zone or above the flood elevation shown on the Flood Insurance Rate Map. The Project will comply with all applicable County regulations for development within the flood hazard district. These measures will mitigate any potential adverse impacts to the project site from flood hazards.

3.8. Floral and Faunal Resources

The Project is located adjacent to the shoreline, and potentially serves as habitat for a number of threatened and endangered seabirds and seaborne mammals.

The Hawaiian petrel (*pterodroma sandwichensis*) is a Federally-listed endangered seabird that is native to Hawaii. Adult Hawaiian petrels nest during the early spring in underground burrows, entering and leaving their burrows after dark. The female lays a single egg and parents take turns incubating the egg and feeding the chick. In November, fledgling Hawaiian petrels leave their nests for the first time and fly at night to the ocean to forage. Urban lights have been known to disorient the fledgling Hawaiian petrels, causing them to fall to the ground or collide with structures, leaving them vulnerable to predators such as cats, dogs, and mongoose (NPS, 2015).

The Newell's shearwater (*puffinus auricularis newelli*) is a Federally-listed threatened species that nests in burrows on forested mountain slopes from April through November. The Newell's shearwater needs an open downhill flight path from its burrows in order to become airborne and primarily feeds on squid. The shearwater is attracted to light, and increased urbanization has resulted in fledgling shearwater becoming disoriented during their first flight, often striking buildings, trees, or utility wires. Once grounded, the shearwater becomes vulnerable to predators (USFWS, 2012).

The band-rumped storm petrel (*oceanodroma castro*) is a Federal candidate for listing, and is State listed as an endangered species. The storm petrel nests between May and June. Fledglings leave the nest in October toward the ocean to forage. Urban lighting has been known to disorient fledgling storm petrel, causing them to fall to the ground and leaving them vulnerable to predators (DLNR, 2005).

The Hawaiian stilt (*himantopus mexicanus knudseni*) is a Federally-listed waterbird that nests in bodies of fresh, brackish, or salt water. The Hawaiian stilt typically feeds in shallow bodies of water separate from its nesting area. The primary causes

of decline in the Hawaiian stilt population has been loss of habitat and introduced predators (USFWS [2], 2012).

The Hawaiian common moorhen (*gallinule chloropus sandvicencsis*) is a Federally-listed endangered species common to freshwater marshes, taro patches, irrigation ditches, reservoirs and wet pastures. They prefer areas of dense vegetation near open water. The Hawaiian moorhen nests year-round, but the most active nesting season is from March through August. The Hawaiian moorhen typically eats mollusks, insects, water plants, and grasses. The primary causes of decline in the Hawaiian moorhen include loss of habitat and introduced predators (USFWS [3], 2012).

The Hawaiian coot (*fulica alai*) is a Federally-listed endangered species frequently found in fresh and brackish marshes and ponds. The Hawaiian coot nests in aquatic vegetation, and feeds on seeds, leaves, aquatic plants, insects, tadpoles and small fish. The primary causes of decline in the Hawaiian coot include loss of habitat and introduced predators (USFWS [4], 2013).

The Hawaiian duck (*anas wyvilliana*) is a Federally-listed endangered species endemic to Hawaii, that is typically found in lowland wetlands, river valleys, and mountain streams. The Hawaiian duck feeds on mollusks, insects and freshwater vegetation. Their main breeding season is between January and May, with nest established on the ground. The primary causes of decline in the Hawaiian duck include loss of habitat and introduced predators (USFWS [5], 2012).

The Hawaiian hoary bat (*lasirus cinereus semotus*) is a Federally-listed endangered species that is typically found in elevations ranging from sea level to 7,500 ft. The hoary bat is nocturnal, and feeds on a variety of night-flying insects. The primary causes of decline in the hoary bat include loss of habitat, pesticides, predation, roost disturbance, and loss of historic tree cover (USFWS [6], 2012).

The green sea turtle (*chelonea mydas*) is a Federally-listed threatened species generally found in shallow water areas inside reefs, bays, and inlets. Females nest nocturnally, and have a strong fidelity for nesting sites. Major causes of decline in the green sea turtle are hunting, disease, and loss of nesting habitat (USFWS [7], 2015).

The Hawaiian monk seal (*neomonachus schauinslandi*) is a Federally-listed endangered species. It is one of only two remaining monk seal species on the planet and is endemic to the Hawaiian archipelago. Monk seals feed in coral reef on lobster, eel, small octopus and reef fishes. They will spend most of their time in the ocean, but will rest on sandy beaches. Mothers will stay with their pups for about five to six weeks, and will not leave their side to feed. They can lose as much as 300

pounds during this period. Factors that continue to threaten the monk seal include competition with fisheries for food, competition with other predators, disease, shark predation, and disease (USFWS [8], 2012).

Panicum niihauense is a Federally-listed endangered species of grass that is endemic to Hawaii, and is typically found on the islands of Niihau and Kauai. They grow in nearshore sand dunes, and are threatened by the use of off-road vehicles and invasive plants. Although the *panicum niihauense* is not known to occur at the project site, the location is listed as critical habitat for the species (USFWS [9], 2008).

Impacts and Mitigation Measures

The Project proposes installation of stadium lighting and overhead utility lines, both of which have the potential to adversely impact threatened and endangered seabird species.

Fledgling Hawaiian petrel, Newell's shearwater, and band-rumped storm petrel have been known to become disoriented during their first flights due to artificial lighting. Once disoriented, the birds can easily become grounded and vulnerable to predation. To mitigate this potential impact, the Project proposes the use of downcast lighting. Downcast lighting directs light toward the ground, and does not allow large amounts of light to project to areas outside the project site. An example of downcast lighting is given in **Appendix A**. In addition, GIRA has previously coordinated and will continue to coordinate their events with the USFWS to ensure minimal impacts to fledgling seabirds during the fall months. In consultation with the USFWS, GIRA has decided not to use night-time lighting from the months of October through February to avoid impacts to fledgling seabirds. GIRA intends to continue their relationship with the USFWS.

Artificial lighting also has the potential to disorient adult and hatchling green sea turtles. This could affect their ability to find the ocean. To mitigate this impact, the downcast lighting will be placed on the *makai* side of the drag race strip and will be directed *mauka* (away from the beach). Additionally, no lighting will be constructed within the shoreline setback area. These measures will limit the visibility of artificial light from the beach, and will mitigate any potential adverse impacts on green sea turtles. Existing sand dunes and vegetation located between the KRP and the shoreline will further mitigate the potential impacts of artificial lighting on the shoreline area.

During preparation of this EA, the USFWS and State DLNR, Division of Forestry and Wildlife (DoFAW) have been consulted on methods to mitigate potential seabird strikes on the proposed overhead electrical lines. Both

agencies have recommended construction of overhead electrical lines at a height lower than the top nearby of ironwood trees. Because the treeline is readily visible, it will cause seabirds to fly above the overhead electrical lines and will prevent bird strikes.

Habitat loss is also a primary threat for all species discussed in this section. The Project does not propose conversion of additional land to urban uses, and thus will not cause the destruction of any critical habitat for any species. Temporary construction activities, however, have the potential to disturb endangered species habitat. In particular, vegetation clearing and earth-disturbing activities during construction have the potential to adversely impact nesting areas.

To mitigate this potential impact, a biological monitor will survey the project site prior to construction to ensure no endangered or threatened species are present in areas to be disturbed. The USFWS will be notified prior to construction and will be provided with the results of this survey. Any nests or broods will be reported to the USFWS and will be protected with establishment of a 100-foot buffer area around the nest. Prior to the initiation of any earth-moving activities, a biological monitor or contractor trained in identification of threatened and endangered species will survey the areas to be affected and ensure that nests or broods will not be adversely affected. Work will be halted within 100 feet of any threatened or endangered species that enters the project site, and will not be resumed until they leave the area on their own accord. A post-construction report, including the results of surveys, locations of documented nests, and other relevant information will be submitted to the USFWS within 30 days of the completion of construction.

Although pinacum niihauense is not found at the project site, nearby sand dunes could potentially serve as habitat for this endangered grass species. To avoid adverse impacts on this critical habitat, no major grading is proposed as part of the Project. The Project will involve small areas of land disturbance for installation of underground electrical lines. Trenched areas will be kept to a minimum, and will be backfilled with native soils so that the soil characteristics at the project site are not disturbed.

Implementation of the mitigation measures outlined in this section will prevent any significant adverse impacts of the Project on listed species.

3.9. Air Quality

Per the requirement of the Clean Air Act (last amended in 1990), the U.S. Environmental Protection Agency has established the National Ambient Air Quality Standards (NAAQS) in order to protect public health and welfare and prevent the

significant deterioration of air quality. Additionally, the DOH has established State Ambient Air Quality Standards (SAAQS) to regulate air quality statewide. The State standards for carbon monoxide and nitrogen dioxide are more stringent than their federal counterparts.

The CAB monitors air quality at selected locations throughout the State. The 2013 ambient air monitoring network consists of 13 State and local air monitoring stations and “special purpose monitoring stations”. Currently, there is one State-maintained ambient air quality monitoring station on Kauai. The Niimalu monitoring station is located on a private residential property in Lihue, approximately 1 mile downwind of Nawiliwili Harbor. The location was selected so that it can monitor the impact of cruise ship emissions on nearby communities. The Niimalu monitoring station is located over 20 miles from the project site, thus its data may not be indicative of localized conditions. However, general regional conditions can be inferred from data collected at this station.

The Niimalu monitoring station currently monitors for the volume of PM_{2.5} (particulate matter less than or equal to 2.5 microns in aerodynamic diameter), sulfur dioxide (SO₂), carbon monoxide (CO), and nitrogen dioxide (NO₂) (CAB et. al., 2014).

Air quality readings at the Niimalu monitoring station have historically, and continue to remain well below NAAQS and SAAQS.

Impacts and Mitigation Measures

The Project will not result in any long-term impacts on air quality. No mitigation measures for long-term air quality impacts are required.

Short-term impacts on local air quality may occur during construction. Particularly, trenching during installation of the underground utility lines has the potential to release fugitive dust. Operation of construction equipment will also result in exhaust emissions during construction of the Project. These temporary impacts will be of the type and scale typical of small construction projects. The contractor will be responsible for implementing an appropriate dust control plan and will be responsible for complying with all relevant State regulations regarding air quality.

3.10. Noise

The project site is located approximately 0.5 miles *makai* of Kaunualii Highway, and just over 0.5 northwest of residential areas in Kekaha. Existing ambient noise at the project site is primarily waves from the nearby shoreline.

Pursuant to Chapter 11-46, HAR on *Community Noise Control*, DOH daytime and nighttime noise limits (expressed in maximum A-weighted decibels [dBA] at the property line) are 55 dBA at the property line during the daytime (7 a.m. to 10 p.m.) and 45 dBA at the property time during at nighttime (10 p.m. to 7 a.m.). A permit from the DOH, Indoor and Radiological Health Branch (IRHB) is required for noise levels that exceed the maximum permissible sound level for more than ten percent of the time within any twenty minute period, or for impulsive noises ten dBA or more above the maximum permissible sound level.

Impacts and Mitigation Measures

The Project will not result in any long term noise-related impacts. No audible devices will be installed and the Project will not result in permanent increased usage or traffic at the property. No permanent mitigation measures are necessary.

Temporary noise-related impacts may occur during construction. These impacts will be of the type and magnitude typical of construction projects. The contractor must comply with Chapter 11-46, HAR and obtain the appropriate noise-related permits from the IRHB when necessary.

3.11. Archaeological and Cultural Resources

The project site is located in Waimea ahupuaa of the Kona district of Kauai. Generally, the area was traditionally used for taro cultivation. Historical uses of the area include cultivation of tobacco, rice and sugar cane. The date of construction of the race track is unknown; however, aerial photography indicates that the track was constructed between 1950 and 1975.

Because the project site consists primarily of sandy soils, which have been known to produce native Hawaiian burial sites, an archaeological inventory survey (AIS) is being prepared in support of the Project. Preparation of the AIS involved review of traditional and historic land use in the area, research of previous archaeological studies performed in the vicinity of the project site, a surface and subsurface investigation of the project site, and consultation with individuals that may have knowledge of cultural resources in the area. The survey found no archaeological materials during its surface or subsurface investigation at the project site and learned of no cultural resources during consultation. Upon completion, the AIS will be submitted to the State Historic Preservation Division (SHPD) for review and approval. A field report outlining the findings of the survey is included as **Appendix F** of this report. A Draft Cultural Impact Assessment is also included as **Appendix G**. The final AIS, including SHPD comments and conditions, will be published with the Final EA.

In addition to preparation of the AIS, agencies, organizations, and individuals who may be knowledgeable of archaeological, cultural, or historic resources were consulted during preparation of this Draft EA. Section 7 provides a list of agencies and Native Hawaiian Organizations that were consulted. Comments were received from the SHPD and the Office of Hawaiian Affairs (OHA).

SHPD withholds judgment on potential impacts of the Project until it has completed its review of the AIS. OHA noted concerns about the possibility of subsurface cultural deposits or traditional Hawaiian burials due to sandy soils at the project site and the possibility that customary native practices may occur in the area, though no specific concerns were noted. OHA also requested that SHPD recommend archaeological monitoring of any new ground excavation.

Additionally, OHA requested that this report disclose the project site's designation as Section 5(b) Ceded Lands, and that the State holds these Ceded Lands in corpus trust for Native Hawaiians and the general public.

Impacts and Mitigation Measures

Archaeologists found no historic or archaeological resources during their surface and sub-surface investigation at the project site. As such, no impacts to historic or archaeological resources are anticipated as a result of the Project. Archaeological monitoring may be performed during construction of the Project, dependent on comments received from SHPD upon completion of their review of the AIS. If archaeological monitoring is required, an archaeological monitoring plan will be submitted to the SHPD for approval prior to construction.

Whether or not monitoring is performed, in the event that any unexpected historic remains or other potentially significant subsurface resources are encountered during the various phases of construction (e.g., excavation and trenching), the contractor will be required to halt construction activities and to immediately notify SHPD of the discovery. The DLNR will prevent the disturbance or taking of any discovered archaeological, historic or cultural resources to the extent possible by instituting the described mitigation measures and enforcing their implementation by its contractors. Thus, the Project is expected to have no adverse impact on historic or archaeological resources.

No culturally significant resources are known to be present within the project site and no traditional and cultural practices or beliefs are known to occur within the subject property. The Project will support existing uses within the project site and will not result in the expansion or expanded use of the KRP.

Thus, Project actions are expected to have no adverse impacts on any cultural resources or practices at the project site.

3.12. Visual Resources



Photo 3 – View toward the starting line, control tower, bleacher, and pit areas.

The project site is predominantly a large, level area which has been cleared of vegetation. The two-lane drag race strip is the most notably visible structure at the facility. The bleachers, control tower, starting line, and street lights are also visible upon entering the KRP. Trees surround most of the perimeter of the KRP, obstructing views of the facility to and from other properties. The treeline breaks on the southeast end of the drag race strip, where views extend from the Waimea

Mountains to the Pacific Ocean. The town of Kekaha is visible from the southern-most tip of the drag race strip. Because the trees surround the majority of KRP, and because there are no large vertical structures at the site, the facility is not visible from most surrounding properties.

The access road to the facility is entered from Kaunualii Highway. The access road is lined on both sides by tall vegetation. As such, there are no notable viewplanes from the access road and the road itself is not visible from neighboring properties.

Impacts and Mitigation Measures

The Project proposes addition of stadium lighting and overhead electrical lights along the drag race strip and access road. The proposed lighting will likely be visible from areas to the southeast of the project site, including Kekaha. However, the lights will be located over a mile from the nearest residential properties and will not have a large visual footprint at this distance. The largest potential impact of the proposed lighting is from the light that would be visible during operation of the facility during the night. The use of downcast lighting is proposed to mitigate this potential impact. The lighting will only be used during events at the KRP, which occur once a month on average.

The proposed lighting will not be visible from most adjacent properties since all views to the project site are obstructed by the treeline. Views of the

proposed overhead electrical lines will be obstructed by the treeline along the access road.

For these reasons, the Project will not have significant adverse impact on visual resources.

3.13. Socio-Economic Characteristics

3.13.1. Existing Businesses and Surrounding Uses

The project site is located in an agricultural area, with surrounding uses including a shrimp farm, landfill, rifle range, and agriculture. The United States Navy's Pacific Missile Range at Barking Sands is located to the northwest and the town of Kekaha is located to the southeast.

The State of Hawaii, which is the recorded fee owner of all properties neighboring the subject property, was consulted prior to preparation of this Draft EA. Details regarding this consultation are presented in Section 7.

Impacts and Mitigation Measures

The Project will not have any long-term impacts on surrounding businesses or uses. There may be an increase in traffic to the property during construction. However, this increase will be only temporary and will not significant enough to have an adverse impact on surrounding properties.

3.13.2. Police, Fire and Ambulance Service

Police: The Kauai Police Department (KPD) provides police services in Kauai County. The project site is located in the KPD's Waimea District, which has sub-stations located in Waimea and Koloa (KPD, 2015). The Waimea sub-station, at just over 5 miles, is closest station to the project site.

Fire: The Kauai Fire Department (KFD) provides fire protection services for the County of Kauai. The KFD has eight fire stations throughout the island, with the closes to the project site being the Waimea Fire Station (KFD, 2015). The Waimea Fire Station is located just over 5 miles from the project site.

Ambulance: The nearest emergency medical facility, the West Kauai Medical Center, is located 5 miles from the project site in Waimea. American Medical Response provides ambulance services in Kauai County. An ambulance is stationed at the KRP during race events.

Impacts and Mitigation Measures

The Project will not impact the demand for or distribution of any emergency services.

3.14. Infrastructure and Utilities

The following section includes discussions regarding roadways and utility (water, drainage, wastewater and electrical) considerations.

3.14.1. Roadways and Traffic Considerations

The access road to the project site is located along Kaumualii Highway, approximately 2 miles northwest of Kekaha. Kaumualii Highway is a two-lane asphalt-paved highway in the vicinity of the access road. Traffic in the area is light due to the fact that there are no large residential developments northwest of Kekaha.

Impacts and Mitigation Measures

The Project is not expected to have permanent long-term impacts on roadway or traffic conditions. Although the Project is in support of a motor vehicle racing facility, the Project will not cause an increase in the number of events at the KRP.

During construction, materials and equipment will be brought to the site along Kaumualii Highway. This temporary increase of traffic to the project site will be minimal and temporary. Construction of the Project will not result in any road closures or traffic diversion.

Because the Project will result in only minor and temporary impacts during construction, no mitigation measures are proposed. The Project will not result in significant adverse impacts to traffic and roadways.

3.14.2. Utilities

Water: Multiple small-diameter lines are buried at the project site to provide water for minor uses throughout the KRP.

Drainage: There are no drainage utilities at the project site. Stormwater leaves the project site either by sheetflow runoff, evaporation, transpiration, or percolation. Grading at the KRP would direct stormwater runoff toward the drag race strip. Low rainfall totals and highly permeable soils indicate that there is not a need for large drainage infrastructure at the project site.

Wastewater: There are no wastewater utilities at the KRP.

Electrical: The project site does not have an existing connection to the electrical utility. Electricity at the project site is currently provided by the use of portable generators, which are brought to the project site during race events. The portable generators are used to power existing streetlight-style light poles, temporary lighting, electrical equipment, and mechanical equipment used during events. The portable generators are removed from the site at the end of each event.

Impacts and Mitigation Measures

Water: The Project will not have any impact to water utilities.

Drainage: The Project does not involve any grading or change in topography at the project site. Drainage will not be impacted by the Project.

Wastewater: The Project will not have any impact to wastewater utilities.

Electrical: The Project proposes a KRP connection to the KIUC electrical system through overhead lines located along Kaumualii Highway. Overhead electrical lines will be constructed from Kaumualii Highway the KRP along the access road to the facility. The KIUC has been consulted regarding the Project, and has indicated that the KIUC system has sufficient power to accommodate the Project. The overhead lines to the project site will be owned by the KIUC.

Underground conduits will be constructed to distribute power to the proposed stadium lights. The conduits will run parallel to the drag race strip. Appurtenant devices, such as transformers and pullboxes, will be installed along the alignment of the underground electrical conduits.

The KRP connection to KIUC's electrical distribution system is being coordinated with the KIUC. The Project will represent an additional load to the system; however, the load is expected to be minimal since GIRA holds events only once a month.

The electrical connection will allow GIRA to reduce (but not eliminate) its dependence on portable generators to run events. This may reduce the amount of fuel used during events, and reduce exhaust and noise emissions from portable generators. This effect, however, will not be significant since GIRA holds events only once a month on average.

Overall, the Project will not result in significant adverse impacts to electrical utilities. The Project will be coordinated throughout the planning, design and construction processes.

4. RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

4.1. State Land Use District

The State Land Use Law (Chapter 205, HRS) is intended to preserve, protect, and encourage the development of lands in the State for uses which are best suited to the public health and welfare for Hawaii's people. All lands in the State are classified into four land use districts by the State of Hawaii, Land Use Commission: Urban, Agricultural, Conservation, and Rural. Urban areas are characterized by residential neighborhoods, commercial enterprises, industrial development, and community facilities including public buildings.

The project site is located within the Limited subzone of the Conservation land use district. §13-5-12, HAR outlines the following objectives for the Limited subzone:

§13-5-12 Limited (L) subzone.

- (a) *The objective of this subzone is to limit uses where natural conditions suggest constraints on human activities.*
- (b) *The (L) subzone shall encompass:*
 - (1) *Land susceptible to floods and soil erosion, lands undergoing major erosion damage and requiring corrective attention by the county, state, or federal governments; and*
 - (2) *Lands necessary for the protection of the health, safety, and welfare of the public by reason of the land's susceptibility to inundation by tsunami, flooding, volcanic activity or landslides, or which have a general slope of forty percent or more*

Comment:

The project site is located in a coastal parcel. The shoreline in the vicinity of the parcel is highly dynamic due to seasonal erosion/accretion. The width of the beach varies throughout the year. To mitigate any impacts due to coastal erosion, no Project improvements will be constructed *makai* the shoreline setback. The shoreline setback line will be approved by the County Planning Department.

Consultation with the OCCL indicates that the Project will be required to obtain a CDUP. Pursuant to §13-5-22, HAR, a "Departmental Permit" will be required. Departmental Permits are approved by the Chairperson of the BLNR.

4.2. Hawaii State Plan

The Hawaii State Plan, HRS Chapter 226, outlines broad goals, policies, and objectives to serve as guidelines for the future growth and development of the State. Objectives, policies, and priority guidelines relevant to the Project are as follows:

§226-4 *State goals. In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve:*

- (2) *A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.*

§226-11 *Objectives and policies for the physical environment – land-based, shoreline, and marine resources.*

(a) *Planning for the State's physical environment with regards to land based, shoreline, and marine resources shall be directed towards achievement of the following objectives:*

- (1) *Prudent use of Hawaii's land-based, shoreline, and marine resources.*
- (2) *Effective protection of Hawaii's unique and fragile environmental resources.*

(b) *To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:*

- (1) *Exercise an overall conservation ethic in the use of Hawaii's natural resources.*
- (2) *Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.*
- (3) *Take into account the physical attributes of areas when planning and designing activities and facilities.*
- (4) *Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.*
- (6) *Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.*
- (8) *Pursue compatible relationships among activities, facilities, and natural resources.*
- (9) *Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.*

§226-12 *Objective and policies for the physical environment – scenic, natural beauty, and historic resources.*

(a) *Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multi-cultural/historical resources.*

(b) *To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:*

- (1) *Promote the preservation and restoration of significant natural and historic resources.*
- (3) *Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.*

§226-13 *Objectives and policies for the physical environment – land, air, and water quality.*

- (a) *Planning for the State’s physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:*
 - (1) *Maintenance and pursuit of improved quality in Hawaii’s land, air, and water resources.*
 - (b) *To achieve the land, air, and water quality objectives, it shall be the policy of this State to:*
 - (7) *Encourage urban developments in close proximity to existing services and facilities.*

§226-23 *Objective and policies for socio-cultural advancement – leisure.*

- (a) *Planning for the State’s socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.*
- (b) *To achieve the leisure objective, it shall be the policy of this State to:*
 - (2) *Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.*
 - (3) *Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.*
 - (5) *Ensure opportunities for everyone to use and enjoy Hawaii’s recreational resources.*

Note: <http://www.capitol.hawaii.gov/hrscurrent/> accessed on 5/02/2015

Comment:

The Project will be performed in a manner consistent with the relevant objectives of the Hawaii State Plan, as stated above. The Project will improve a recreational resource and an existing and appropriate facility. The Project will not significantly impact nearby coastal resources or restrict public access to such resources. Endangered and threatened floral and faunal species will be protected with the use of appropriate mitigation measures. Construction

BMPs are proposed for temporary impacts to land, air and water quality that may occur during construction.

4.3. Kauai County General Plan

The General Plan of Kauai County sets forth broad statements of social, economic, environmental, and design objectives and policies which are desired over the long-term. The following policies and objectives are relevant to the Project:

2.1. *Community Values*

- *Protection, management, and enjoyment of our open spaces, unique natural beauty, rural lifestyle, outdoor recreation and parks.*
- *Access to and along shorelines, waterways and mountains for all. However, access should be controlled where necessary to conserve natural resources and to maintain the quality of public sites for fishing, hunting, recreation and wilderness activities valued by the local community.*

2.2 *Vision for Kauai 2020*

Coastal Development

Development along the shoreline is designed and landscaped to moderate visual impact. There is a transition zone which allows increased building height with larger setbacks, up to the four-story height limit.

Increased setbacks have reduced the need for seawalls or artificial hardening of the shoreline. Along sandy shorelines, shore protection structures are allowed only in special instances as a last resort.

3.2 *Scenic Views*

This chapter sets policies relating to land, waters and culture – resources which are the heritage of the people of Kaua‘i. Heritage resources are connected to physical features or structures, but they also entail less tangible qualities like cultural meaning, historic significance, and the visual experience of the environment.

The chapter also sets policies for managing human activities to maintain the quality of the environment – particularly the quality of Kaua‘i’s waters and watersheds. As stated in the Vision, the concepts of ahupua‘a and watershed link the mountains, lowlands and ocean as one basic ecological unit. The rainwater running off the land affects the quality of the streams and coastal waters; this in turn affects their ability to support native biota and their usefulness for fishing, swimming, or other activities. Finally, the Chapter addresses the special rights of Native Hawaiians in water and land.

3.2.1 Policy

- (a) *In developing public facilities and in administering land use regulations, the County shall seek to preserve scenic resources and public views. Public views are those from a public place, such as a park, highway, or along the shoreline.*
- (b) *The County shall observe the following general principles in maintaining scenic resources:*
- (1) *Preserve public views that exhibit a high degree of intactness or vividness.*
 - *“Intactness” refers to both the integrity of visual patterns and the extent to which the landscape is free from structures or other visually encroaching features.*
 - *“Vividness” relates to the memorability of a view, caused by contrasting landforms which create striking and distinctive patterns. (Examples are the silhouette of Mt. Hā‘upu against the horizon, views of Nounou Mountain from the valley and the coast, and the view of Hanalei Valley from the overlook.)*
 - (2) *Preserve the scenic qualities of mountains, hills and other elevated landforms, qualities such as the silhouette against the horizon and the mass and shape of the landform.*
 - (3) *Preserve the scenic qualities of lowland/open space features, such as the shoreline, the edge of a coastal bluff, a marsh, a fishpond, or a historic or cultural property. Structures should not impede or intrude upon public views of the feature and should not alter the character of the immediate area around the land feature, historic or cultural property.*

3.5 Coastal Lands

Coastal lands have unique qualities and environmental conditions that warrant special consideration in land use planning and regulation. The special nature of coastal lands has been recognized in the federal coastal zone legislation, the Hawai‘i Coastal Zone Management Act, and the County Special Management Area Rules and Shoreline Setback Rules. Following are key factors that need to be considered when planning for coastal lands:

- *Coastal lands are susceptible to physical change – especially those fronted by sandy beaches. Patterns of weather and oceanographic conditions cause lands to erode and/or accrete, sometimes seasonally, sometimes in cycles, and sometimes chronically over a period of years. Storm events or unusual swells can exaggerate or change conditions. Coastal erosion is normal and should be planned for.*

- *Coastal lands are susceptible to damage from typical winter storms, riverine flooding, tsunamis, and hurricane storm surge. The Federal Insurance Rate Maps delineate flood hazard zones and elevations for severe events, defined as those having a one percent chance of occurrence in any given year. Coastal properties on Kaua'i suffered extensive damage from storm surge caused by the 1982 and 1992 hurricanes.*
- *Use of the beach and access to coastal waters are essential for fishing and other traditional food-gathering activities. Hawai'i law guarantees the public use of lands seaward of the shoreline.*
- *Shoreline lands are highly desirable for recreation activities, such as surfing, snorkeling and canoe-paddling. These activities are coastal-dependent, another reason why public access to and along the shoreline is critical.*
- *Unique natural and cultural resources are often found on coastal lands. Natural resources include wetlands, river deltas, native coastal plants, and endangered waterbird habitat. Because the coastal plains were well used by the ancient Hawaiian culture, many heiau, burial sites, and other cultural sites may be found there.*
- *The coast is rich in scenic qualities and unique views. Important public viewpoints include public roads, parks and other public lands, and beaches and other public lands makai of the shoreline. Some of the most vivid views are along the coastline and across embayments, looking toward prominent landforms such as cliffs, headlands or coastal bluffs.*

3.5.1 Policy

- (b) *When developing public facilities or granting zoning, land use permits, or subdivision for development along the coast, the first priority shall be to preserve and protect sandy beaches.*
- (1) *Strips of land along the shoreline that have been placed in the State Conservation District or in the County Open zoning district are intended to serve as a buffer from coastal erosion. Structures should be sited inland of these coastal buffers on lands that are appropriately zoned.*
 - (2) *When development is proposed along a sandy beach, hazards of long-term coastal erosion should be assessed and used to determine appropriate setbacks.*

- (d) *Following are general guidelines for coastal development, including resorts and residential subdivisions, but excepting harbors and other uses which are specifically dependent on locating near the water.*
- (4) *Maintain existing stands of trees or plant trees within the buffer zone, to provide sun and wind protection and to moderate the appearance of large buildings (e.g., Hyatt Regency, Kaua'i Coast Resort at the Beachboy).*
- (5) *Site buildings to preserve view corridors from roads or public places to the ocean and from the ocean mauka.*

Note:

<http://www.kauai.gov/Government/Departments/PlanningDepartment/TheKauaiGeneralPlan/tabid/130/Default.aspx> accessed on 5/02/2015

Comment:

The Project entails improvements to the existing KRP facility and will not detract from existing open spaces or recreational areas. The Project will be designed such that it does not infringe in the shoreline setback area, and it will not have any impacts to coastal resources or recreational areas. The Project does not involve any shoreline hardening structures. Public access to the shoreline will not be impacted by the Project. Views of the proposed vertical structures (i.e., stadium lighting and overhead electrical lines) will be obstructed by existing landscaping at the project site and the visual impact of the proposed lighting will be mitigated with the use of downcast lighting systems. For these reasons, the Project is consistent with the Kauai County General Plan.

4.4. Kauai County Comprehensive Zoning Ordinance

Most of the Project is within the State Conservation land use district, and are not subject to County ordinance. However, a portion of the facility access road on TMK (4)1-2-002:036 is located within the County Agricultural zoning district. As such, a portion of the proposed overhead electrical line extension is located within the County Agricultural zoning district.

Objectives of the Agricultural zoning district include the following:

- (a) *To protect the agriculture potential of lands within the County of Kauai to insure a resource base adequate to meet the needs and activities of the present and future.*
- (b) *To assure a reasonable relationship between the availability of agriculture lands for various agriculture uses and the feasibility of those uses.*

(c) To limit and control the dispersal of residential and urban uses within agricultural lands.

Comment:

The proposed overhead lines will be located on the existing access road. The road provides access to the KRP and the Kekaha landfill, and has limited potential for agricultural development. As such the Project will not limit the potential for any agricultural uses. The Project supports existing uses at the KRP and will not promote the dispersal of residential and urban uses.

4.5. State Coastal Zone Management Program

The State Coastal Zone Management (CZM) program, established pursuant to Chapter 205A, HRS, as amended, is administered by the State Office of Planning. The program provides for the beneficial use, protection, and development of the State's coastal zone. Relevant objectives and policies as outlined in §205A-2, HRS include the following:

§205A-2 Coastal zone management program; objectives and policies.

(b) Objectives

(1) Recreational resources

(A) Provide coastal recreational opportunities accessible to the public.

(2) Historic Resources

(A) Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

(3) Scenic and open space resources:

(A) Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

(4) Coastal ecosystems;

(A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

(6) Coastal hazards;

(A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

(9) Beach protection;

(A) Protect beaches for public use and recreation.

(10) Marine resources;

(A) Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

(c) Policies

(1) Recreational Resources

- (B) *Provide adequate, accessible, and diverse recreational opportunities in the coastal management area by:*
 - (i) *Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*
 - (iii) *Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*
- (3) *Scenic and open space resources;*
 - (B) *Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*
 - (C) *Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources;*
- (4) *Coastal Ecosystems*
 - (C) *Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;*
- (6) *Coastal hazards;*
 - (B) *Control development in areas subject to storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;*
 - (C) *Ensure that developments comply with requirements of the Federal Flood Insurance Program*
- (9) *Beach protection;*
 - (A) *Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;*
- (10) *Marine Resources;*
 - (A) *Ensure that the use and development of marine and coastal resources area ecologically and environmentally sound and economically beneficial.*

Through the CZM program and pursuant to the Chapter 205A, HRS, all counties have enacted ordinances establishing a SMA. Development within the SMA, including most development proposed by the State, requires a SMA permit from the appropriate County. On Kauai, the SMA permit is administered by the County Planning Department. County rules regarding development within the SMA are outlined in the *Special Management Area Rules and Regulations, County of Kauai, State of Hawaii* (Kauai County, 2011)

Comment:

The Project will not restrict public access to any shoreline or recreational areas. The proposed improvements will be located outside of the shoreline setback area, such that they will not be subject to coastal erosion or tidal forces, and will not impact any coastal resources. The Project will comply with

all Federal standards for development within the flood zone. A biological monitor will survey the project site prior to construction to ensure no endangered or threatened species are present in areas to be disturbed. Additionally, downcast lighting is proposed to mitigate potential impacts to fledgling seabirds or nesting turtles. An AIS will be submitted to the SHPD for review to ensure that the Project does not have any significant adverse impacts on historic or cultural resources.

5. ALTERNATIVES TO THE PROPOSED ACTION

5.1. No-Action Alternative

Under the no-action alternative, proposed lighting and electrical improvements will not be constructed at the KRP. GIRA would likely continue to use the KRP as it has in the past for its monthly race events.

GIRA would continue to use portable-generator powered lighting between the months of March and September, when it holds its events during the evening. The October and November events would continue to be held during daylight hours, with no lighting required. The park would continue to be closed between the months of December and February.

The Project is preferred to the No-Action Alternative because the Project would improve visibility for race participants and spectators during racing events. Increased visibility will improve safety for event participants. Connecting to the KIUC electrical distribution system would reduce the need for portable generators, reducing fuel usage and cost. It will also reduce exhaust and noise emissions from portable generators during events. Additionally the proposed downcast lighting would reduce the amount of light projected toward the shoreline.

5.2. Alternative Site

The Project improvements are tied to the existing KRP facility and there are no other similar facilities on-island. As such, an alternative site option would suggest a new site for the race track facility. Due to the existing site being near the coast line, an alternate site could be located further off-shore and outside of the conservation, flood, and erosion prone areas. However, the Project is preferred to an alternative site because of the prohibitive costs of developing an alternative site. Additionally, the environmental impacts of constructing a new facility would be greater than improving the existing KRP facility.

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6. REQUIRED PERMITS AND APPROVALS

The following permits and approvals are anticipated for the Project:

6.1. Federal Government of the United States of America

None

6.2. State of Hawaii

Conservation District Use Permit (Department Permit)
National Pollutant Discharge Elimination System Permit

6.3. County of Kauai

Shoreline Setback Application
Special Management Area Use Permit

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7. PRE-ASSESSMENT CONSULTATION

21 agencies, organizations, and individuals (indicated in ***bold-italic***) were consulted during the preparation of the Draft EA. A total of seven of these parties formally replied during the pre-assessment period, as indicated by the “√” below. Six agencies sent unsolicited comments, as indicated by the “X” below.

Federal Agencies

- √ ***Department of the Interior, U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office***
National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Pacific Islands Regional Office

State of Hawaii

- √ ***Department of Health, Clean Air Branch***
- √ ***Department of Health, Clean Water Branch***
Department of Health, Environmental Planning Office
Department of Health, Indoor and Radiological Health Branch
Department of Land and Natural Resources
- X Department of Land and Natural Resources, Division of Aquatic Resources
- X Department of Land and Natural Resources, Division of Boating and Ocean Recreation
- X Department of Land and Natural Resources, Division of Forestry and Wildlife
- X Department of Land and Natural Resources, Engineering Division
- X Department of Land and Natural Resources, Land Division
- X Department of Land and Natural Resources, Office of Conservation and Coastal Lands
- √ ***Department of Land and Natural Resources, State Historic Preservation Division***
Department of Transportation, Highways Division
- √ ***Office of Hawaiian Affairs***

Kauai County

- √ ***Division of Public Works, Solid Waste Division***
Kauai Fire Department
- √ ***Kauai County Planning Department***
Kauai Police Department.
Office of the County Clerk, Council Services Division

Public Representatives

- Representative Dee Morikawa***
- Senator Ronald D. Kouchi***

Native Hawaiian Organizations

Association of Hawaiian Civic Clubs

Friends of Iolani Palace

Hui Malama I Na Kupuna O Hawaii Nei

Kakoo Oihi

Copies of all comment and response letters are provided in **Appendix H**.

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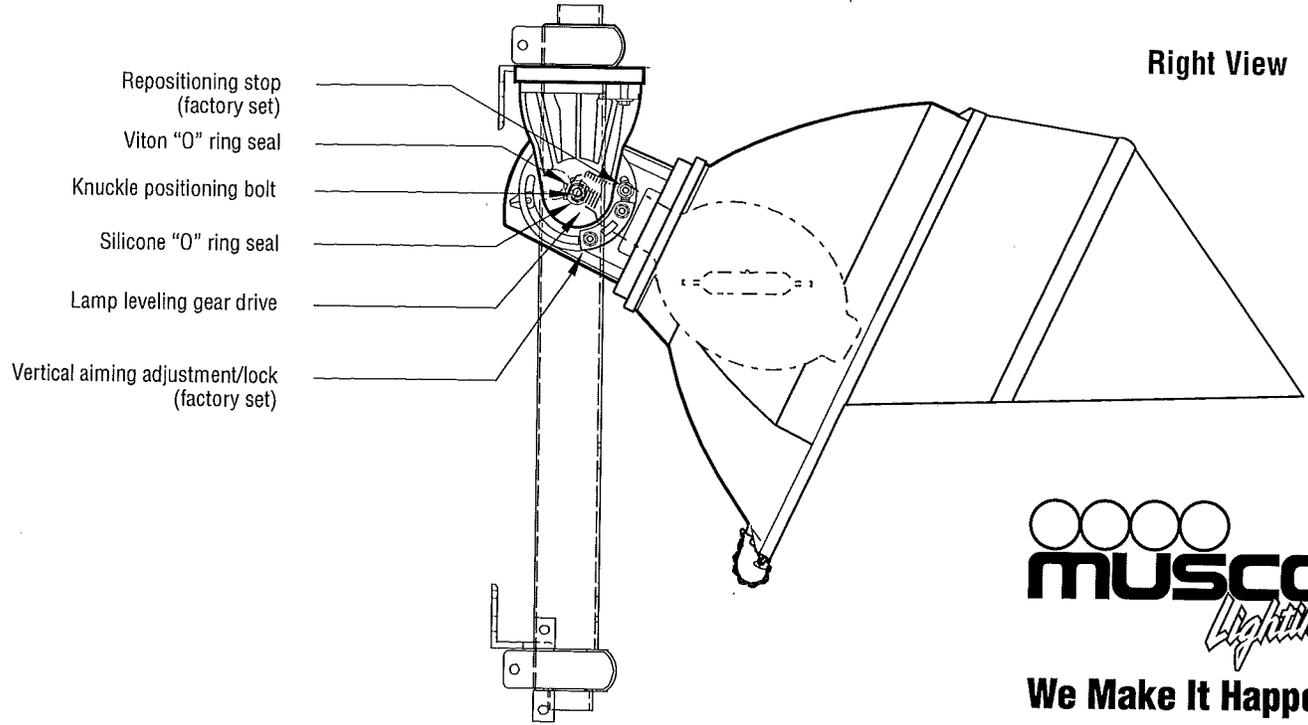
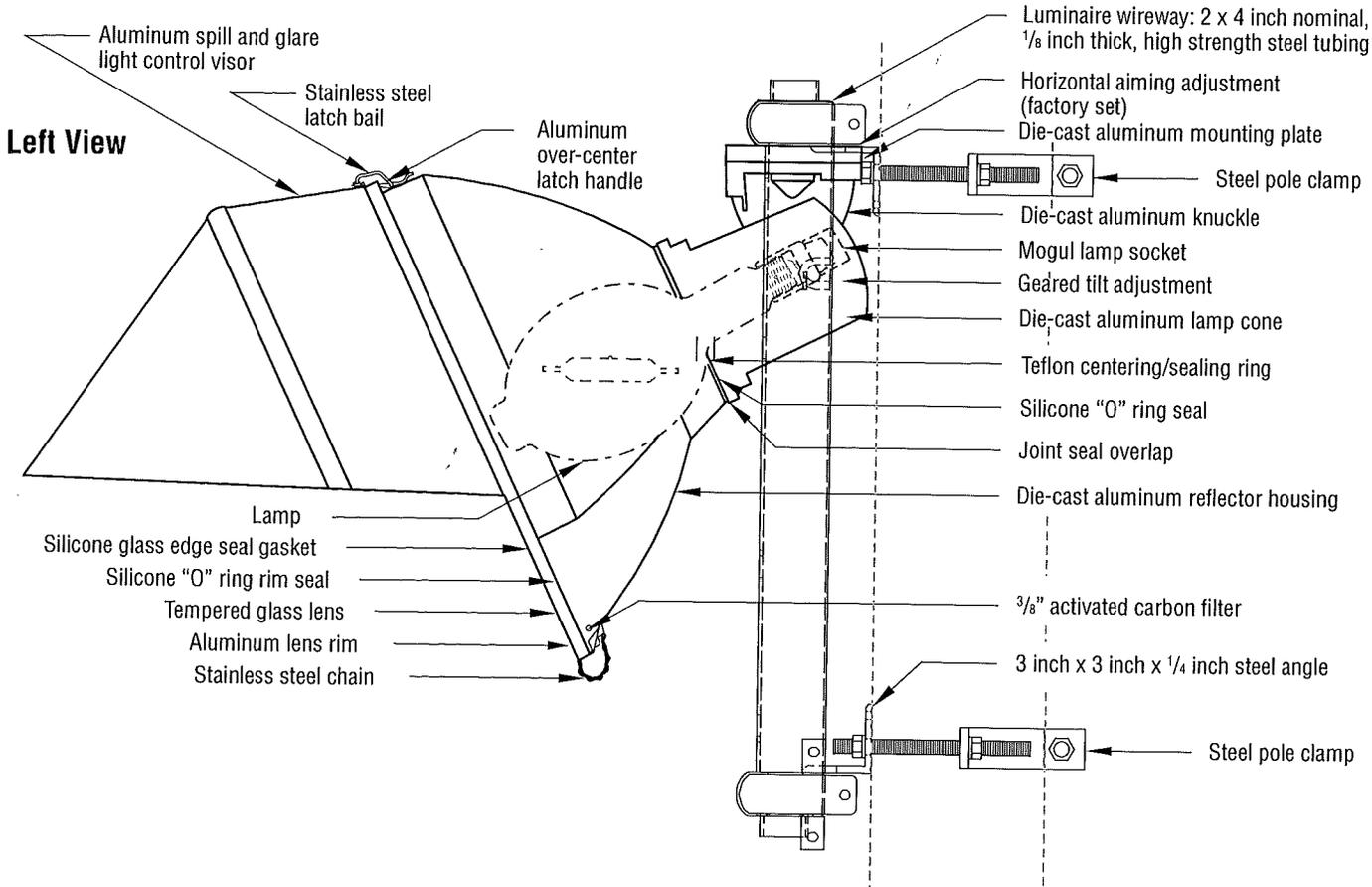
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**APPENDIX A
Downcast Lighting**

Luminaire Assembly

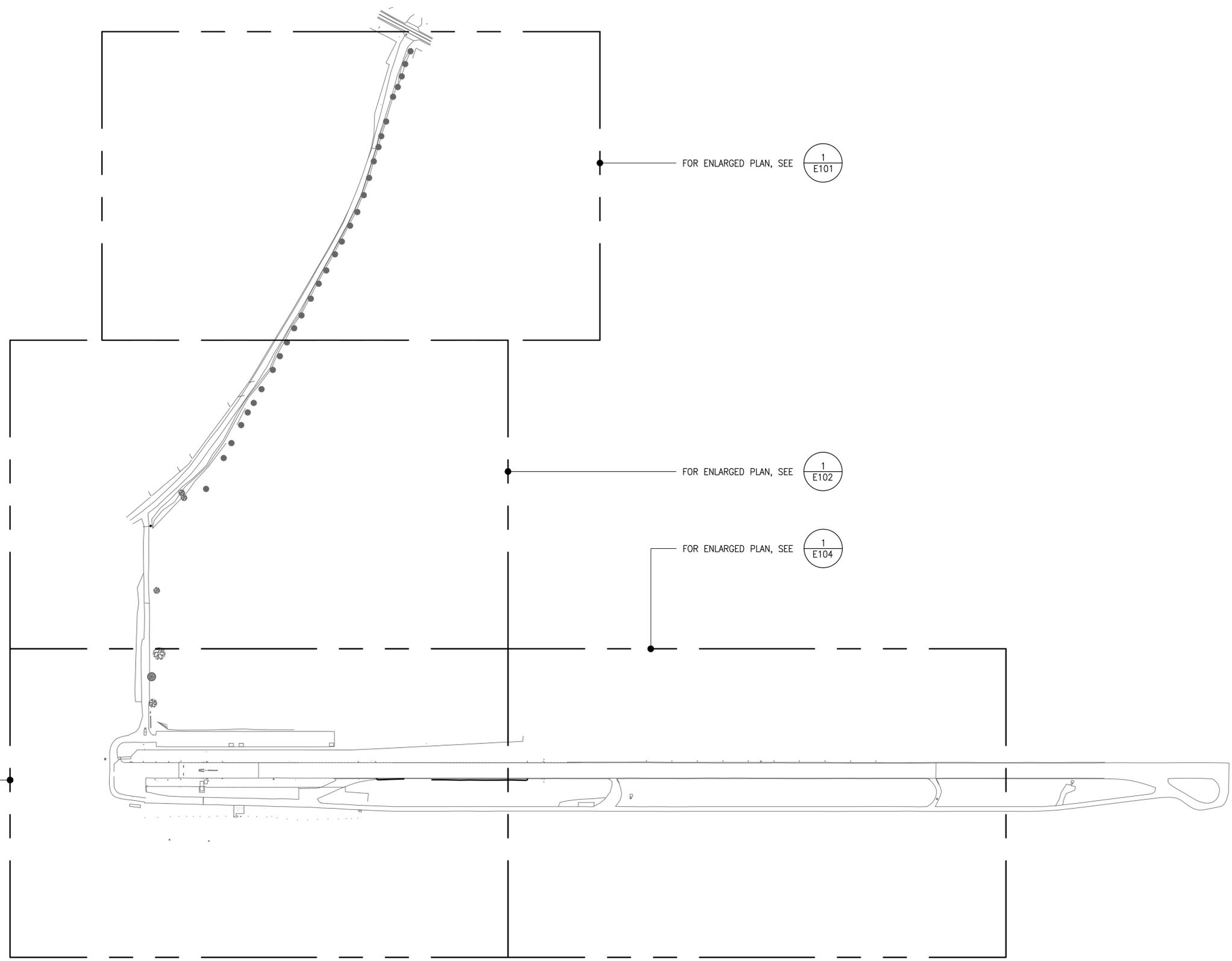


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**APPENDIX B
ELECTRICAL SITE PLAN**



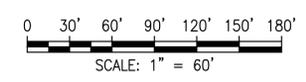
FOR ENLARGED PLAN, SEE 1
E101

FOR ENLARGED PLAN, SEE 1
E102

FOR ENLARGED PLAN, SEE 1
E104

FOR ENLARGED PLAN, SEE 1
E103

1
E100 **ELECTRICAL SITE PLAN**
SCALE: 1"=60'-0"



REVISIONS	BY

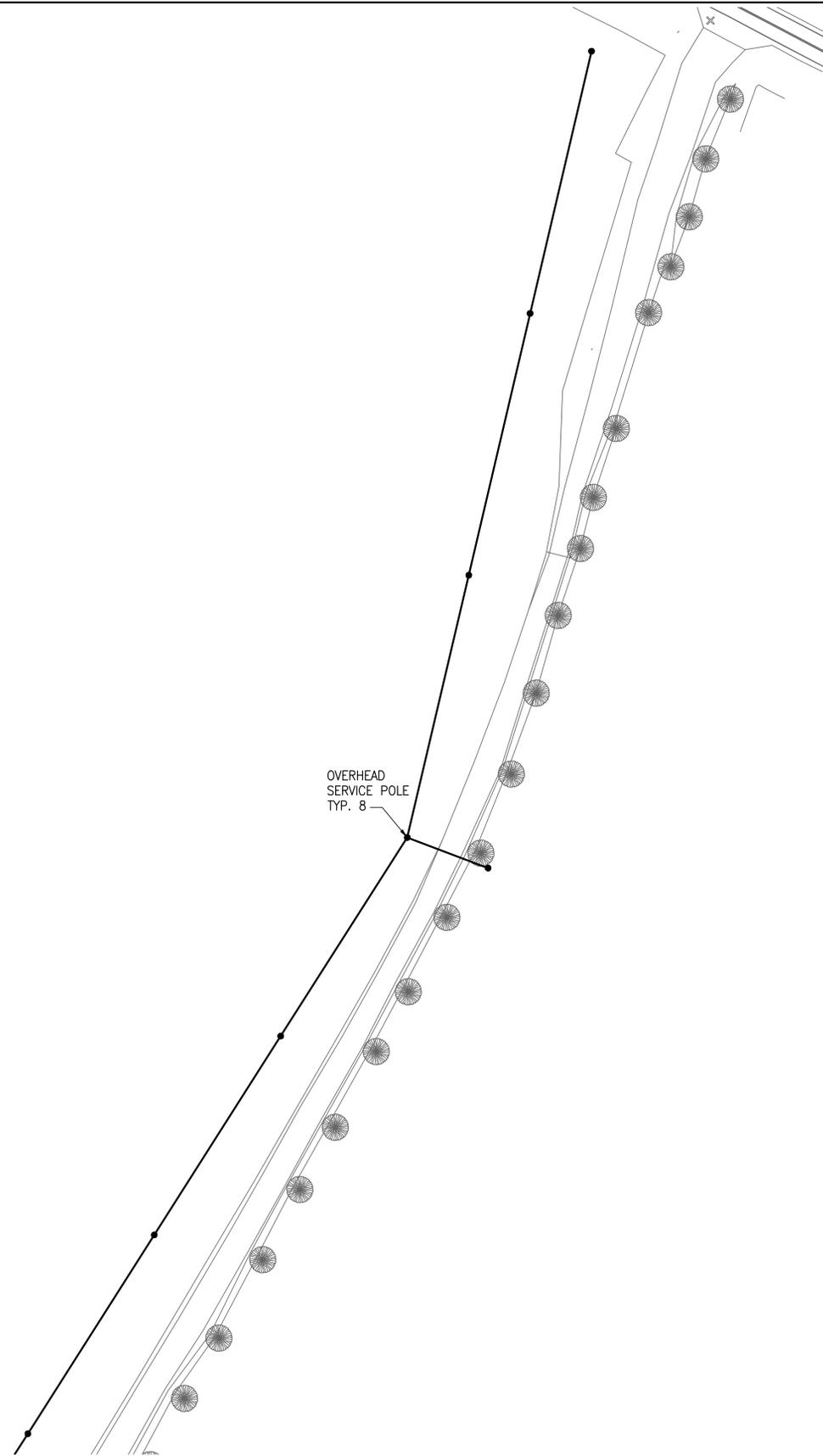
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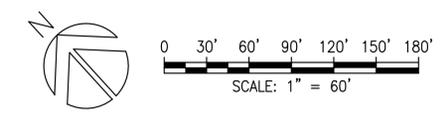
MECHANICAL • ELECTRICAL • FIRE PROTECTION
824 Fort Street 4th Floor, Honolulu, Hawaii 96813
Phone: (808) 521-3773 Fax: (808) 521-3963

ELECTRICAL SITE PLAN

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Date
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1
E101 ENLARGED ELECTRICAL PLAN - 1
SCALE: 1"=60'-0"



REVISIONS	BY

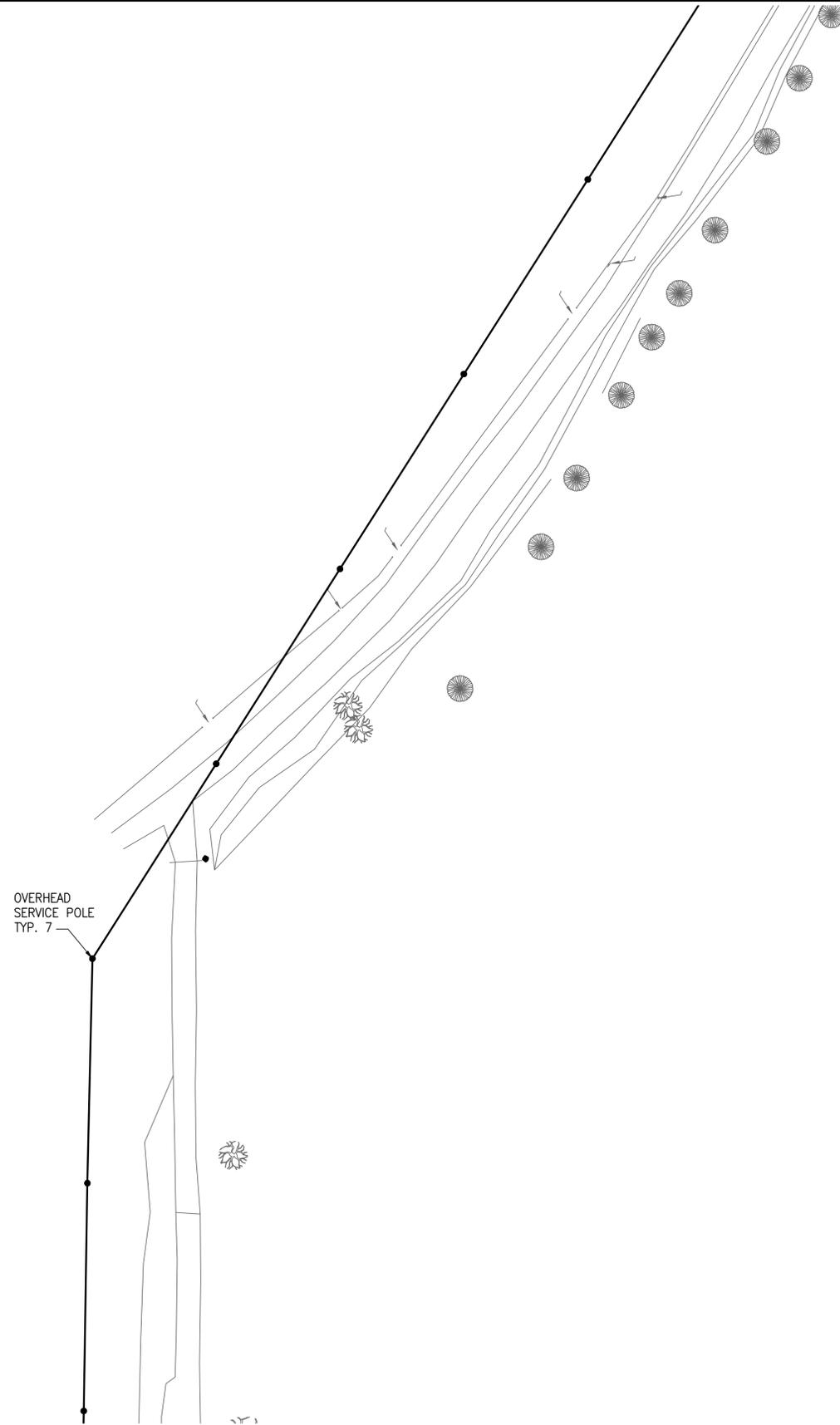
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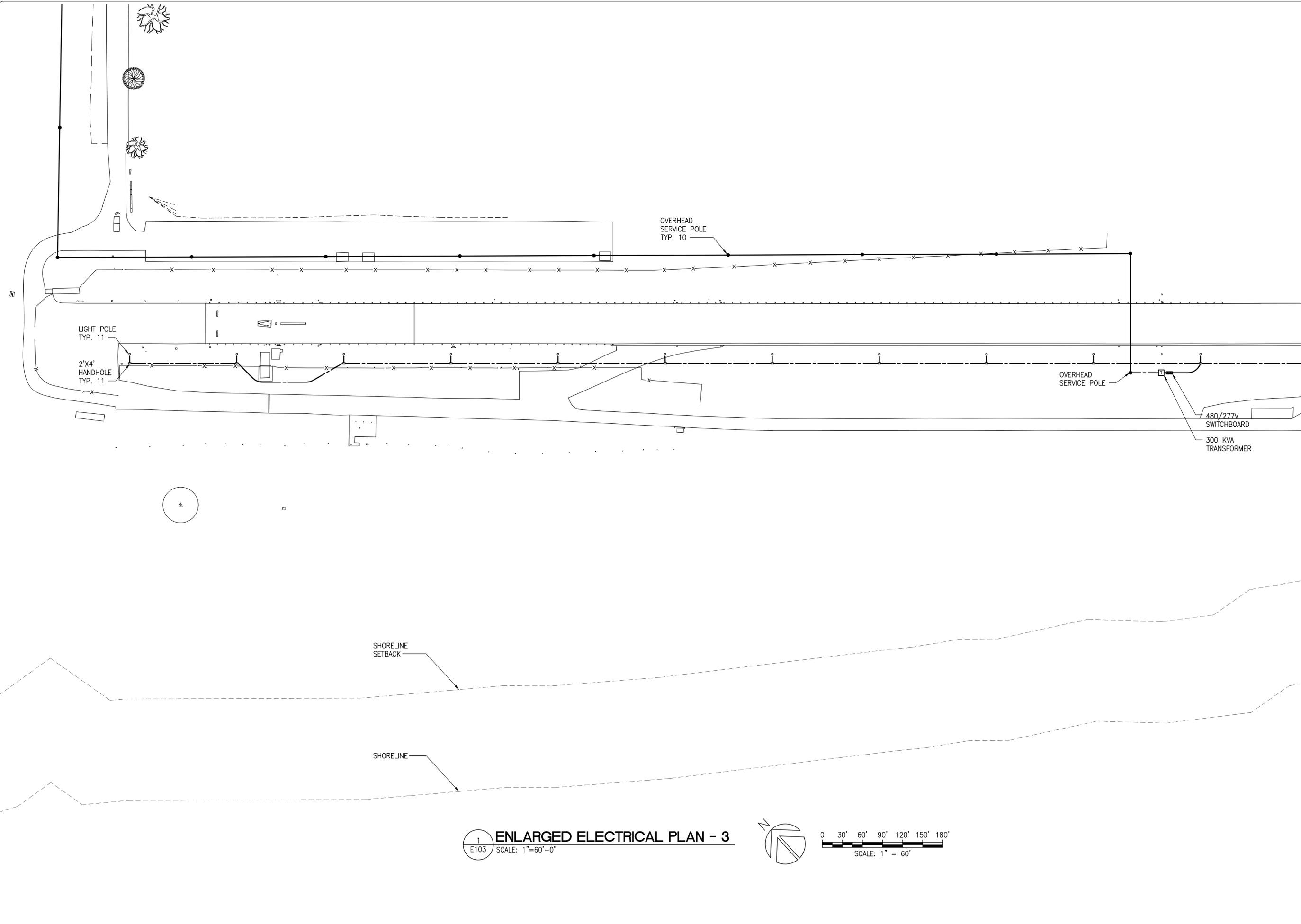
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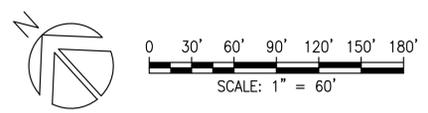
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1
E103 **ENLARGED ELECTRICAL PLAN - 3**
SCALE: 1"=60'-0"



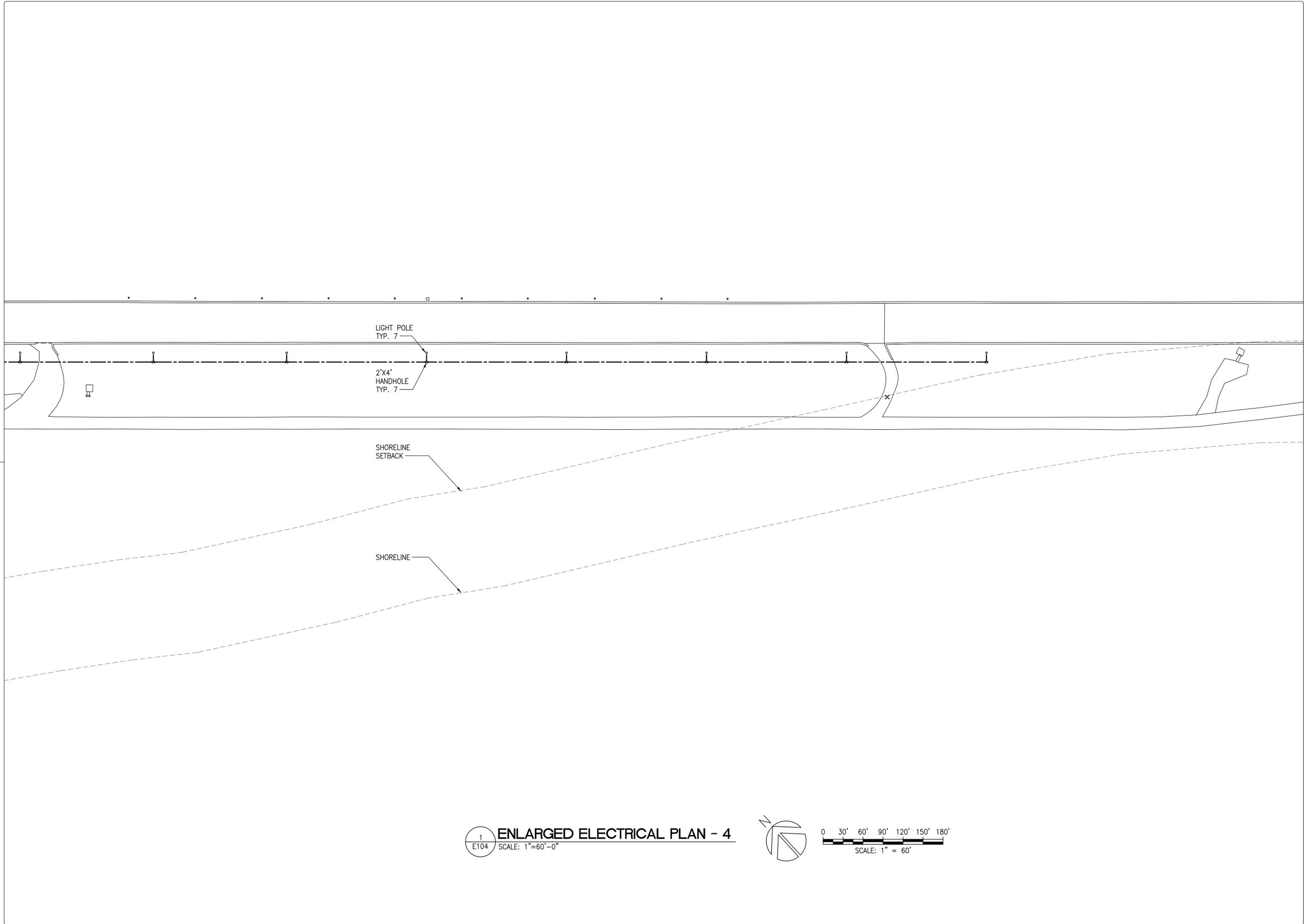
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ELECTRICAL SITE PLAN

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E104
Of Sheets

**APPENDIX C
TOPOGRAPHIC SURVEY**

KEKAHA REFUSE STATION

TMK: (4) 1-2-02: 9

TMK: (4) 1-2-02: 35

Tax Map Key: (4) 1-2-02: 40
PARCEL 40

Tax Map Key: (4) 1-2-02: 36
PARCEL 2

KAUMUALI'I HIGHWAY

SEE ENLARGEMENT "A" SHEET 2

SEE ENLARGEMENT "B" SHEET 2

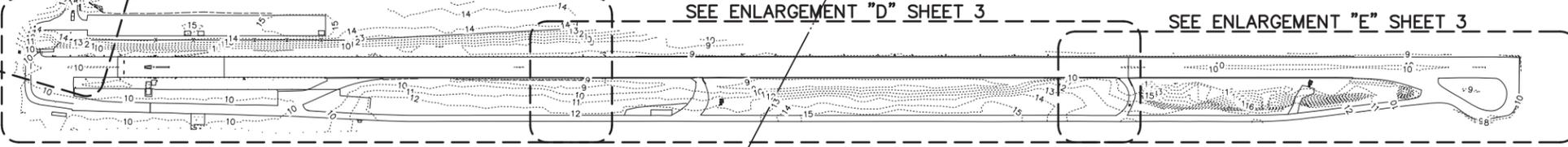
SEE ENLARGEMENT "C" SHEET 3

SEE ENLARGEMENT "D" SHEET 3

SEE ENLARGEMENT "E" SHEET 3

TRUE NORTH

205.20' 1754.93



1/2" KSP-1
ELEV=14.35

109'05"10" 2045.95

298'04"40" 2304.18

48'14" 2450.00
2029.11

101'43"15" 3025.63

320'01"50" 1225.37

290'05"20" 1000.00

7.30.00 23'19"



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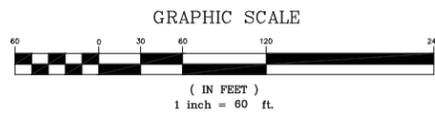
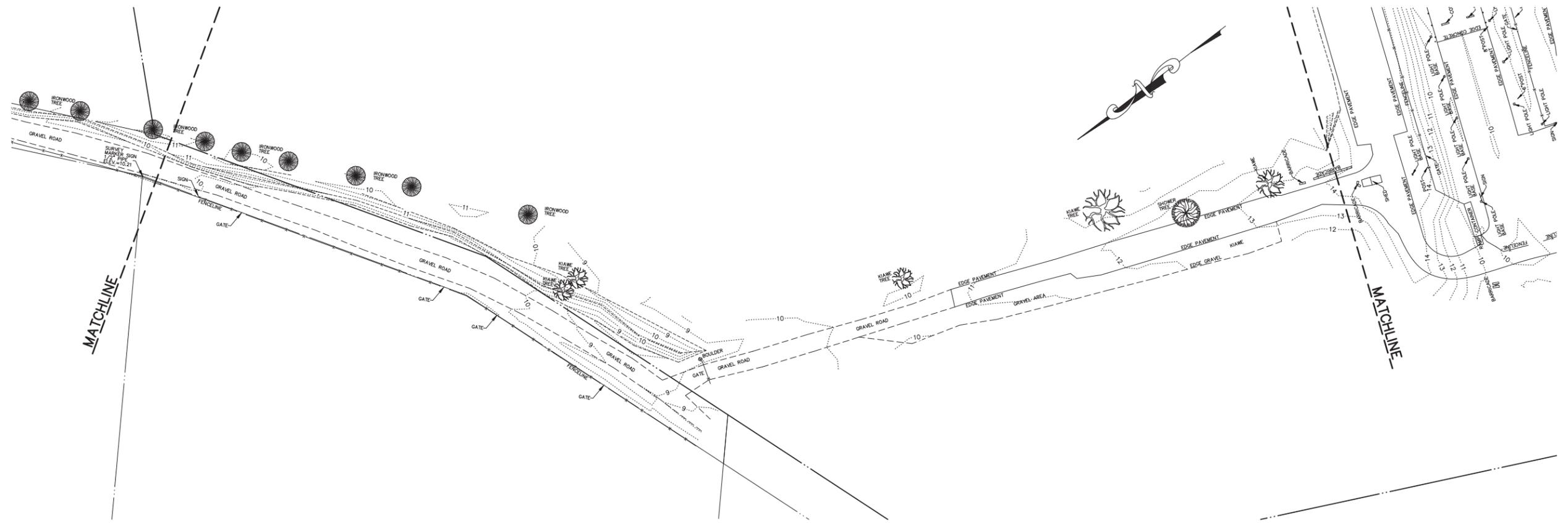
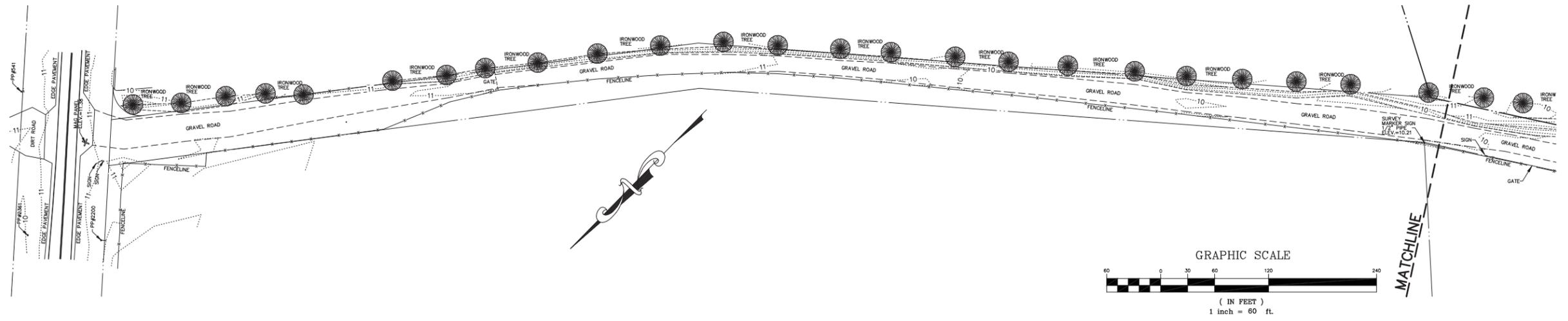
Signature
ESAKI SURVEYING & MAPPING, INC.
EXPIRES: APRIL 30, 2016

TOPOGRAPHIC MAP
SHOWING MĀNĀ DRAG STRIP
AT KEKAHA, WAIMEA, KAUA'I, HAWAII
Tax Map Key: (4) 1-2-02: 36 & 40
Prepared for: Limtiaco Consulting Group
Date: February 6, 2015
SHEET 1 OF 3

GRAPHIC SCALE



(IN FEET)
1 inch = 200 ft.

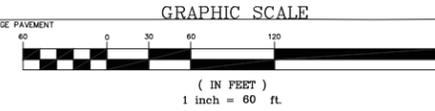
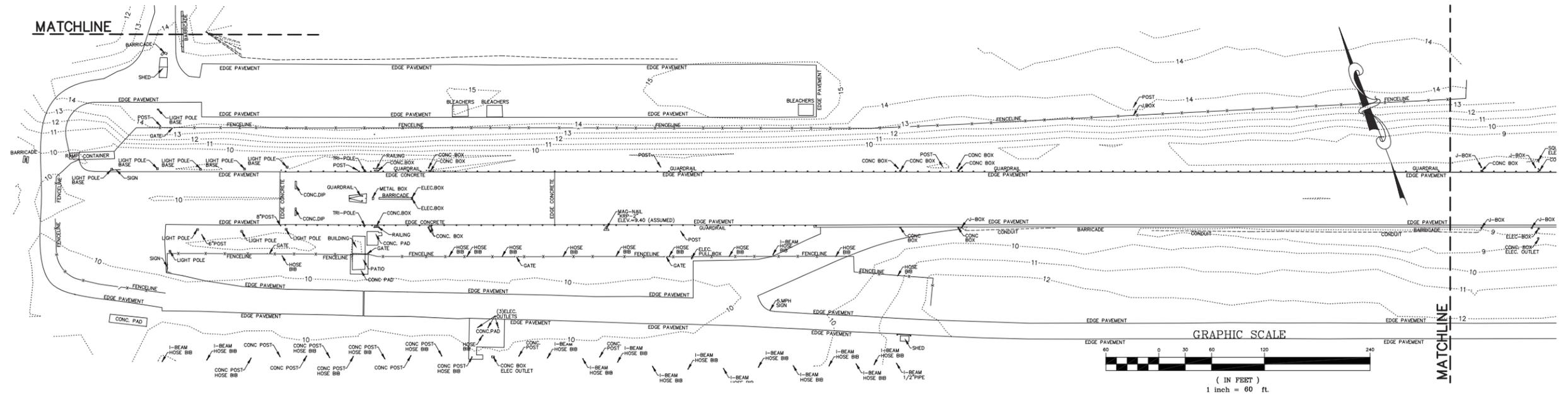


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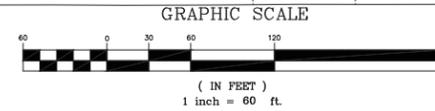
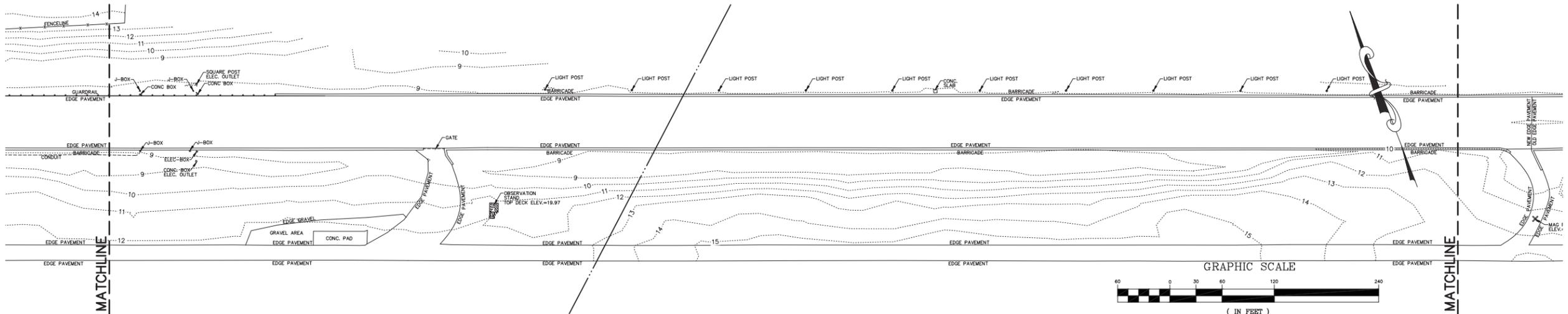
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 ESAKI SURVEYING & MAPPING, INC.
 EXPIRES: APRIL 30, 2016

TOPOGRAPHIC MAP
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 AT KEKAHA, WAIMEA, KAUA'I, HAWAII
 Tax Map Key: (4) 1-2-02: 36 & 40
 Prepared for: Limtiaco Consulting Group
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 SHEET 2 OF 3

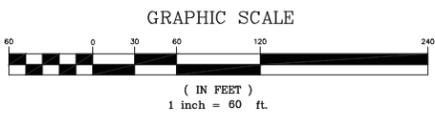
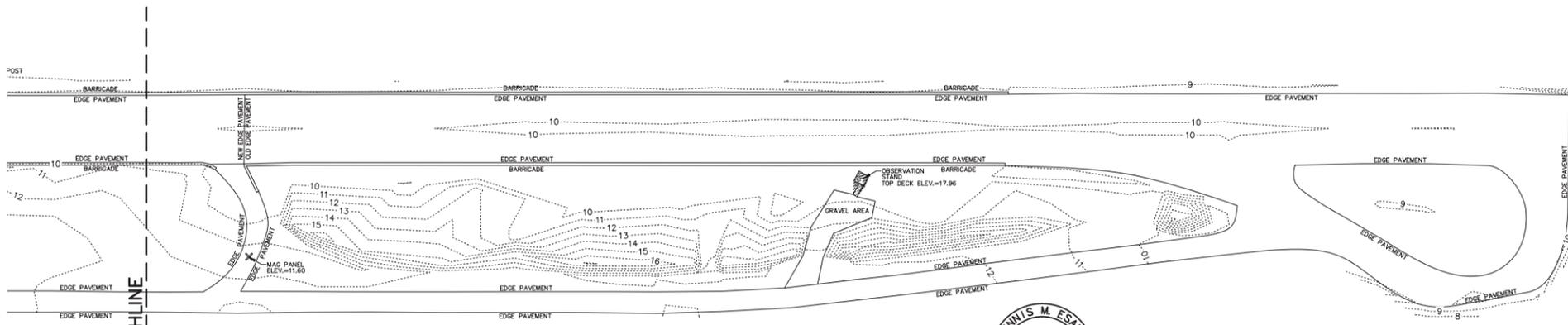
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TOPOGRAPHIC MAP
SHOWING MĀNĀ DRAG STRIP
AT KEKAHA, WAIMEA, KAUA'I, HAWAII
Tax Map Key: (4) 1-2-02: 36 & 40
Prepared for: Limtiaco Consulting Group
Date: February 6, 2015
SHEET 3 OF 3

**APPENDIX D
MANA DRAG RACING STRIP COASTAL ASSESSMENT**

Mana Drag Racing Strip Coastal Assessment

Kekaha, Kauai, Hawaii

April 2015



Prepared for:

The Limtiaco Consulting Group, Inc.
1622 Kanakanui Street
Honolulu, HI 96817

Prepared by:

Sea Engineering, Inc.
Makai Research Pier
41-305 Kalaniana'ole Hwy
Waimanalo, HI 96795



Job No. 25464

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1. INTRODUCTION

The Mana Drag Racing Strip (“racetrack”) is located on the southwest side of the island of Kauai, between Kekaha and Kokole Point. The race track is located along Kekaha Beach, a 2-mile reach connecting Barking Sands beach at Kokole Point on the west to Kekaha to the east. The racetrack shoreline covers approximately 5,000 feet along Kekaha Beach. See Figure 1-1 and Figure 1-2 for location maps and regional views.

State-funded improvements to the racetrack, including more than 2,500 feet of repaving, were completed in 2014. Additional improvements are slated for the racetrack in the present project. These improvements, which include installation of new guardrails and permanent lighting, require an Environmental Assessment (EA). In support of the EA, Sea Engineering has performed a coastal assessment of the project shoreline. This coastal assessment addresses Office of Environmental Quality Control (OEQC) guidelines for assessing shoreline alteration projects. Work tasks included:

- Site visit to investigate shoreline processes and existing conditions.
- Measurement of typical profiles across the shoreline and beach to illustrate typical conditions.
- Description of the oceanographic and coastal setting, using available information.
- Evaluation of possible coastal hazards.
- Description of the shoreline condition and the ongoing shoreline processes, including waves, currents, and sediment movement.
- Historical shoreline analysis of coastal erosion/accretion patterns and shoreline changes at the project site using aerial photographs.
- Discussion of possible coastal impacts of proposed improvements.
- Preparation of a report summarizing the results of the study.

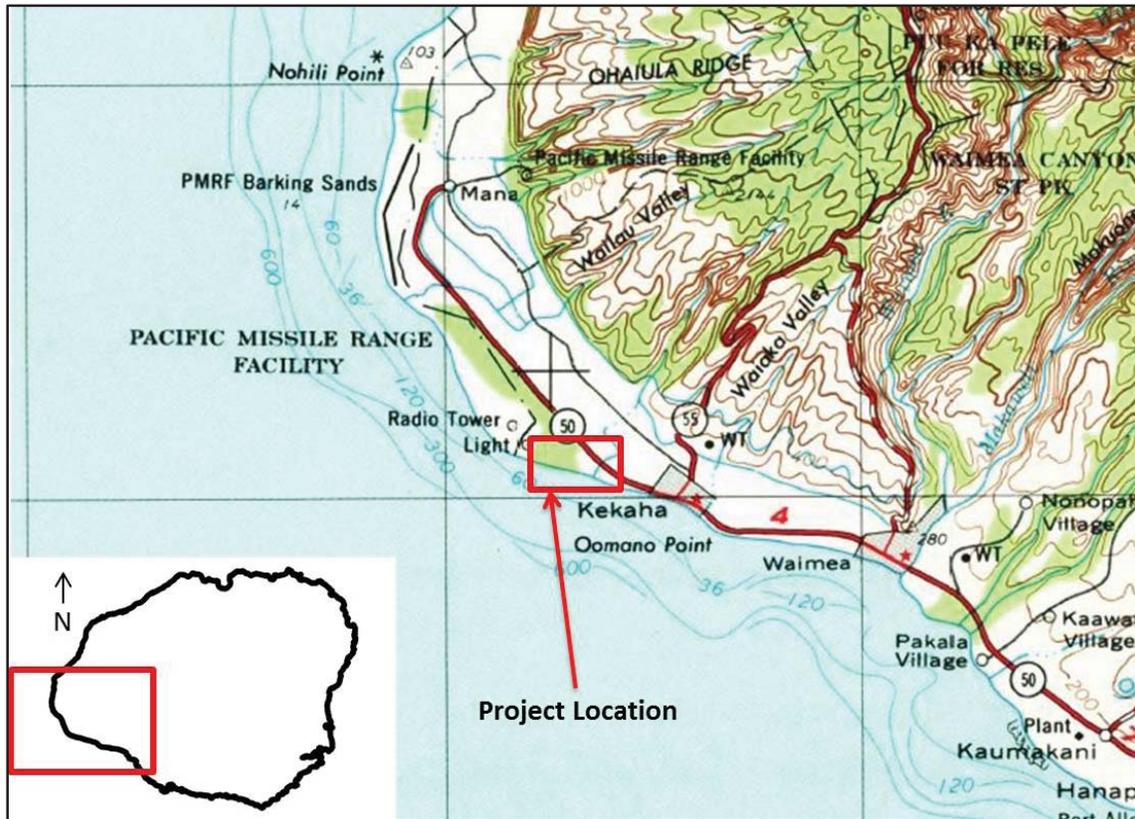


Figure 1-1 Project location on the island of Kauai

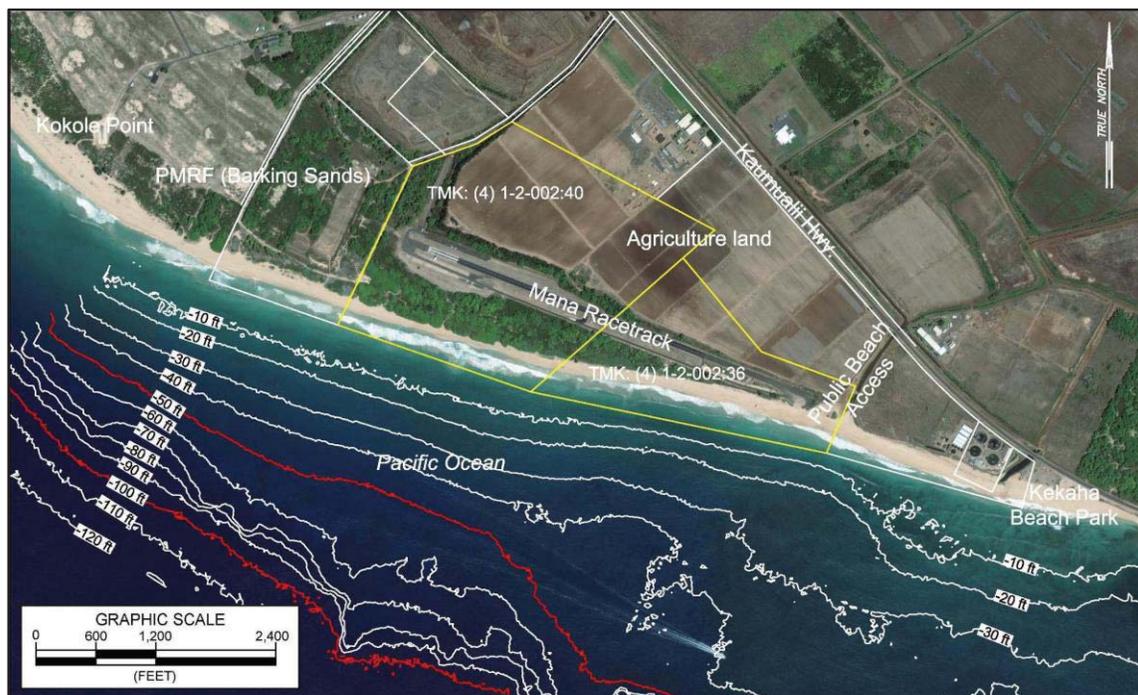


Figure 1-2 Regional view of Mana Racetrack area

2. PROJECT SITE DESCRIPTION

2.1 Regional Description

The Mana racetrack is located on two parcels covering approximately 200 acres along the shoreline of the Mana Coastal Plain. The site is bordered by the Pacific Missile Range Facility (PMRF) to the west and a drainage canal to the east. The racetrack facilities and stationing for location of project features are shown on Figure 2-1. Facilities include more than 4,000 feet of paved track, a pit area, two turnouts, the end-of-track turnaround, and a return road. A spectator area is located inshore of the track. The cars race from west to east. Races are typically held one Saturday per month from March through November. Additional races are held around the July 4th and Labor Day weekends.

Esaki Surveying & Mapping, Inc., performed a shoreline survey January 23, 2015, and a topographic survey of the facility on January 27, 2015. The topographic survey shows that the racetrack is located at an approximate elevation of +10 ft msl and the track is situated between mounds on either side. The mounds have elevation in excess of +15 ft msl. The shoreline consists of a continuous sandy beach, and the shoreline is slightly convex with a bend near Sta. 2300. The backshore between the beach and racetrack is heavily vegetated along most of the site. The vegetated backshore is more than 400 feet wide toward the west end, diminishing to no vegetation at the east end. The backshore was noted to be abundant with the invasive kiawe tree, a particularly thorny tree that made accessing the backshore practically impossible in places. A few paths allowed access through the backshore between the racetrack and the beach. The backshore consisted of a dune system that was evident by the higher elevation of this area, with the dunes running alongshore. Much of the dune system, however, was obscured by the thick vegetation until the eastern end, where the backshore was narrower and the vegetation less dense.

The Pacific Island Ocean Observing System's (PacIOOS) mapping program, Voyager, presents the National Oceanographic and Atmospheric Administration's (NOAA) benthic maps. These maps show both geomorphology extents and biology for the Kekaha area. The offshore area fronting the project site is characterized by sand and "pavement," which refers to low-relief, solid carbonate rock. The nearshore bottom fronting the subject property is characterized on these maps as 'pavement' with patches of 10-50% Turf Algae and 50-90% Turf Algae. The maps indicate that no 'Live Coral Reef' is present in the sand and 'pavement' directly offshore of the project area.

Proposed improvements include installation of permanent lighting along the south side of the track. The location of the proposed improvement are shown in red in Figure 2-1.

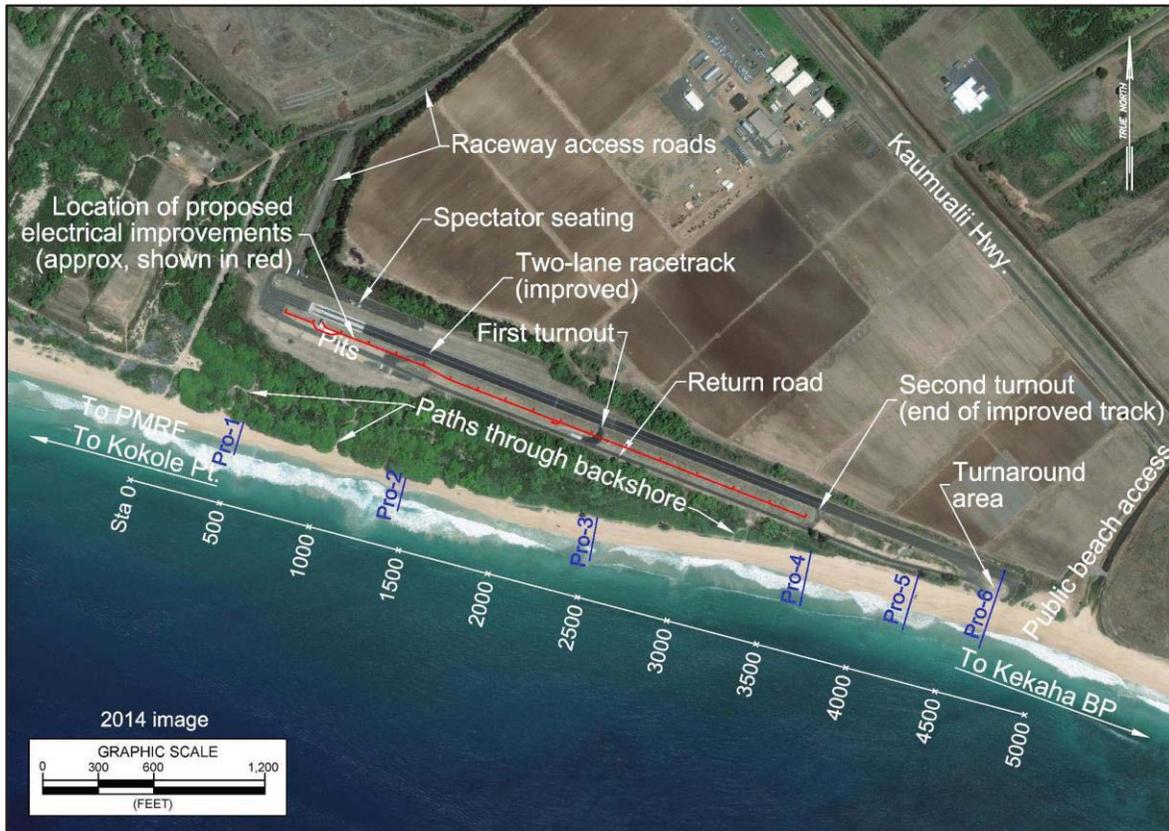


Figure 2-1 Site map of Mana Racetrack, proposed improvements shown in red

2.2 Shoreline Description

Coastal engineers from Sea Engineering, Inc., performed an assessment of the shoreline on March 5, 2015. The weather was partly sunny with side shore breezes that changed from easterly to westerly during the site visit. Tidal elevation rose from about -0.8 ft msl to about +0.5 ft msl over course of the afternoon site visit.

The racetrack shares its western boundary at Sta. 0 with PMRF. The backshore in this area consists primarily of low-lying vegetation, notably kiawe, along with beach naupaka, beach vitex (pohinahina), beach morning glory (pohuehue), seashore rushgrass (akiaki), and other coastal plants (Figure 2-2). The vegetation covers a dune system between the racetrack and the beach throughout much of the project site. The beach had a low scarp located at the extent of wave uprush, most likely from the previous high tide (Figure 2-3). Tire and other tracks, along with pohuehue extending onto the beach, suggested that the wave uprush did not recently reach the vegetation line. This condition, however, changed from about Sta. 250 to Sta. 1000, a reach where signs of wave uprush to or into the vegetation were observed (Figure 2-4 through Figure 2-6). Intermittent cutouts and paths into the vegetation were noted, and the scarp was noted to increase in height from about 18 inches at Sta. 550 to about 24 inches at Sta. 800. A path through the backshore from the beach toward the racetrack was noted at Sta. 1000. The opening at the vegetation line had 24 to 36 inch high scarps on either side, and the scarp on the east side

of the path was noted as becoming populated with akiaki grass and pohuehue (Figure 2-7). Fresh vehicle tracks were noted along the base of the scarp through this area.

Beach profile Pro-1 was measured at Sta. 500. The profile, shown as Figure 2-8, extended from the vegetation line to beyond the beach toe. The vegetation line elevation was +9.7 ft msl and the beach berm was measured to be 58 feet wide measured from the vegetation line to the top of the foreshore slope. An inshore berm/scarp was noted about 30 feet seaward of the vegetation line. The beach foreshore (face) was noted to contain cusps, and the foreshore slope was measured to be 1v:8.5h.

The proposed improvements are set back approximately 640 feet from the vegetation line at Sta. 500.



Figure 2-2 Typical backshore at Sta. 0, consisting of a variety of low-lying coastal vegetation



Figure 2-3 View of beach looking east from Sta. 0



Figure 2-4 View of vegetation line facing west at Sta. 250



Figure 2-5 Recent inundation of vegetation at Sta. 600



Figure 2-6 Typical view of beach facing east at Sta. 800



Figure 2-7 East side of Sta. 1000 becoming populated with akiaki grass

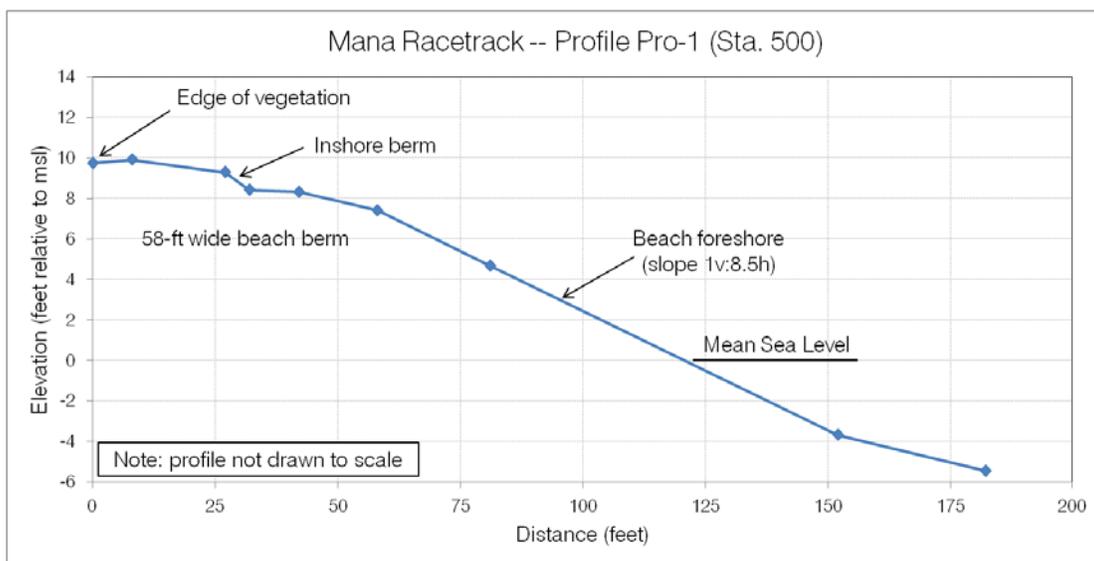


Figure 2-8 Profile Pro-1 at Sta. 500

The scarp height noted around Sta. 1000 decreased to 12 to 18 inches toward Sta. 1200. These general conditions extended to Sta. 1300, where the beach berm was noted to begin increasing in

width. A 12 to 24-inch high erosion scarp was noted about 10 feet into the kiawe between Sta. 1300 and Sta. 1600 (Figure 2-9). Kiawe and akiaki grass were noted in the backshore.

Profile Pro-2, measured at Sta. 1450, showed the scarp in the vegetation to be at elevation +11 ft (Figure 2-10). The beach berm was measured to be 58 feet wide and had a slight trough, likely remaining from the most recent erosion/accretion cycle. The beach foreshore slope was measured to have increased slightly to 1v:7.5h compared to Pro-1.

The proposed improvements are set back approximately 600 feet from the vegetation line at Sta. 1450.



Figure 2-9 Recent wave uprush into vegetation at Sta. 1450

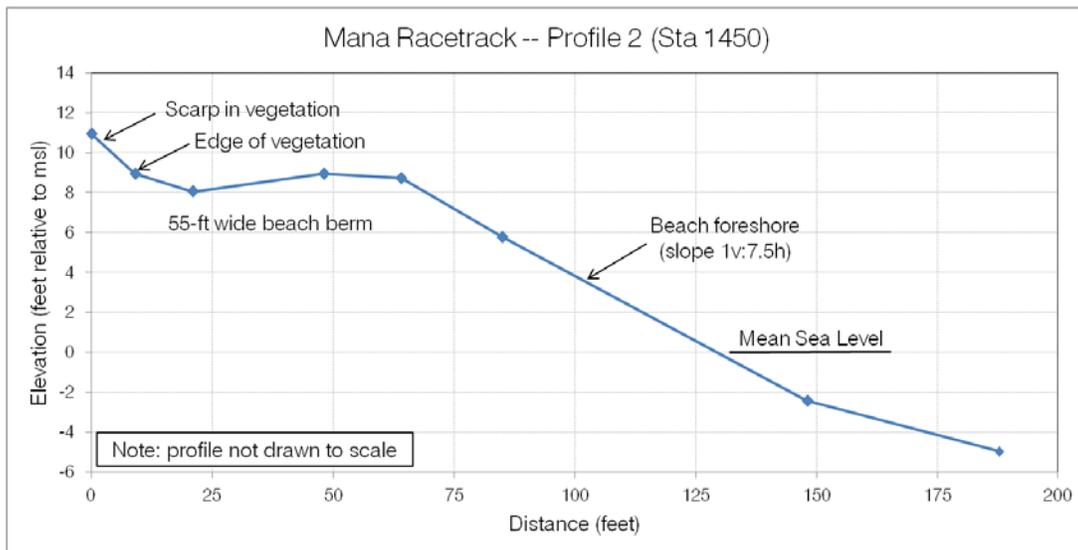


Figure 2-10 Profile Pro-2 at Sta. 1450

Erosion of the dune face became evident, and a small vegetated outcrop at Sta. 1700 had a 4-foot high scarp, the highest seen thus far in the survey (Figure 2-11). Collapsed, dead vegetation was noted on the scarp. While this scarp existed for only a short distance, it was an indicator that the backshore elevation was increasing relative to the beach berm. The backshore began to show a greater diversity of plants, including the abundance of the viney coastal plant pohinahina between Sta. 1800 and Sta. 1900 (Figure 2-12). A strip of vegetated beach berm was observed between Sta. 2000 and Sta. 2000; this strip was composed primarily of pohuehue and pohinahina, and was separated from the backshore vegetation by vehicle tracks (Figure 2-13). The occurrence of vehicle tire tracks suggested that there had been no recent wave inundation in this area.

Profile Pro-3 was measured at Sta. 2500, about 100 feet to the east of an ironwood tree growing near the vegetation line. The elevation of the vegetation line was measured to be +10.7 ft msl, and the beach berm was measured to be 140 feet wide, significantly wider than at the two profiles to the west. Figure (overview) indicates that the widening of the beach began around Sta. 1700. The profile showed the presence of a back berm and trough system. It is likely that the back berm represents the inshore position of the top of the beach foreshore resulting from a period of sand loss. Rapid sand accretion and beach widening could produce the trough, as overtopping would have been insufficient to deposit sand and fill the trough. This is a common feature of highly dynamic beaches.

The top of the beach foreshore had a scarp nearly 3 feet high, and below this scarp, the foreshore slope was measured to be 1v:6h, the steepest of all the profiles. The scarp was likely a transient feature that was produced during the recent low tide.

The proposed improvements are set back approximately 400 from the vegetation line at Sta. 2500.



Figure 2-11 Four-foot high scarp with collapsed, dead vegetation at STA 1700



Figure 2-12 Diverse backshore vegetation, including pohinahina at STA 1800



Figure 2-13 Vegetated strip with recent tire tracks on each side between Sta. 2100 and Sta. 2200

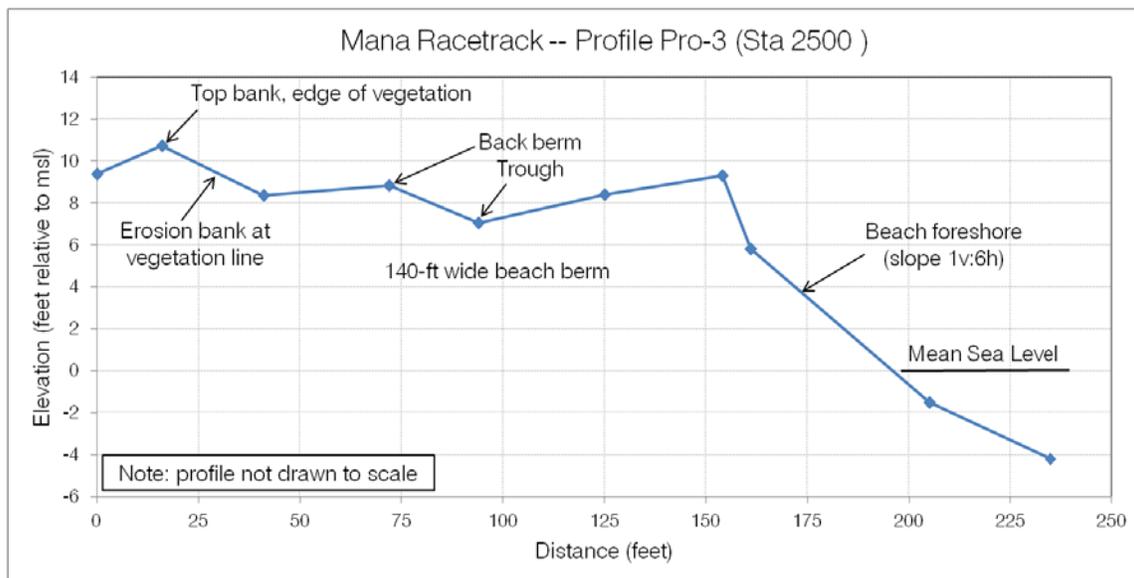


Figure 2-14 Profile Pro-3 at Sta. 2500

The wide beach berm was observed to continue east of Pro-3. The beach was noted to have a slight scarp at the top of the foreshore slope, an inner berm/trough system, and then a berm at the vegetation line. The occurrence of the inner berm/trough system, as well as the many vehicle tracks shown in Figure (Figure 2-15), suggests that this part of the beach has not recently

experienced wave inundation. A 24 to 36-inch high bank at the face of the dune was noted, transitioning into a thickly vegetated bank (Figure 2-16) and further increasing to about 48 inches in height. The areas where the bank was not vegetated appeared to be where paths lead from the beach to the backshore. The backshore was noted to be less densely vegetated and becoming narrower. Streetlights along the racetrack could be seen through an opening in the trees in Figure 2-17.

The height of the scarp at the vegetation line and dune face increased to 5 feet at Sta. 3600 (Figure 2-18), then quickly increased to 8 feet toward the east. A few scattered ironwood trees were noted in the backshore. The beach foreshore was observed to be flatter than toward the west, and the beach berm was again noted to also have many tire tracks.

Profile Pro-4 was measured at Sta. 3650 opposite the second turnout on the racetrack and the end of the improved pavement. The backshore width was about 105 feet measured from the makai side of the return road to the vegetation line. The profile shows the 6-ft high bank at the vegetation line with an elevation of +14 ft msl. The 155-ft wide beach berm contains an inner berm/trough system, with the trough more than two feet lower than the inner berm. The beach foreshore slope was measured to be 1v:8h.

The proposed improvements end at STA 3580, just west of the second turnout. The improvements at that station are approximately 190 feet inshore of the vegetation line.



Figure 2-15 Typical view looking west from Sta. 4100, vehicle tracks on beach



Figure 2-16 Vegetation line at Sta. 3000



Figure 2-17 View toward backshore at Sta. 3300; existing lighting can be seen through gap in trees



Figure 2-18 Five-foot high bank at Sta. 3600

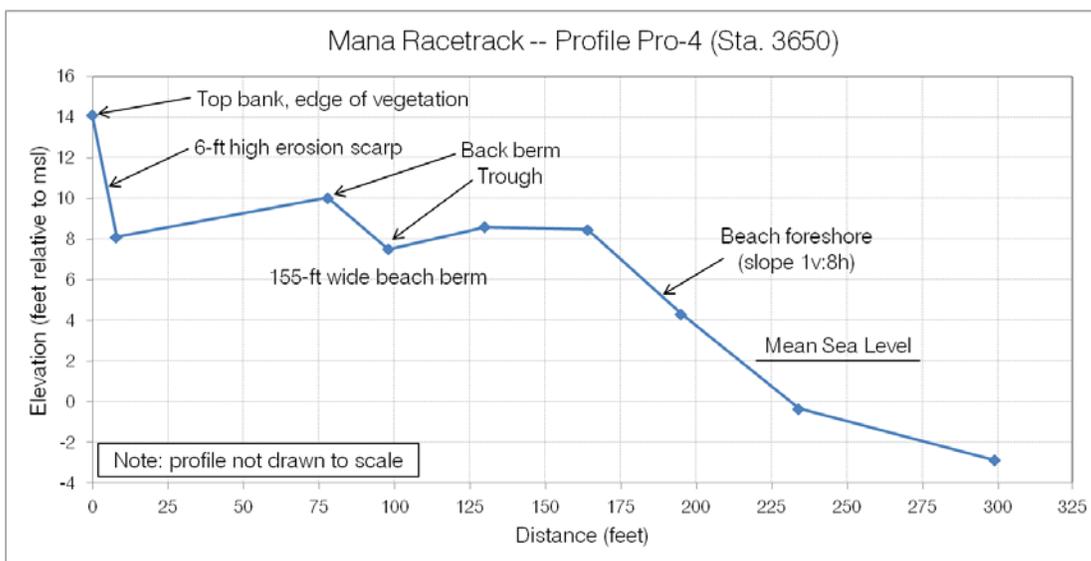


Figure 2-19 Profile Pro-4 at Sta. 3650

The high vegetated bank along the face of the dune continued to the east, where it was estimated to be as high as about 8 feet above the beach at Sta. 4100. The bank at the vegetation line, shown in (Figure 2-20), extended more than six feet above the beach berm to elevation +14 ft msl. The backshore vegetation was noted to be less dense, with a few ironwood trees and some

low-lying plants (Figure 2-21). Profile Pro-5 was measured at Sta. 4225, about 500 feet before the end of the track. The dune adjacent to a nearby ironwood tree was measured to exceed elevation +15 ft. The beach berm contained an inner berm/trough system, and the 120-ft beach berm width was less than at Pro-4. The beach foreshore slope was measured to be 1v:8h as the slope continued to flatten toward the east. Numerous vehicle tracks across the beach berm were again noted.



Figure 2-20 View across beach toward backshore at Sta. 4225



Figure 2-21 View of backshore facing east at Sta. 4225

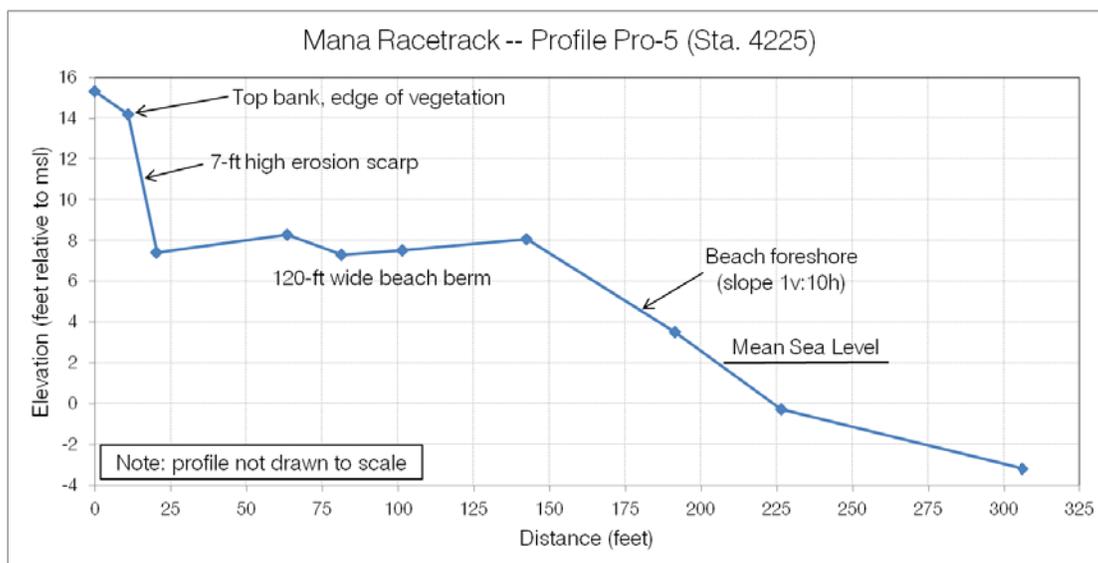


Figure 2-22 Profile Pro-5 at Sta. 4225

The backshore became narrower and the elevation lower approaching the east end of the racetrack. The vegetation became less dense, with the prominent features being several ironwood trees. Between Sta. 4250 and Sta. 4400, the dune face was vegetated with pohinahina which appeared to have been undermined and collapsed from the top of the bank, as the top of

the bank showed dead vegetation hanging down the face (Figure 2-23). The dune face transitioned to sandy for about 180 feet, then to vegetated again, before reaching the exposed, duneless end of the track (Figure 2-24). The pavement was surrounded by plastic road barriers that had been installed a few years ago to prevent vehicle access from the beach. The barriers have reportedly settled following a period of sand loss that also resulted in erosion of the edge of the pavement (Figure 2-25).

Profile Pro-6 was measured across the turnaround at the east end of the racetrack, through the gap in the barriers shown in (Figure 2-25). The turnaround area was measured to be about +9.5 ft msl, with an 18-in scarp at the seaward edge of the pavement. The beach berm was about 100 feet wide and the foreshore slope was measured to be 1v:1h.



Figure 2-23 Ironwoods and vegetated bank between Sta. 4250 and Sta. 4400



Figure 2-24 Beach at east end of racetrack



Figure 2-25 Barriers and eroded pavement at east end of racetrack

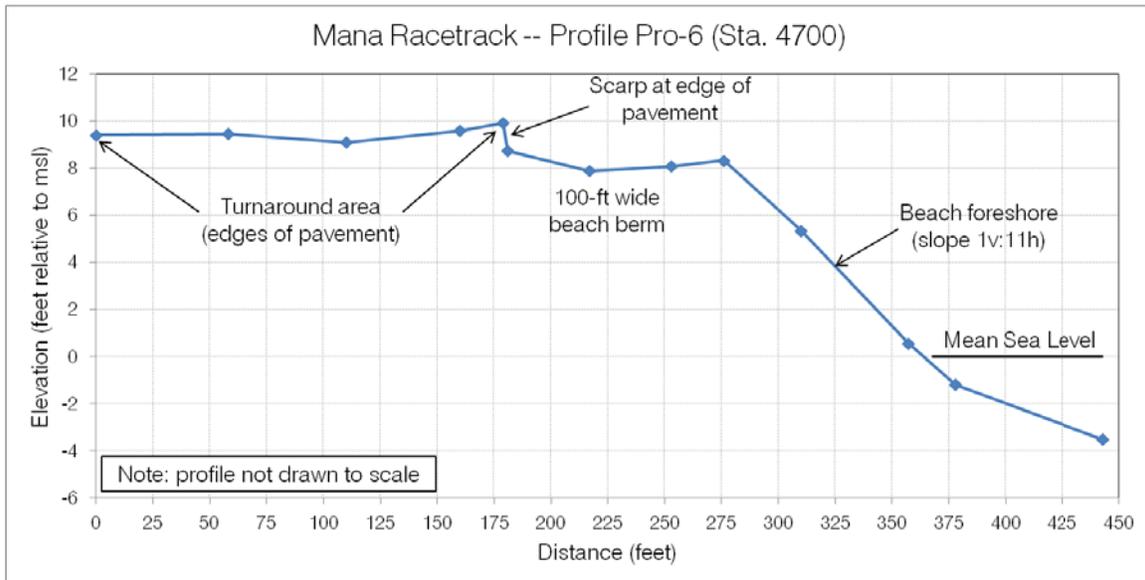


Figure 2-26 Profile Pro-6 at Sta. 4700 (end of paved track)

3. OCEANOGRAPHIC SETTING

3.1 Wind

The prevailing winds throughout the year are the northeasterly trade winds. Their average frequency varies from more than 90% during the summer season to only 50% in January, with an overall annual frequency of 70%. Westerly, or Kona, winds occur primarily during the winter months, generated by low pressure or cold fronts that typically move from west to east past the islands.

Tradewinds are produced by the outflow of air from the Pacific Anticyclone high pressure system, also known as the Pacific High. The center of this system is typically located well north and east of the Hawaiian chain and moves to the north and south seasonally. In the summer months, the center moves to the north, causing the tradewinds to be at their strongest from May through September. In the winter, the center moves to the south, resulting in decreasing tradewind frequency from October through April. During these months, the tradewinds continue to blow; however, their average monthly frequency decreases to 50%.

The project site is on the southwest side of the island of Kauai. The site is exposed to the tradewinds, which blow approximately side-shore from east to west, with the direction at the project site dictated by the island's regional geography. The project site's location on the island can also result in afternoon sea breezes, which are driven by the warming of the island's land mass. As noted on the site visit, these sea breezes blow approximately west to east at the project site, opposite of the tradewinds.

During the winter months, wind patterns of a more transient nature increase in prevalence. Winds from extra-tropical storms can be very strong from almost any direction, depending on the strength and position of the storm. The low pressure systems associated with these storms typically track west to east across the North Pacific, north of the Hawaiian Islands. At Honolulu Airport, wind speeds resulting from these storms have on several occasions exceeded 60 mph. Kona winds are generally from a southerly to southwesterly direction, usually associated with slow moving low pressure systems known as Kona lows situated to the west of the island chain. These storms are often accompanied by heavy rains.

3.2 Waves

The general Hawaiian wave climate can be described by four primary wave types: 1) tradewind waves generated by the prevailing northeast winds; 2) North Pacific swell produced by mid-latitude low pressure systems; 3) southern swell generated by mid-latitude storms of the Southern Hemisphere; 4) Kona storm waves generated by local low pressure storm systems. In addition, the islands are affected by waves generated by nearby tropical storms and hurricanes.

Tradewind waves occur throughout the year, but the other wave types have seasonal distributions. North Pacific swell and Kona storm waves typically occur from October through March during the northern hemisphere winter. Conversely, southern swell typically occurs from April through September during the southern hemisphere winter. Hurricanes and tropical storms are also summer and fall phenomena. The project coastline faces west-southwest and is exposed to North Pacific swell from the west and northwest, South Pacific swell from the south and

southwest, Kona storm waves and oblique tradewind waves. In the event of a hurricane passing just offshore to the south-southwest of the island, large storm wave action can occur even if hurricane movement is away from shoreline.

North Pacific swell waves generally arrive in the winter as results of intense storm activity at mid-latitudes. These waves have high amplitudes and long wavelengths, which create very large waves with considerable energy. Typical deepwater waves have periods of 9 to 16 seconds with wave heights from 5 to 20 feet.

Southern swell is generated by storms in the Southern Hemisphere and is most prevalent during the summer months. These waves are typically long and low, with periods of 12 to 20 seconds and deepwater wave heights of 2 to 6 feet. Southern swell is fairly common, occurring nearly 25 percent of the time during a typical year.

Kona storm waves occur at random intervals during the winter months and approach from the sector south through west. The site can therefore be directly exposed to this wave type. Some winter seasons have several Kona storms; others have none. Wave heights are dependent upon the storm intensity, and deepwater heights can exceed 15 feet.

Tradewind waves result from the strong and steady tradewinds blowing from the northeast quadrant over long fetches of open ocean. Typical deepwater tradewind waves have periods of 5 to 10 seconds and heights of 3 to 10 feet.

3.3 Prevailing Deepwater Waves

A wave hindcast was produced previously for a project at Poipu for the County of Kauai (Sea Engineering, 2013). In that project, wave hindcast data was generated hourly using nested wave generation models and eleven years of meteorological data in an archived database for the years 1997 through 2007. Data were hindcast to a deepwater “virtual buoy” located off the south coast of Kauai. The location of the deepwater site is shown on Figure 3-1.

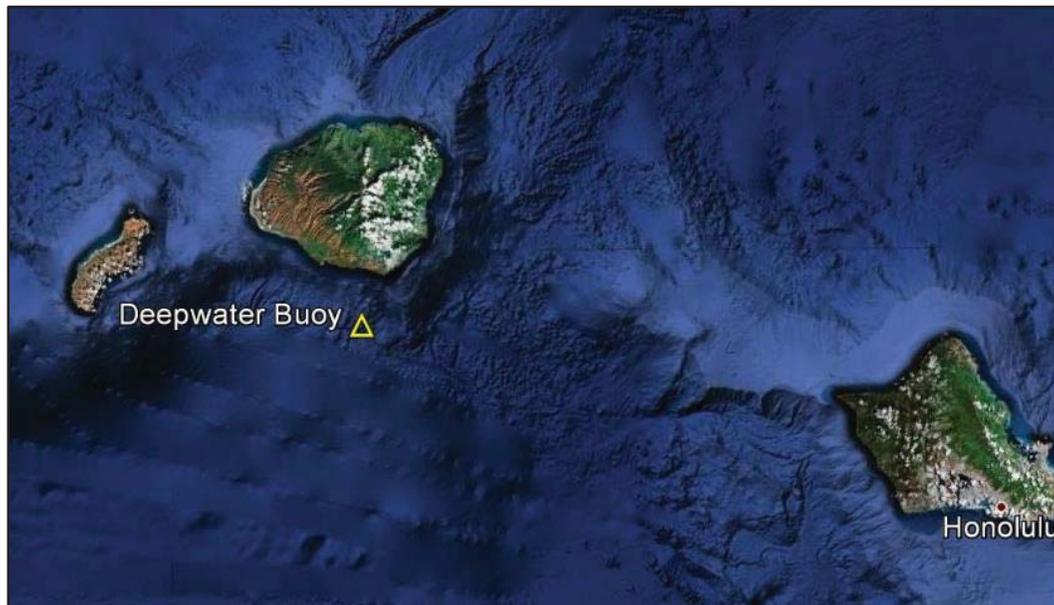


Figure 3-1 Location of the deepwater virtual buoy (Google Earth image)

The deepwater wave data allow the tabulation of wave parameters before the waves are affected by water depth through the processes of refraction and shoaling. The result is a true representation of the incident wave climate. Figure 3-2 and Figure 3-3 are rose diagrams of hindcast deepwater wave height and period at the virtual buoy shown on Figure 3-1 and are generally representative of the wave environment that would affect the Mana shoreline. The figures show waves arriving from the northeast, southeast, south, and northwest directions, and show blocking patterns from the north, west, and east due to shadowing from the islands of Kauai, Niihau, and Oahu respectively.

The figures show the presence of north and south swell and tradewind waves, and well as a component from the southeast associated with the southern hemisphere tradewind waves.

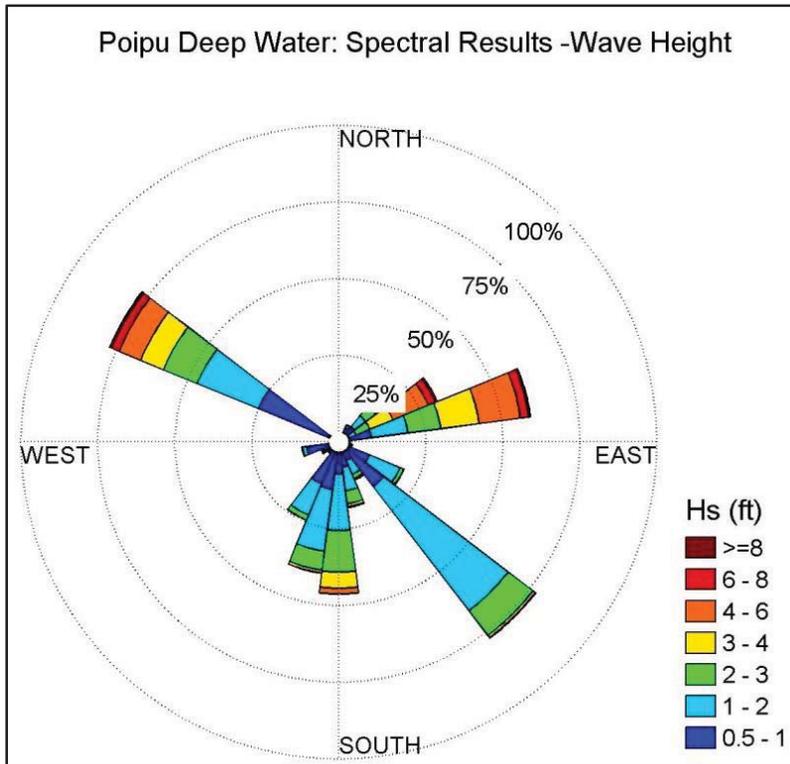


Figure 3-2 Deepwater wave height rose diagram, 1997-2007

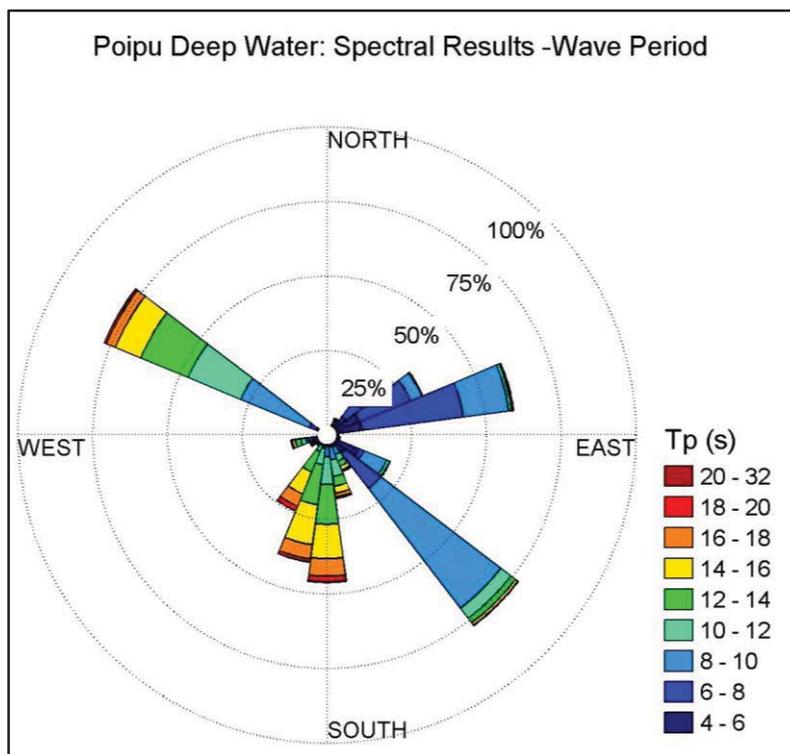


Figure 3-3 Deepwater wave period rose diagram, 1997-2007

3.4 Nearshore Wave Heights

As deepwater waves propagate toward shore, they begin to encounter and be transformed by the ocean bottom. The process of *wave shoaling* generally steepens the wave and increases the wave height. The phenomenon of *wave refraction* will cause wave crests to bend and may locally increase or decrease the wave heights. *Wave breaking* occurs when the wave profile shape becomes too steep to be maintained. This typically occurs when the ratio of wave height to water depth is about 0.8, and is a mechanism for dissipating the wave energy.

Not having a large area of offshore fringing reef, much of the wave energy propagates into the beach before breaking. The waves that reach the shoreline are limited by the water depth, so that larger waves will reach the shoreline during high water level conditions.

3.5 Tides

Hawaii tides are semi-diurnal with pronounced diurnal inequalities (i.e., two high and low tides each 24-hour period with different elevations). Tidal predictions and historical extreme water levels are given by the Center for Operational Oceanographic Products and Services, NOS, NOAA, website. The nearest tide station to Mana is at Port Allen, where the water level data, based on the 1983-2001 tidal epoch, is shown in Table 3-1.

Table 3-1 Water level data for Port Allen, Kauai

Datum	Elevation (ft mllw)	Elevation (ft msl)
Mean Higher High Water	1.8	1.0 ft.
Mean High Water	1.4	0.6 ft.
Mean Tide Level	0.8	0.0 ft.
Mean Low Water	0.2	-0.6 ft.
Mean Lower Low Water	0.0	-0.8 ft.

Hawaii is also subject to periodic extreme tide levels due to large scale oceanic eddies that propagate through the islands. These eddies produce tide levels up to 0.5 to one foot higher than normal for periods of up to several weeks.

3.6 Sea Level Change

The present rate of global mean sea-level change (SLC) is +3.16 mm/yr (NASA, 2014), where a positive number represents a rising sea level. SLC appears to be accelerating compared to the mean of the 20th Century. Factors contributing to the rise in sea level include decreased global ice volume and warming of the oceans. Recent climate research by the Intergovernmental Panel on Climate Change (IPCC) predicts continued or accelerated global warming for the 21st Century and possibly beyond, which will cause a continued or accelerated rise in global mean sea level (USACE, 2011). It is estimated that global sea level rise may reach 1 m (3.3 ft) by the end of this century, and the U.S. Army Corps of Engineers estimates possible sea level rise as high as 1.4 m (4.6 ft).

The U.S. Army Corps of Engineers (USACE, 2011) provides guidance for calculating site-specific SLC in Engineering Circular *EC 1165-2-212, Appendix C*. A wide range of predictions for future SLC rates are shown in the report, and procedures are given to estimate low, intermediate, and high SLC curves following the National Research Council's (NRC) recommendation.

The closest tidal station with SLC projections is at Nawiliwili Harbor. Sea level change values for Nawiliwili using the three NRC scenarios are shown in Table 3-2 and Figure 3-4. Positive numbers indicate a rise in sea level. The intermediate rate is generally accepted as a reasonable prediction for future sea level for shore protection projects. For a project design life of 25 years, the calculations predict a SLC of +0.28 ft (+5 in) between 2015 and 2040. For comparison, the low and high estimates using the same procedure are +0.13 ft (+1.5 in) and +0.78 ft (+9 in) respectively.

**Table 3-2 Estimated relative sea level change from 2015 to 2065 at Nawiliwili, HI.
Values are given in feet.**

Year	USACE Low	USACE Int	USACE High
2015	0.00	0.00	0.00
2017	0.01	0.02	0.05
2020	0.03	0.05	0.12
2025	0.05	0.10	0.26
2030	0.08	0.16	0.41
2035	0.10	0.22	0.59
2040	0.13	0.28	0.78
2045	0.15	0.35	1.00
2050	0.18	0.43	1.23
2055	0.20	0.51	1.48
2060	0.23	0.59	1.74
2065	0.25	0.68	2.03

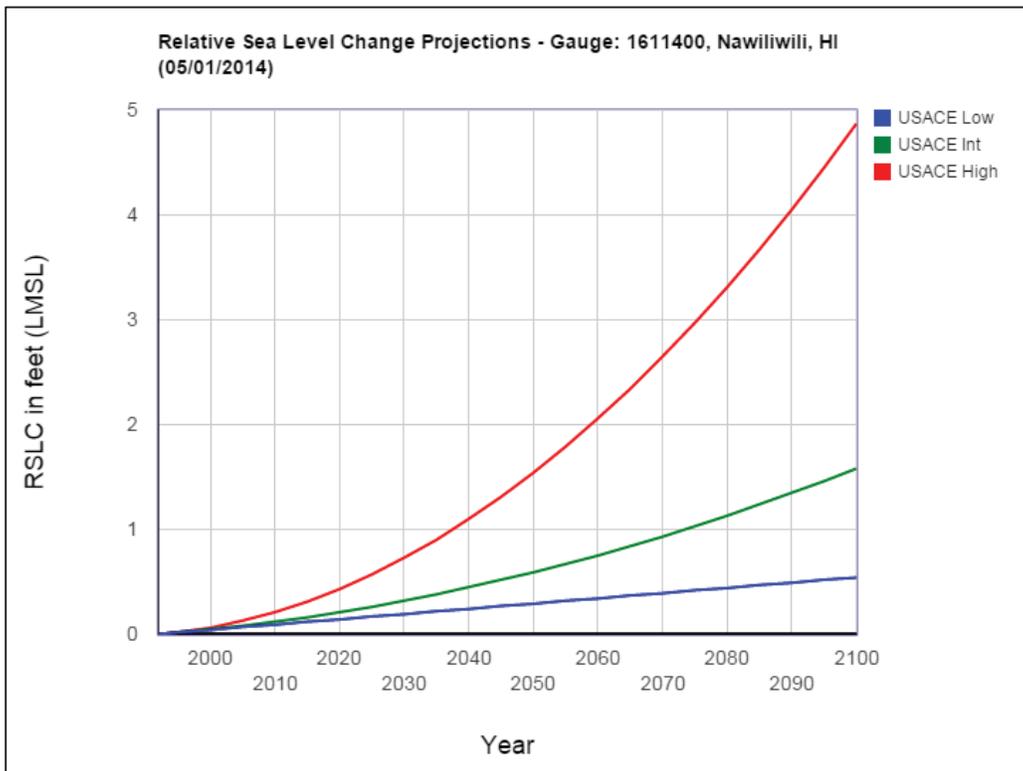


Figure 3-4 Relative sea level change projections for Nawiliwili, Hawaii.

4. SHORELINE HISTORY

The beach fronting the racetrack is a section of the approximate 12 miles of sandy shoreline that extends from Polihale State Park, past the PMRF, and ends at Kekaha. Moberly and Chamberlain (1964) studied beaches throughout Hawaii, including Kekaha Beach Park. They reported that the beach width varies seasonally as a result of changing wave and sediment transport patterns. During their study, the east end of the beach was 200 feet wide in the winter and 50 feet wide in the summer. These seasonal changes occur over a greater length of shoreline. Clark (1990) identified that the shoreline in this area was subject to high surf during the winter and spring months, when swell approaches Kauai from the west and northwest directions. Although the project shoreline is south facing, the rounded shape of the island allows swell to wrap around and impact the shoreline, primarily as shorebreak. This wave pattern drives sand from the north from Polihale State Park toward the south, then around Kokole Point toward Kekaha Beach Park, and this explains the wide beaches measured by Moberly and Chamberlain in the winter. Tradewinds and summer swell can then reverse the sediment transport.

The sediment balance within this cycle is dependent on the relative strength of each successive season's wave climate. An imbalance in the driving forces (i.e., the incident waves) can result in a net transport in either direction. TEOK Investigations (2013) reported that in 2011, the beaches at PMRF had accreted significantly, while Kekaha beaches at the same time had experienced severe erosion. Their hypothesis was that the sediment imbalance was due to two seasons of relatively weak northwest swell, which did not transport sufficient sand to Kekaha. Additionally, they refer to stronger than normal south swell and tradewinds that would result in transport to the west and then north.

To test this hypothesis, TEOK Investigations (2015) initiated a study of the beach dynamics in the vicinity of Mana in November of 2012, measuring beach profiles at six locations from PMRF to Kekaha, including one opposite the west end of the racetrack. For the period of November 2012 through April 2013, they measured a 300 foot beach narrowing at the PMRF transect, while the beach widened by 200 feet at MacArthur Park, located ½ mile from the racetrack toward Kekaha. They also postulated that the minor changes in measured beach width at the transect fronting the Mana racetrack indicated that this area might be an inflection point, past which sand moves without significant gain or loss in beach width. It should be noted that their data was collected over a short period of time and further data would be necessary to confirm this.

4.1 Historical Shoreline Change

A series of historical aerial photographs can be used to show shoreline trends. The University of Hawaii Coastal Geology Group (UH CGG) has undertaken historical analysis of Kauai's shoreline and has produced a shoreline change map for the Kokole Point region based on survey data from 1927 and aerial imagery from 1950 to 2006. Their analyses use the beach toe as the shoreline change reference feature. Sandy shorelines in general, however, are quite dynamic and change in response to incident wave conditions, such as high surf, which can quickly alter the beach width. Figure 4-2 shows the historical shoreline positions as determined by the UH CGG for the years 1927 through 2006.

The UH CGG analyses for the Mana project shoreline are presented as transects numbered 257 through 326 in Figure 4-2 and indicate that the shoreline fronting the west half of the project site has accreted at historical rates of about 0.5 to 1.1 ft/yr, while the shoreline fronting the eastern half eroded at historical rates of between about 1.0 and 1.5 ft/yr.

A 2013 sediment budget study of the Kekaha region of Kauai was completed by the U.S. Army Corps of Engineers (Podoski, 2013). In the project vicinity, the aerial photographs used in the UH CGG study from 1992 and 2006 were used to show the more recent shoreline change. Similarly, the shoreline change rates were updated for this project by adding a shoreline digitized from a 2014 satellite image.

Performing the update to the erosion map, however, highlighted the challenge associated with quantifying the shoreline dynamics of the area. As mentioned previously, the project shoreline is seasonally dynamic, with sand typically moving east during the winter and spring in response to north swell and Kona waves, and west during the summer and fall during periods of south swell and tradewind waves. The erosion maps produced by the UH CGG utilized shorelines from aerial images on the order of a decade apart, and since seasonality is not accounted for in their analyses, it is possible to produce biased results by comparing shorelines from different seasons. This aliasing, or sampling at a lesser rate than the erosion/accretion cycle, can result in the published rates having biases and uncertainties greater than the longterm shoreline change rate.

Furthermore, using the beach toe as the reference feature in this area adds uncertainty, because the frequent occurrence of waves at the shoreline makes identifying the beach toe from aerial images very difficult. In this location, the vegetation line appears to be a better reference feature, due not only to its easy identification, but because of the limited backshore development. In areas of high development, the vegetation in the backshore frequently gets landscaped, with lawns installed and watered, trees removed or added, and permanent structures built that can affect the natural migration of the shoreline. At the Mana racetrack, however, the backshore and dune system are largely unaffected by human activities, with the exception of the east end of the track. For these reasons we feel that the shoreline position is better described by the vegetation line than the beach toe used by the UH CGG.

An investigation of aerial images identified that there was significant vegetation loss recently near the east end of the racetrack. Figure 4-1 presents a series of Google Earth images from February 2, 2011, February 15, 2013, and August 8, 2014. The next earlier image is from 2006, and the vegetation line in that image is consistent with the vegetation line in the February 2, 2011, image, which is therefore taken as the baseline for this comparison. Vegetation line positions digitized from each image are included in the figure. The February 15, 2013, image shows toppled trees lying on the beach near Sta. 4300. The figure also shows sand on the end-of-track turnaround in the February 15, 2013, image. Road barriers were first seen in the December 16, 2013, image (not shown here). The August 8, 2014, image shows further loss of vegetation to the west of Sta. 4200 following the February 15, 2013, image. This condition still existed at the time of the September 20, 2014, aerial image.

A comparison of the vegetation line positions shows that more than 2 acres of vegetation was lost between February 2011 and September 2014, occurring primarily between Sta. 3000 and Sta.

4400 as shown by the cross-hatch pattern. The greatest change in vegetation position was a 95-ft inshore shift at Sta. 3800.

A list of aerial images reviewed in this report is presented in Table 4-1.

Table 4-1 List of aerial image reviewed in this report

Image Date	Source
May 1966	UH CGG
April 1975	UH CGG
July 1987	UH CGG
May 1992	UH CGG
September 18, 1992	UH CGG
2006	UH CGG
February 2, 2011	Google Earth
February 15, 2013	Google Earth
December 16, 2013	Google Earth
August 18, 2014	Google Earth
September 20, 2014	Digital Globe/MapMart

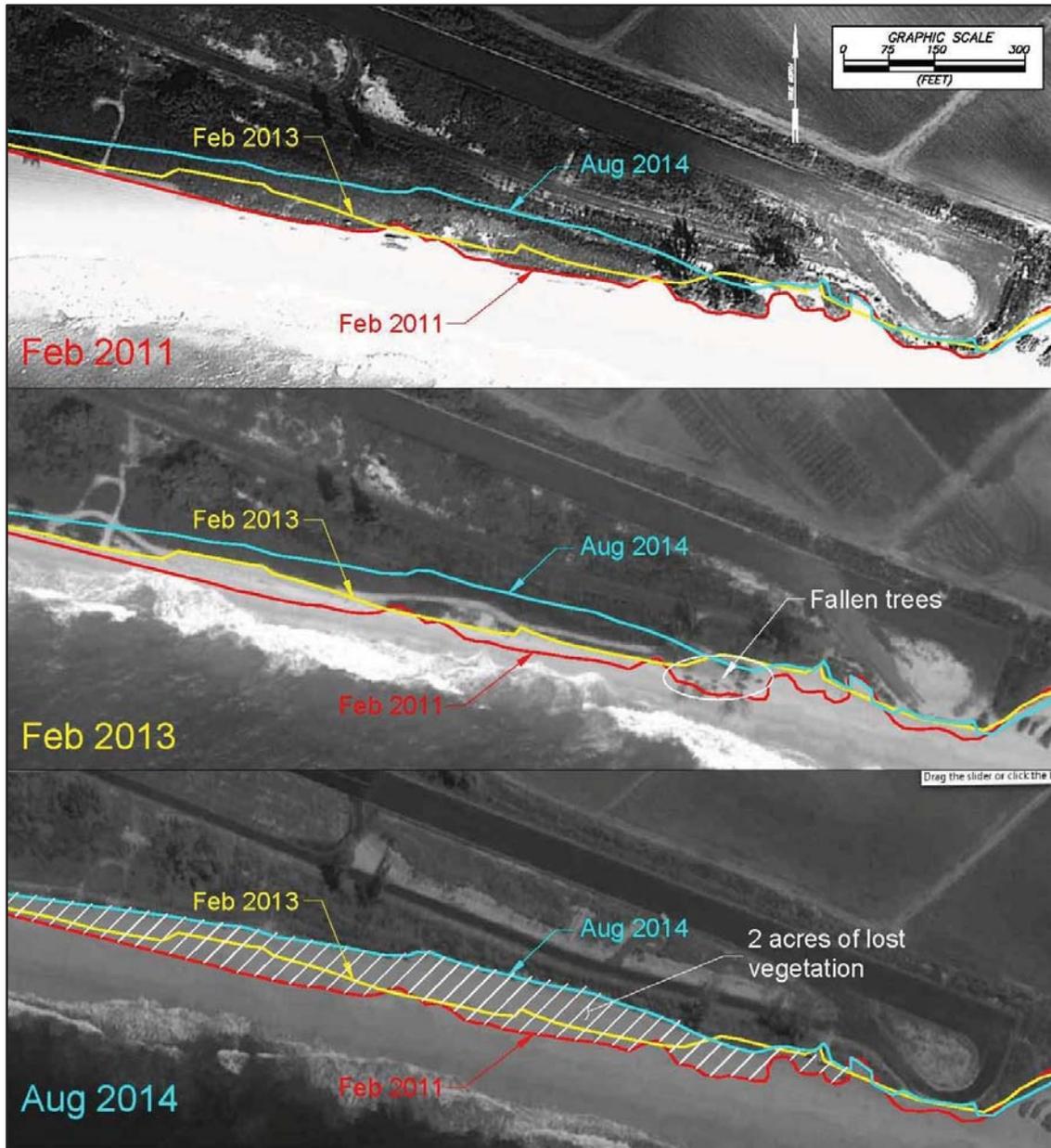


Figure 4-1 Google Earth images and vegetation lines from February 2, 2011 (top), February 15, 2013 (middle), and August 13, 2014 (bottom)

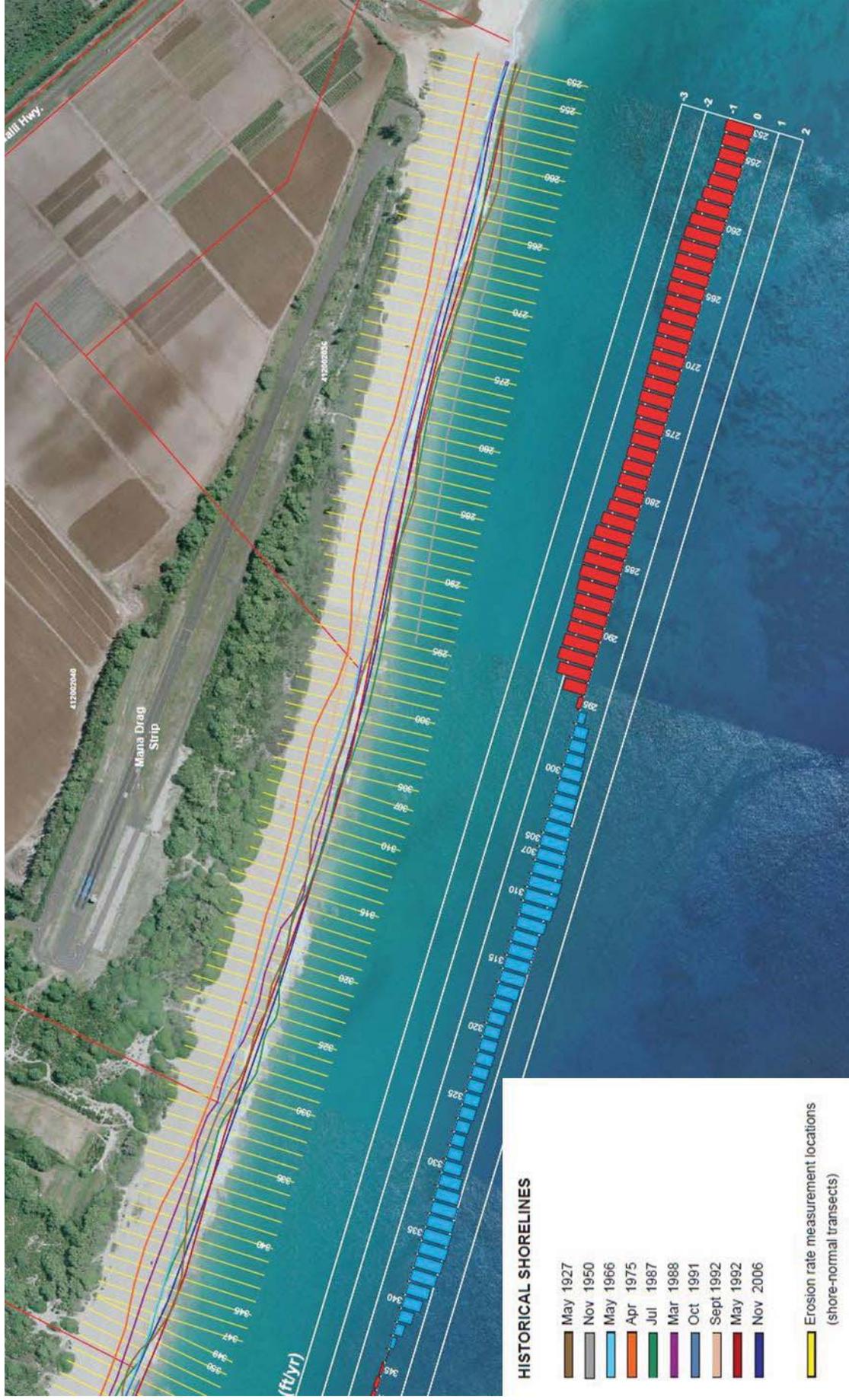


Figure 4-2 Historical shoreline change analysis (UH Coastal Geology Group). Yellow lines indicate transect locations spaced 66 ft apart. Red bar graph indicates annual erosion rate calculated for each transect location. White lines through bar graph represent 1ft/yr erosion/accretion rate increments.

5. COASTAL HAZARDS

5.1 Hurricanes

Tropical cyclones originate over warm ocean waters, and they are considered to have reached hurricane strength when they generate sustained wind speeds over 64 knots (74 mph). Hurricanes form near the equator, and in the central North Pacific usually move toward the west or northwest. During the primary hurricane season of July through September, hurricanes generally form off the west coast of Mexico and move westward across the Central Pacific. These storms typically pass south of the Hawaiian Islands, and sometimes have a northward curvature near the islands. Late season hurricanes follow a somewhat different track, forming south of Hawaii and moving north toward the islands. Three hurricanes have actually passed through the Hawaiian islands in the past 25 years: Hurricanes Iwa in 1982 and Iniki in 1992, both passing near or over the island of Kauai, as well as Hurricane Iselle in 2014, which passed over the island of Hawaii. These storms caused high surf and wave damage on the south and west shores of all the islands.

In the case of Hurricane Iniki, the eye of the storm passed very close to the town of Waimea and the Mana Plain. Runup reportedly reached elevations of +29 ft in the town of Poipu on the southeast shore of the island. Kennedy et al. (2012) compared measured inundation debris lines with model results for locations on Oahu and Kauai, including the town of Kekaha. Figure 5-1 shows the results for the Kekaha area, with the subject property located near the western edge of the figure. Measured debris lines are shown with the blue dashes; SWAN and ADCIRC modeled inundation is shown in the red filled in areas and the black stars display the SWAN, ADCIRC and Boussinesq inundation model levels. For complex topography and wave group representation, the SWAN, ADCIRC, and Boussinesq model suite was shown to better approximate inundation, as measured by the debris lines. The predicted inundation is inland enough to flood the racetrack at the west side of Figure 5-1. This correlates with the post-storm satellite image, taken one week after Hurricane Iniki, showing sand displaced from coastal inundation inland onto the race track (Figure 5-2). If a storm of equal or greater size were to make landfall in that area, the racetrack would be expected to experience significant flooding, primarily on the east end.

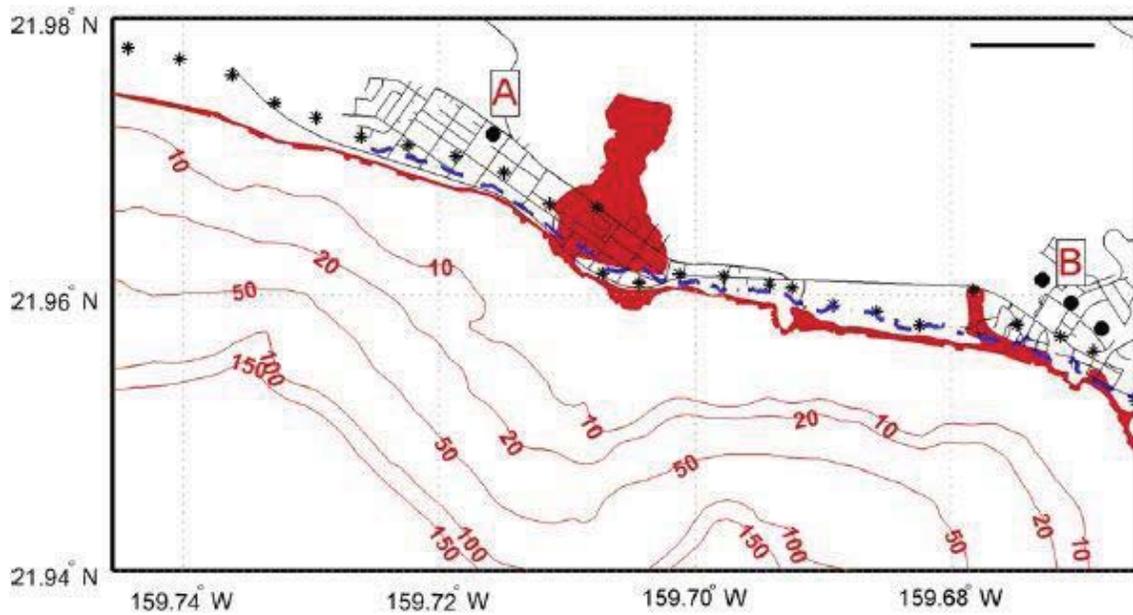


Figure 5-1 Hurricane Iniki comparisons between measured and modeled inundation. Measured Debris Lines (blue dashed lines); Modeled SWAN + ADCIRC + Boussinesq Runup (black stars); SWAN + ADCIRC inundation (red filled-in area) (Kennedy et al., 2012)



Figure 5-2 Comparison of pre and post-Hurricane Iniki

5.2 Still Water Level Rise

Storms and large waves produce storm surge and wave setup that results in elevated water levels at the shoreline. During prevailing, annual conditions this water level rise can be on the order of a foot above the tide level. However, during extreme events, the still water level rise can be significantly greater. During Hurricane Iniki, water level in Port Allen rose by as much as 4.4 feet above the predicted tide level.

5.3 Tsunami

Loomis (1976) presented runup elevations for tsunamis that have affected the Hawaiian Islands. Table 5-1 shows the tsunami runup elevations that were measured at Kekaha Beach Park near the project site. Runup elevations are relative to mean sea level. The 1946 and 1957 tsunamis were generated in the Aleutian Islands, while the 1960 tsunami was generated near Chile. Based on these historical tsunamis, a tsunami of similar size may cause minor overtopping and inundation.

Table 5-1 Tsunami Runup Elevations, Kekaha Beach Park

Tsunami	Source	Runup elevation (feet)
1946	Aleutian Islands	9
1957	Aleutian Islands	6
1960	Chile	5.5

5.4 Flood Insurance Rating

The National Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA) produces maps identifying flood hazards and risks. Figure 5-3 shows the flood hazard map for the project properties, (4)1-2-002:036 and (4)1-2-002:040. The map indicates that the properties are rated as Flood Zone VE, AE and X. Zone X is an area determined to be outside of the 0.2% annual chance floodplain. Zone AE is the coastal flood zone corresponding to the 1% annual chance of flood with corresponding base flood elevation. The two properties have base flood elevations of 8, 9, 10, and 11 feet in this zone. Zone VE is the coastal flood zone corresponding to the 1% annual chance of flood with corresponding base flood elevation and additional velocity hazards due to storm waves. The two properties have base flood elevations of 9, 10, 11, and 12 feet in this zone.

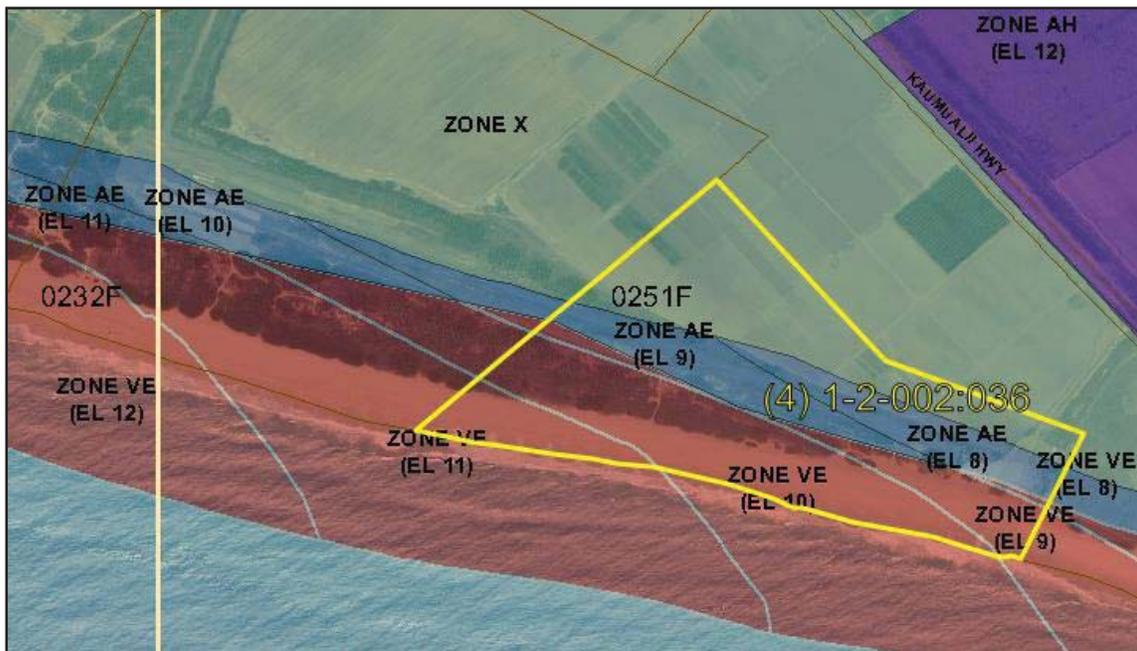


Figure 5-3 Flood hazard designation for the project site (the eastern parcel is outlined in yellow)

6. CONCLUSIONS

A site visit was conducted on March 5, 2015, to assess the existing shoreline conditions at the Mana racetrack. The site visit found that the backshore was wide on the west end of the site, becoming progressively narrower toward the east. Recent wave overtopping to or slightly into the vegetation was noted along the west project shoreline, though the backshore in that area is more than 300 feet wide and there was no threat to facilities. The beach widened substantially along the eastern half of the project shoreline. There was no evidence that there had been recent beach overtopping; however, erosion of the dune face at the vegetation line was noted, with banks as high as 8 feet above the beach.

The beach fronting the project site is highly dynamic, with the potential to have large swings in width. Northwest swell and Kona storm waves typically transport sand to the east, while south swell and tradewind waves transport sand west. While this sediment transport is seasonally cyclical, imbalances can occur, and periods of extended shorebreak can reduce the beach width quickly.

Longterm shoreline change rates produced by the University of Hawaii Coastal Geology Group (UH CGG) indicate that the eastern half of the project shoreline has experienced longterm erosion. While the historical rates may not represent the extent of change during a seasonal event, they do show that the eastern end is susceptible to erosion. This was confirmed by the site visit, which showed eroded dune faces through this area, and by comparing vegetation line positions in a series of recent Google Earth images. Additionally, susceptibility of the eastern end of the racetrack to inundation was highlighted by the comparison of pre and post-Hurricane Iniki aerial images.

Figure 6-1 shows the approximate location of electrical improvements proposed for the racetrack. The improvements are located on the makai side of the racetrack. The eastern end of the improvements is about 190 feet inshore of the vegetation line. The figure also shows the inland extent of inundation from Hurricane Iniki in 1992 as determined from the September 18, 1992, aerial image. About 340 linear feet of proposed improvements are located in this inundation zone.

The following are key project conclusions:

- Proposed project improvements are sufficiently distant from the shoreline that they are not expected to impact coastal processes.
- The turnaround area has been damaged by erosion and will likely be threatened again, as the sand transport has a strong seasonal component.
- Coastal hazards include storm inundation that in the case of Hurricane Iniki extended past the east end of the proposed improvements. Given the loss of vegetation and dunes along the eastern portion of the project shoreline, a hurricane of similar magnitude to Hurricane Iniki would be expected to produce similar or greater inundation.



Figure 6-1 Location of proposed electrical improvements relative to the Hurricane Iniki inundation line

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**APPENDIX E
FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE
MAP, COMMUNITY PANEL NUMBER 1500020251F**

NOTES TO USERS

is for use in administering the National Flood Insurance Program. It is necessary to identify all areas subject to flooding, particularly from local sources of small size. The community map repository should be updated for possible updated or additional flood hazard information.

For more detailed information in areas where **Base Flood Elevations** and/or **floodways** have been determined, users are encouraged to consult the Profiles and Floodway Data and/or Summary of Stillwater Elevations contained within the Flood Insurance Study (FIS) report that accompanies this map. Users should be aware that BFEs shown on the FIRM represent whole-foot elevations. These BFEs are intended for flood insurance purposes only and should not be used as the sole source of flood information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of non and/or floodplain management.

Base Flood Elevations shown on this map apply only landward of the Tidal Datum. Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations in the Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this map.

Floodways were computed at cross sections and interpolated at cross sections. The floodways were based on hydraulic considerations and to requirements of the National Flood Insurance Program. Floodway and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Areas not in Special Flood Hazard Areas may be protected by **flood structures**. Refer to Section 2.4 "Flood Protection Measures" of the Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Universal Transverse Mercator (UTM) Zone 4. The horizontal datum was NAD 83. GRS80 spheroid. Areas in datum spheroid, projection or UTM zones used in the production of or adjacent jurisdictions may result in slight positional differences in maps across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Elevations on this map are referenced to the Local Tidal Datum. These flood elevations must be compared to structure and ground elevations referenced to the vertical datum. For information regarding conversion between the Geodetic Vertical Datum of 1929 and the North American Vertical of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the address below.

Information Services Branch
 #1502
 400 West Highway
 Annapolis, Maryland 20710-3282
 410-3242

For current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch, National Geodetic Survey at (301) 713-3242, or visit its website at www.ngs.noaa.gov.

Map information shown on this FIRM was derived from mosaicked 2-foot resolution satellite imagery that meets 1:12,000 scale horizontal accuracy as provided by Digital Globe and the United States Department of the Interior, National Resources Conservation Service. This information was collected between July 2002 and January 2004.

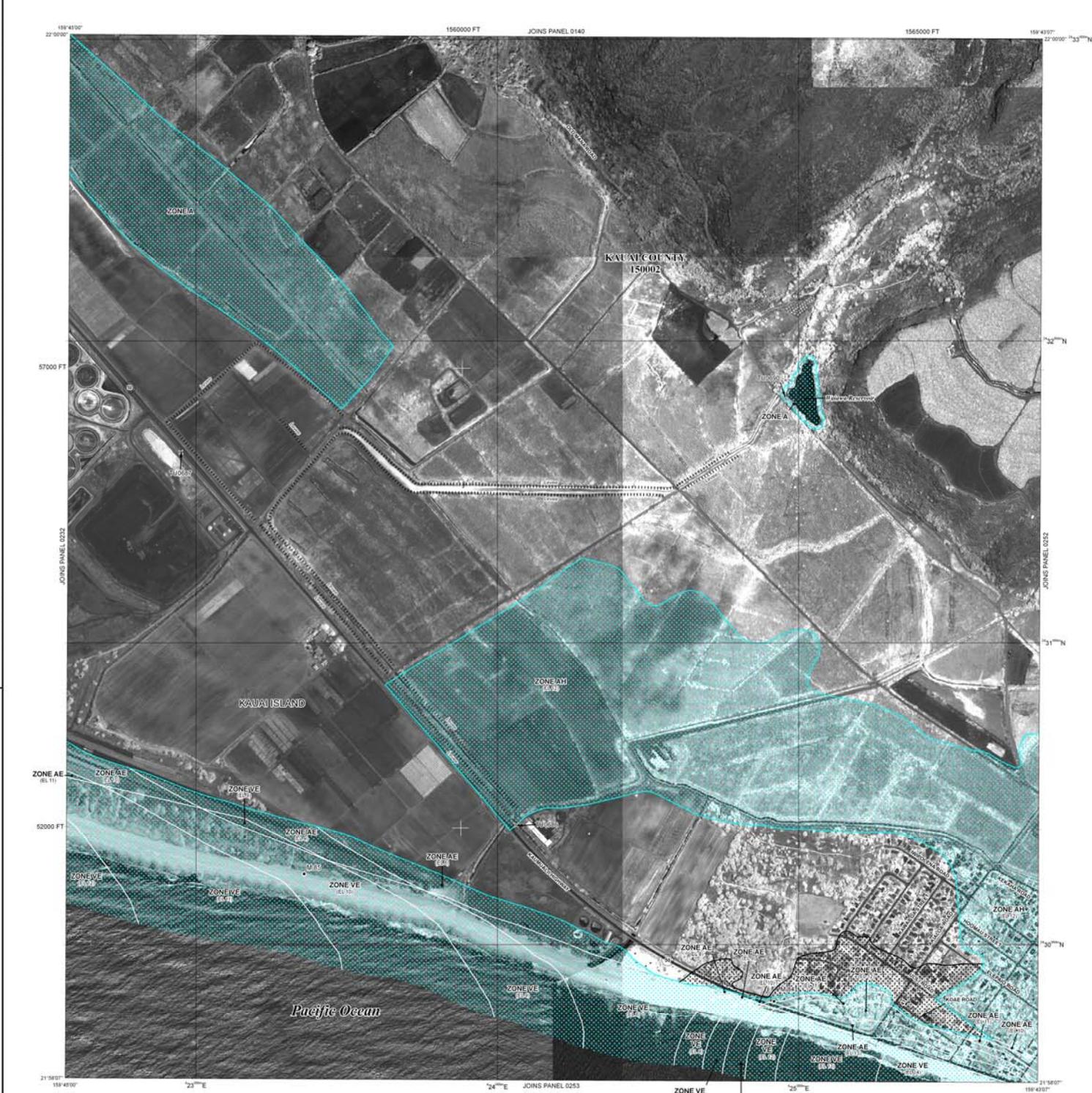
This map reflects more detailed and up-to-date stream channel configurations than shown on the previous FIRM for this jurisdiction. The floodplains and areas that were transferred from the previous FIRM may have been adjusted to these new stream channel configurations. As a result, the Flood and Floodway Data tables in the Flood Insurance Study Report (which authoritative hydraulic data) may reflect stream channel distances that are different than what is shown on this map.

Map limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may occur after this map was published, map users should contact appropriate officials to verify current corporate limit locations.

Refer to the separately printed **Map Index** for an overview map showing the location of this map panel for this jurisdiction.

For the **FEMA Map Information exchange** at 1-877-336-2627 for information on products associated with this FIRM. Available products may include Flood Insurance Study, Flood Insurance Rate Map, Flood Insurance Study report, and/or Letters of Map Change, a Flood Insurance Study report, and/or Letters of Map Change. The FEMA Map Information exchange may also be accessed by Fax at 1-800-368-6620 and its website at <http://msc.fema.gov>.

For more questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at www.fema.gov/business/infa.



LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
- The 1% annual flood (100-year flood), also known as the base flood, is the flood that has the chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard are designated as follows: ZONE A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water elevation of the 1% annual chance flood.
- ZONE A** No Base Flood Elevations determined.
 - ZONE AE** Base Flood Elevations determined.
 - ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
 - ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); depths determined; for areas of abutment flooding, depths determined.
 - ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual flood by a flood control system that was subsequently determined to be inadequate to protect from the 1% annual chance or greater flood.
 - ZONE A99** Area to be protected from 1% annual chance flood by a Federal protection system under construction; no Base Flood Elevation determined.
 - ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevation determined.
 - ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevation determined.
- FLOODWAY AREAS IN ZONE AE**
- The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increase in flood heights.
- OTHER FLOOD AREAS**
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE D** Areas determined to be outside the 0.2% annual chance floodplain.
 - ZONE U** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
 - 1% annual chance floodplain boundary
 - 0.2% annual chance floodplain boundary
 - Floodway boundary
 - Zone V boundary
 - CBRS and OPA boundary
 - Boundary dividing Special Flood Hazard Area Zone V from other Special Flood Hazard Areas
 - Boundary dividing Special Flood Hazard Area Zone V from other Special Flood Hazard Areas
 - Base Flood Elevation line and value; elevation in feet
 - Base Flood Elevation value where uniform within zone; elevation in feet
- * Referenced to the LOCAL TIDAL DATUM
- Cross section line
 - Transect line
 - Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
 - 1000-meter Universal Transverse Mercator grid values, zone 4 (UPSZONE 5104), Transverse Mercator projection
 - 5000-foot grid values; Hawaii State Plane coordinate system zone 4 (HPSZONE 5104), Transverse Mercator projection
 - Bench mark (see explanation in Notes to Users section of FIS report)
 - Silver Mile
- MAP REPOSITORY**
 Department of Public Works, Engineering Division, 3021 Oloa Street, Lihou, Hawaii 96761
 (Maps available for reference only, not for distribution.)
 INITIAL NFIP MAP DATE: December 20, 1974
 FLOOD HAZARD BOUNDARY MAP REVISIONS: November 4, 1977
 FLOOD INSURANCE RATE MAP EFFECTIVE: November 4, 1981
 FLOOD INSURANCE RATE MAP REVISIONS: March 4, 1987; September 26, 1988; October 19, 2002; September 18, 2003; November 20, 2005
 For descriptions of revisions, see Notes to Flood Insurance Study Users page in the Flood Insurance Study report.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-435-6025.



NFIP PANEL 0251F

FIRM
 FLOOD INSURANCE RATE MAP
 KAUAI COUNTY,
 HAWAII

PANEL 251 OF 500
 (SEE MAP INDEX FOR FIRM PANEL LABELS)

CONTAINS:
 COMMUNITY NUMBER: 150002
 PANEL NUMBER: 0251

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications submitted to the community.

NATIONAL FLOOD INSURANCE PROGRAM

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAP NUMBER: 150002
 NOVEMBER 26, 2005

**APPENDIX F
END OF FIELD REPORT FOR ARCHAEOLOGICAL INVENTORY SURVEY IN
SUPPORT OF LIGHTING AND ELECTRICAL IMPROVEMENTS AT THE MANA
DRAG RACING STRIP IN KEKAHA, WAIMEA AHUPUAA, ISLAND OF KAUAI,
HAWAII**

April 16, 2015

Dr. Susan Lebo
Acting Chief, Archaeology Branch
Hawaii State Historic Preservation Division
601 Kamokila Boulevard, Suite 555
Kapolei, HI 96707

Subject: End of Field Report for Archaeological Inventory Survey in Support of Lighting and Electrical Improvements at the Mānā Drag Racing Strip in Kekaha, Waimea Ahupua'a, Kona District, Island of Kaua'i, Hawai'i. TMK (4) 1-2-002: 001, 009, 035, 036, 040

Dear Dr. Lebo:

Under contract to The Limtiaco Consulting Group, Inc., Pacific Consulting Services, Inc. (PCSI), has completed archaeological inventory survey (AIS), including a pedestrian survey and subsurface testing, in support of the above-referenced project in Kekaha, Waimea Ahupua'a, Kona District, Kaua'i Island. The AIS was conducted in accordance with Hawaii Administrative Rules (HAR) 276 (*Rules Governing Standards for Archaeological Inventory Survey and Reports*), and guided by the Archaeological Inventory Survey Plan (AISP), prepared by Watanabe et al. (2014), and approved by the State Historic Preservation Division (SHPD 2014; LOG NO: 2014.05153; DOC NO: 1412MN15). The AISP called for a series of backhoe excavations in the vicinity of utility and light poles and along proposed conduit trench corridors.

The requirement of an Archaeological Inventory Survey (AIS) with subsurface testing in the Mānā Drag Strip project area (referred to in this report as the "project area") was based primarily on the presence of Jaucas Series soils (coralline dune sands) in the project area, and the possibility of encountering subsurface archaeological materials and features, including human burials, in these sand dunes. Human burials were identified in sand dunes in the vicinity of the Nohili Dune on the north end of the Pacific Missile Range Facility (PMRF) at Barking Sands several miles to the north of the project area.

The AIS pedestrian survey and subsurface testing for the Mānā Drag Racing Strip AIS project was conducted by PCSI between March 16 and April 9, 2015, by Paul Titchenal, M.A., Yvette Osborne, B.S., Katharine Shiroma, B.A., Tae Watanabe, B.A., and Steve Clark, B.S. Sara Collins, Ph.D. served as Principal Investigator for this project. Steve Clark served as Project Manager.

No archaeological surface structures or material scatters were encountered during the pedestrian survey of the project area. It was noted that the project area has been extensively modified (likely through grading and bulldozing) in support of construction of the drag strip.

Prior to subsurface testing, and in consultation with Mary Jane Naone of SHPD, it was agreed that utility poles along the access road could be excavated with a 2.0 foot-diameter (0.60 meters) auger (attached to the backhoe) to minimize disturbance of the newly paved access road. The agreed-upon condition for this change to the subsurface testing approach was that if archaeological materials or subsurface features were encountered during excavation of the auger holes, the auger hole would be expanded with a trench (excavated with a backhoe bucket) to facilitate documentation of any archaeological materials/features.

Guided by the Archaeological Inventory Survey Work Plan (Watanabe et al. 2014) subsurface testing consisted of excavation of 15 auger holes (TR1-15) and 75 backhoe trenches (TR16-90) totaling 90 subsurface test locales. Figures 1A and 1B present the locations of TR1-90. Trenches 1-15, TR17-24, and TR87 were excavated in proposed utility pole locations. Trenches 1-15 were excavated by auger along the shoulder of the access road leading into the drag strip (see Figure 1A). The auger holes measured 0.60 meters (m) in diameter. Trenches 17-24 were excavated by backhoe along the edge of the asphalt located north of the drag strip (see Figure 1B). Trench 87 was excavated south of the paved turn-off road for the drag strip (see Figure 1B).

Trenches 25-82 were excavated by backhoe in proposed locations of light poles and conduit trenches in the grassy strip between the drag strip and the paved turn-off road (see Figure 1B). Trench 16, as well as TR83-86 and TR88-90 were excavated in proposed locations for associated hardware such as pull boxes and transformer pads (see Figure 1B). The backhoe trenches (TR16-90) measured from 2.0 to 2.90 m in length and from 0.70 to 1.0 m in width.

Daily field documentation included data such as PCSI personnel on site, stratigraphic profile drawings, completed excavations, and general findings. Digital photographs were taken of trenching activities and portions of the project area. GPS data for each trench was collected to accurately plot the trenches. All field records, photographs, related documents, and materials are being temporarily curated at PCSI's offices in Honolulu.

During auger and backhoe excavations, an archaeologist was positioned near the backhoe to observe the excavation in progress. This allowed the archaeologist to closely monitor the excavations and examine the soil as it was removed by the backhoe. Occasionally, the archaeologist temporarily halted activity to examine the side walls of the trench for subsurface archaeological materials and features.

No pre-Contact or historical subsurface archaeological materials or features were encountered during the backhoe testing. Recent objects were observed and noted; a selected sample of these items was collected to help characterize the layers in which they were found.

Excavations in the auger and backhoe trenches revealed stratigraphic sequences ranging from three to six layers. Stratigraphic sequences in all 90 excavations were documented during fieldwork. This documentation included stratigraphic layer descriptions, profile drawings, and digital photography of the stratigraphic sequences. Several of these layers in upper proveniences are interpreted as fill deposits.

Several fill possible layers were identified that may be associated either with the construction of the access road and drag strip, or with earlier but unknown land uses. The in situ stratigraphic layers include contemporary A Horizon soils (surface layers supporting vegetation) and fine-textured coral sand layers associated with natural sand dune formation in the project area.

Consultation for the AIS was conducted via telephone with several community residents during and shortly after the fieldwork was completed. We asked community residents if they've heard of any stories about native Hawaiians living in the vicinity of the Mānā Drag Racing Strip project area or of any burials, Traditional Cultural Places (TCPs) or traditional practices associated with this area. We spoke first with Ms. Alethea Kaohi of the West Kauai Technology & Visitors Center in Waimea, who with Mr. Kalani Flores, wrote an unpublished report about the Mānā Plain. Her research did not extend into the project area, and she could not provide much information about the Kokole Point area. She did inform us that the place name associated with

the project area is Limaloa. She suggested we speak with Mr. Kunane Aipoalani at the PMRF and provided us with his name and contact information.

We next spoke with Mr. Kunane Aipoalani, who identified himself as a lineal descendent to burials found at Nohili Sand Dunes on the north side of the PMRF (Barking Sands). He informed us that our project area is not an area that native Hawaiians used a lot. He had not heard any stories or information about native Hawaiians living or burying their dead in the vicinity of the project area. He was glad to hear that an AIS was being conducted at the Mānā Drag Strip project area because of the presence of sand dunes. Mr. Aipoalani provided us with Ms. Debbie Ruiz's name and contact information.

Finally, we spoke to Ms. Debbie Ruiz, a member of the Kaua'i Island Burial Council. She has not heard of any burials, Traditional Cultural Places (TCPs) or traditional cultural practices present in the vicinity of the Mānā Drag Racing Strip. Ms. Ruiz was also glad to hear that an AIS was being conducted in the project area.

We have begun working on the Draft AIS report which will focus on project area stratigraphy. If you have any questions or need clarification, please contact me in Honolulu at (808) 222-0407 or by email at steve.clark@pcsihawaii.com.

Sincerely,



Stephan D. Clark
Manager, Cultural Resources Group
Pacific Consulting Services, Inc.
720 Iwilei Road, Suite 424
Honolulu, HI 96817

REFERENCES CITED

Watanabe, Tae, Jackie Walden, Stephan D. Clark, and Melanie A. Mintmier
2014 *Work Plan for Archaeological Survey and Testing in Support of Lighting and Electrical Improvements at the Mānā Drag Racing Strip in Kekaha, Waimea Ahupua'a, Kona District, Island of Kaua'i, Hawai'i*. Prepared by Pacific Consulting Services, Inc. for The Limtiaco Consulting Group, Honolulu.

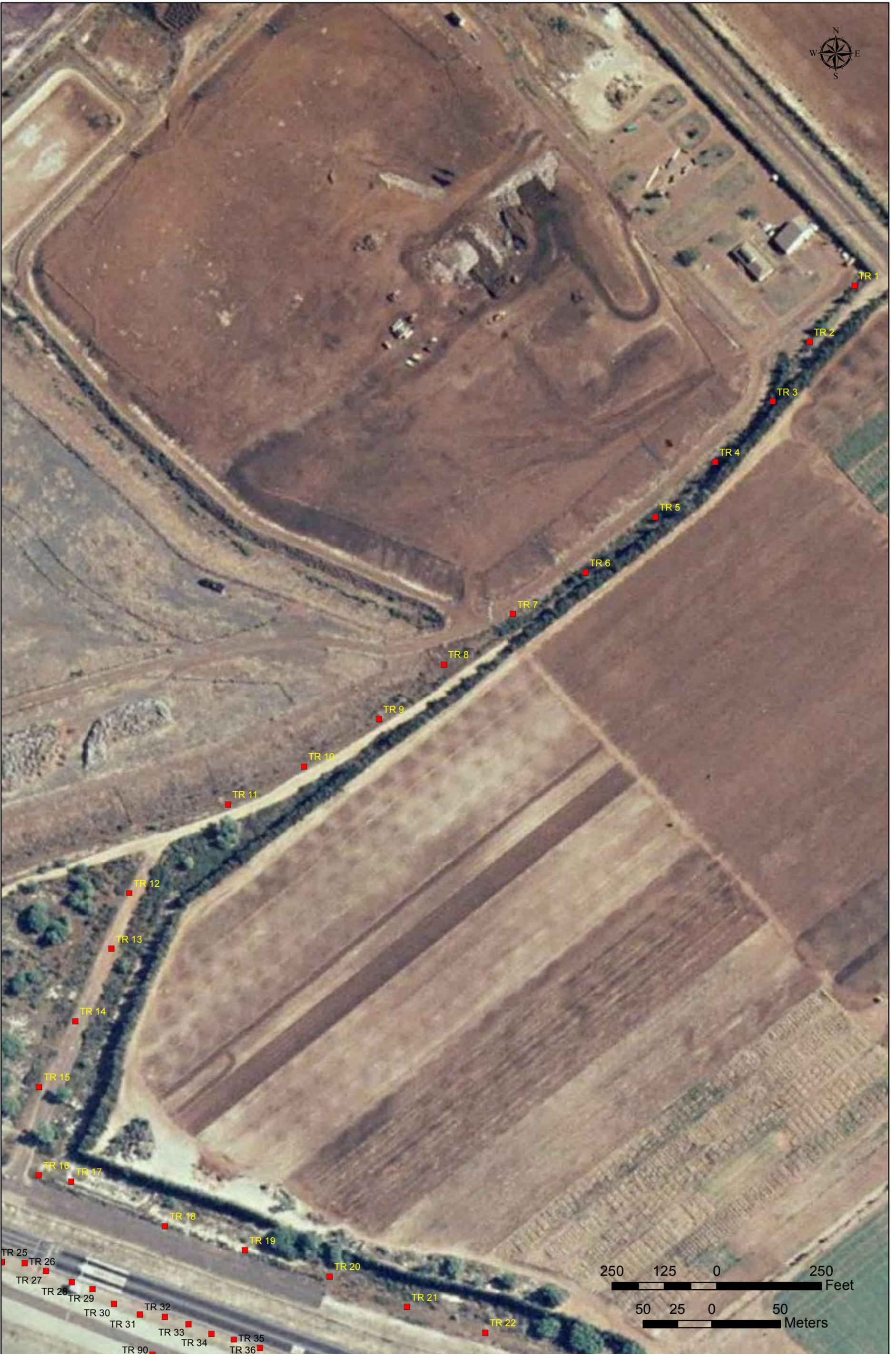


Figure 1A. Project Area Showing Locations of Backhoe Trenches, Mānā Drag Racing Strip, Kauai



Figure 1B. Project Area Showing Locations of Backhoe Trenches, Mānā Drag Racing Strip, Kauai

**APPENDIX G
DRAFT REPORT, CULTURAL IMPACT ASSESSMENT IN SUPPORT OF
LIGHTING AND ELECTRICAL IMPROVEMENTS AT THE MANA DRAG RACING
STRIP IN KEKAHA, WAIMEA AHUPUAA, KONA DISTRICT, ISLAND OF KAUAI,
HAWAII**

DRAFT REPORT

**Cultural Impact Assessment in Support of
Lighting and Electrical Improvements at the
Mānā Drag Racing Strip in Kekaha, Waimea
Ahupuaʻa, Kona District, Island of Kauaʻi,
Hawaiʻi**

TMKs: (4) 1-2-002: 009, 036, 040

Prepared for:

The Limtiaco Consulting Group, Inc.
1622 Kanakanui Street
Honolulu, Hawaii 96817

June 2015

PACIFIC CONSULTING SERVICES, INC.

720 Iwilei Road, Suite 424, Honolulu Hawaii 96817

DRAFT REPORT
Cultural Impact Assessment in Support of
Lighting and Electrical Improvements at the Mānā Drag Racing Strip in Kekaha,
Waimea Ahupua'a, Kona District, Island of Kaua'i, Hawai'i
TMK (4) 1-2-02: 009, 036, 040

By
Jackie Walden, B.A.
Sara L. Collins, Ph.D.

Prepared For:
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Prepared By:
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June 2015

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INTRODUCTION

At the request of The Limtiaco Consulting Group, Inc. (Limtiaco), Pacific Consulting Services, Inc. (PCSI) has prepared this cultural impact assessment in support of proposed Lighting Improvements to the Mānā Drag Racing Strip on Kaua'i Island, Hawai'i (Figure 1). The purpose of the cultural impact assessment is to report on public consultation and any concerns they might have over this project, in accordance with the requirements of Act 50, Chapter 343 (Hawaii Revised Statutes) as amended in 2000.

PROJECT AREA LOCATION AND DESCRIPTION

The project area is located on the leeward side of Kaua'i, within Waimea Ahupua'a (a traditional Hawaiian land division unit) in Kona District. The project area is located just south of Kaumuali'i Highway (Hwy 50) and south and east of the Pacific Missile Range Facility (PMRF) (see Figure 1). The project acreage is 19.67 acres. The tax map keys (TMKs) for the parcels in which the project area is located are as follows: (4) 1-2-002: 009, 036, 040. The inset on Figure 1 shows the project area location with respect to tax map parcels in the area. The landowner is the State of Hawaii, Department of Land and Natural Resources (DLNR).

The purpose of this State-funded project is to bring electricity and lighting to the Mānā Drag Racing Strip (MDRS). The Kaua'i Island Utility Cooperative (KIUC) will bring power to the track from Kaumuali'i (along an access road) and install a new pad-mounted transformer (XFMR). New stadium-type lighting along the south side (*makai*) of the MDRS will illuminate the drag racing strip.

This work will include the installation of approximately 26 utility poles (for overhead power lines) along the right side of the access road, and along the north side (*mauka*) of the MDRS for approximately half of the racing strip's length. The utility poles will be installed every 150.0 to 200.0 feet (45.7 to 61.0 meters [m]). No conduit trenches are required for the overhead power lines. The trenches for the utility poles, however, will be 5.0 to 10.0 feet (1.5 to 3.0 m) deep.

A maximum of 18 light poles (for overhead stadium-type lights) will be installed along the south side of the drag racing strip, with associated underground electrical conduits between each light pole. The light poles will be installed every 150.0 to 200.0 feet, and approximately 2,250 linear feet (686.0 m) of subsurface electrical conduit will be installed between the light poles along the racing strip. Trenches for the electrical conduit will be approximately 2.0 feet (0.60 m) deep.

In addition to the utility poles, light poles, and underground electrical conduit trenches, approximately 125 linear feet (38.1 m) of concrete duct bank, 3.0 feet (0.90 m) deep, will cross the track on the west end of the MDRS near the burn-out box. Trenches for the installation of electrical pull boxes/handholes and a pad-mounted XFMR will also be provided for the installation of the electrical and lighting system.

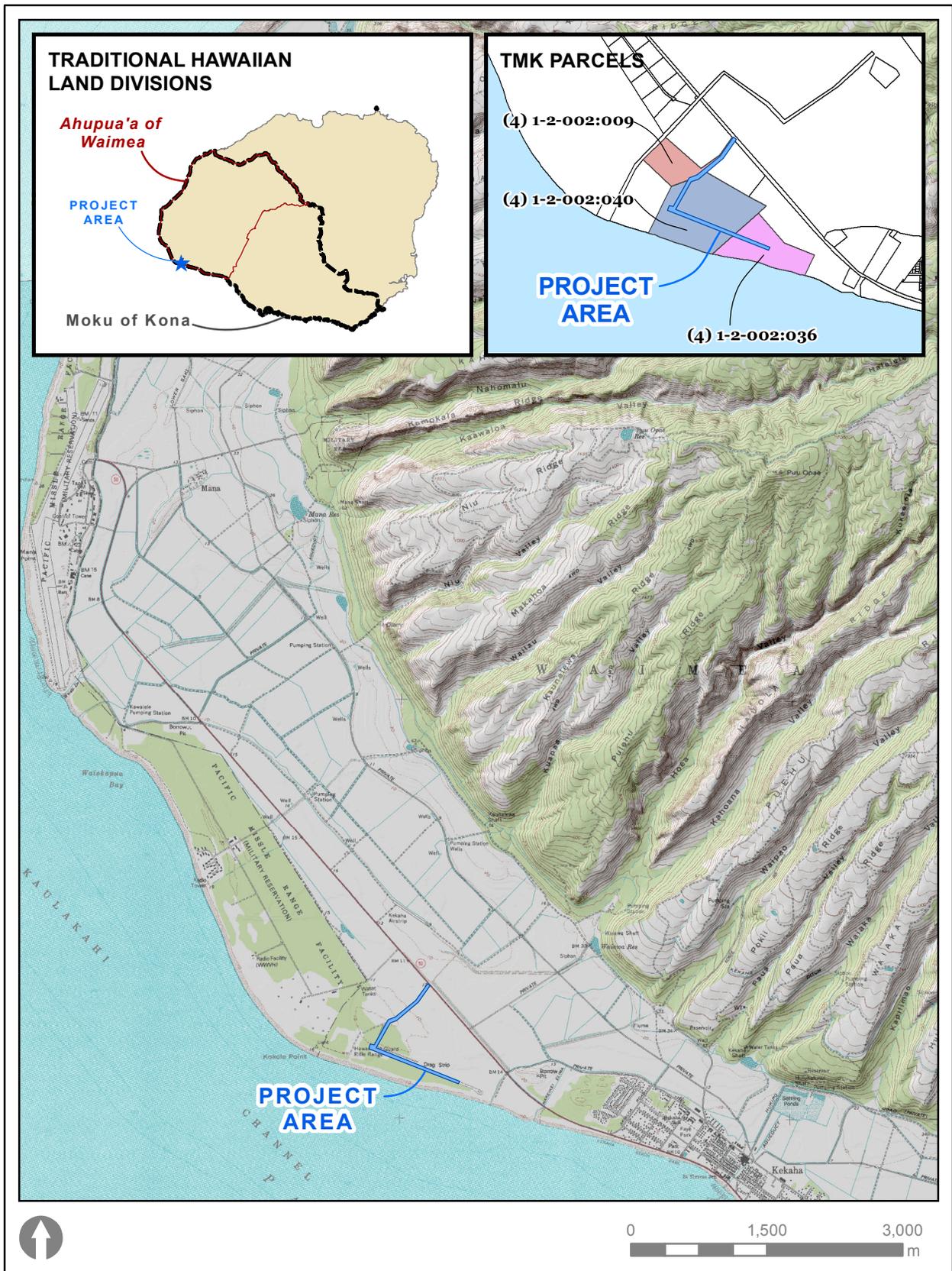


Figure 1. Location of the Mānā Drag Strip Project Area on an Enlarged 1:24000 U.S.G.S. Quadrangle Map, Kekaha (2012).

SCOPE OF WORK

The scope of work (SOW) for this cultural impact assessment included the following tasks:

- Archival background research on the cultural history and previous land uses of the project area.
- Literature review of previous archaeological studies within the project area and in areas near the current project area.
- Written consultation with the following interested parties:
 - Office of Hawaiian Affairs (OHA)
 - State Historic Preservation Division (SHPD)
 - Kaumuali'i Hawaiian Civic Club (KHCC)
 - Friends of Iolani Palace
 - Kako'o 'Oiwī
 - Association of Hawaiian Civic Clubs
 - Hui Malama I Na Kupuna O Hawaii Nei

ENVIRONMENTAL BACKGROUND

The project area is situated on the southern end of the Mānā Plain, a flat sandy plain consisting of alluvium, beach and dune sands, lagoon clays, and marls (calcium carbonate-rich soil with varying amounts of silt and clay). Over the years, heavy disturbances have occurred on the plain as a result of agricultural modifications, military construction, and vegetation clearing (Drolet 1997).

TOPOGRAPHY, GEOLOGY, & SOIL FORMATION

Kaua'i, one of the older Hawaiian Islands, is 33 miles long and 25 miles wide (553 square miles) (Pukui et al. 1974). The island consists of a variety of climates and variations in topography. Bennett (1931) states that the western portion of Kaua'i consists of the Mānā Plain (dry and sandy) and the wet Waimea valley, the southern and eastern portions have ample rainfall, while the northwest Nāpali area consists of high bluffs and rocky coasts.

The Mānā Plain is a low-lying landform on the western, leeward coast, and includes an extensive wetland area a short distance from shore. Soils in the project area consist of Beaches (BS), coarse sand, Fill Land (Fd), silty clay, and Jaucas (JfB) loamy fine sand (USDA 2012). Figure 2 presents a soil map for the project area. Beaches are comprised mostly of light-colored sands derived from coral and seashells; these soils are used for recreation and resort development. Fill lands consists of areas mostly filled with bagasse (the fibrous by-produce of sugar production) and slurry from sugar mills. This type of fill land tends to be found in low lying areas along the coast and is used mostly for sugarcane agriculture. Jaucas sands are excessively drained, calcareous soils that occur on coastal plains. These soils develop in wind- and water-deposited coral sands; the slope range is 0 - 8 percent. These soils occur on old beaches and sand dunes, and are used for pasture, recreational areas, wildlife habitat, and sugarcane (Foote et al. 1972).

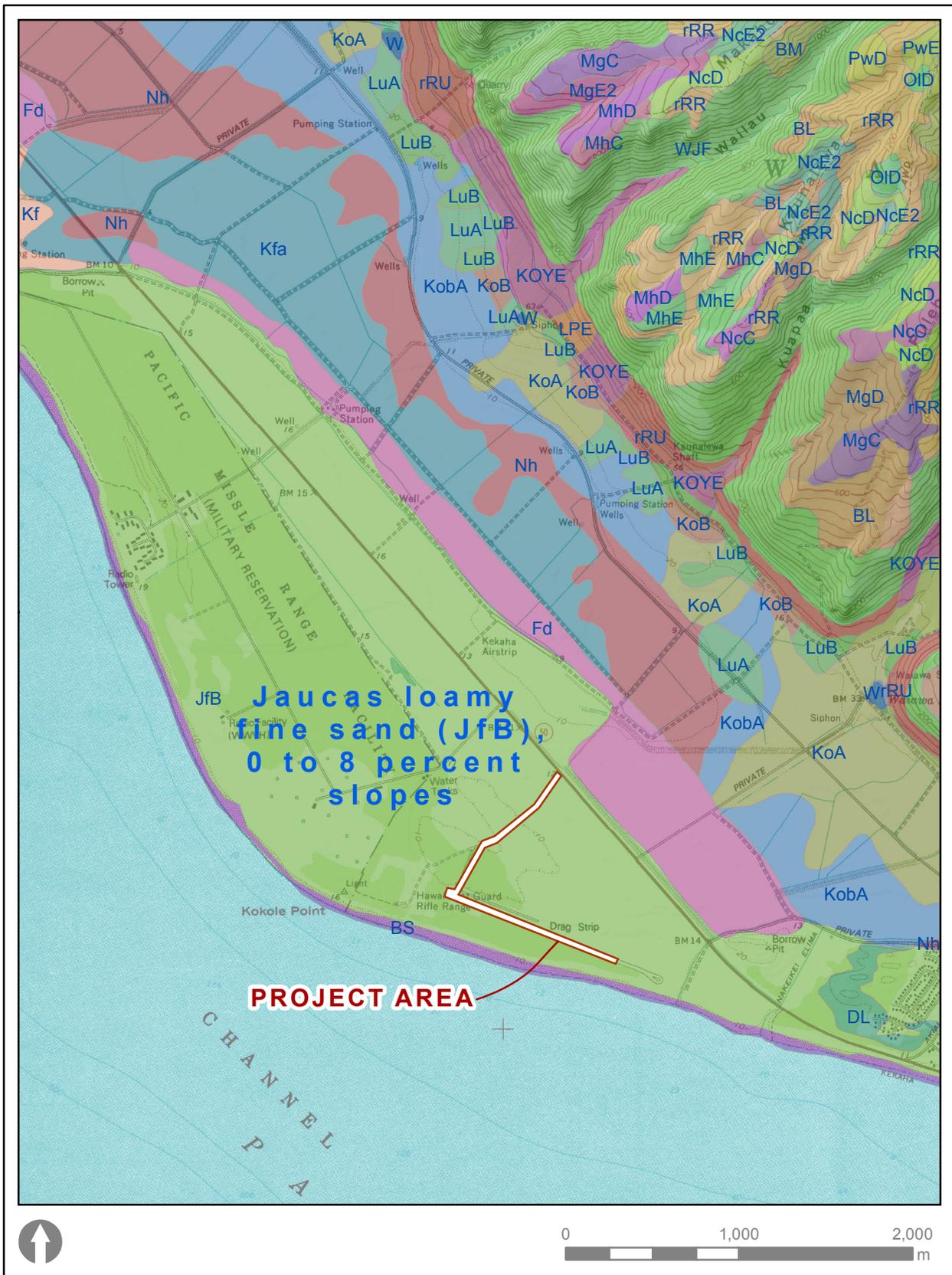


Figure 2. Soils in the Mānā Drag Strip Project Area.

RAINFALL AND HYDROLOGY

Despite receiving only 19.7 inches of precipitation per year (Giambelluca et al. (2013), the extensive wetlands formerly covered the Mānā Plain, prior to the major alterations to the area caused by sugar cane agriculture. This is because the nearby Mount Wai‘ale‘ale area averages more than 449.0 inches per year, causing considerable flow into the streams of Waimea Valley and down into the wetlands of the Mānā Plain.

VEGETATION

Vegetation in this area consists of kiawe (*Prosopis pallida*), koa haole (*Leucaena leucocephala*), and the native *naupaka* (*Scaevola taccada*) (Wagner et al. 1990).

BACKGROUND REVIEW

This section provides background information that focuses on the Mānā Plain, where the project area is located. Background information includes legends explaining the meaning associated with the Mānā Plain; traditional land use by Hawaiians; historical land use (roughly the 1800s); and 20th century land use (1900s). Research methods included the investigation of archaeological reports, books on place names in Hawai‘i, and historical books and articles.

Before presenting this background review, it is important to note the meanings of two relevant place names: Kekaha and Waimea (the *ahupua‘a* in which Kekaha is located). Kekaha literally means “the place” (Pukui et al. 1974:106). Although “the place” seems to be an ambiguous meaning, it no doubt had a specific reference. Waimea, on the other hand, literally means “reddish water” (Pukui et al. 1974:226), a more obvious moniker.

LEGENDARY HISTORY

A thorough search of literary sources found no mention of the place name “Kekaha,” although the Mānā Plain is associated with several traditional stories. One account describes the Mānā Plain as the place where the older sister of Pele, Na-maka-o-Kaha‘i (the eyes of Kaha‘i), introduced *kauna‘oa* dodder (*Cuscuta sandwichiana*), a plant with small yellow to yellowish orange flowers used for making *lei* (garland of flowers) and medicines (Pukui et al. 1974; Wagner et al. 1990).

Another legend explains that Ke-one-kani-o-Nohili, the traditional place name for Barking Sands, was known in the Waimea district as the sounding sand of Nohili (Pukui et al. 1974). Wichman (1998) describes the legend of a fisherman, Nohili, who lived near the beach with nine dogs. When he canoed out to sea he tethered the dogs, three each, to three sturdy pegs. After an exhausting fishing trip during a bad storm, he forgot to untie the dogs. He awoke the next day, to find the dogs gone. In place of the three sturdy pegs he found three small mounds of sand. When he stepped on a mound, he heard a low bark. Nohili thought that his dogs had been buried, so he began to dig. To his dismay he only discovered more sand. The fisherman finally gave up, and every day since when he crossed the beach, he could hear the low barking of dogs.

TRADITIONAL LAND USE

Traditional land use within the Mānā wetlands lands consists primarily of taro cultivation. Handy and Handy (1972) and Pukui (1983) describe the unusual way that taro was cultivated in these fresh water marshes:

Within memory of living residents wet taro was grown in the swampy ground at the northern end of the Mana marsh, and there is a tradition that formerly taro was grown on “rafts” which were floated on the marshes themselves (Handy and Handy 1972:411).

A few hundred yards east of Limahuli Stream there is a swampy area where taro was grown in a unique way that was practiced only here and in the marshes of the Mana and Wai‘eli, west of Kekaha. Swamp was piled up on rafts that were partly submerged, probably resting on the soft bottom of the swamp, and in the earth on these rafts wet taro was planted (Handy and Handy 1972:419).

Mānā, i ka pu‘e kalo ho‘one‘ene‘e a ka wai. *Mānā, where the mounded taro moves in the water.* Refers to Mānā, Kaua‘i. In ancient days there were five patches at Kolo, Mānā, in which deep water mound-planting was done for taro... The farmers built rafts of sticks and rushes, then dived into the water. They worked the bases of the taro mounds free and lifted them carefully, so as not to disturb the soil, to the rafts where they were secured. The weight of the mounds submerged the rafts but permitted the taro stalks to grow above water just as they did before the flood came. The rafts were tied together to form a large, floating field of taro (Pukui 1983: 232-233).

It is important to mention that this rare agricultural technique is not limited to the island of Kaua‘i. For example, a similar technique was practiced in Mexico, in the Chalco and Xochimilco lakebeds, known as *chinampas* (floating gardens). *Chinampa* agriculture dates back approximately to the twelfth to fourteenth centuries A.D. In general, *chinampas* are rectangular fields measuring 2 to 4 meters (m) wide and 20 to 40 m long, surrounded on three or four sides by canals. This type of agriculture promoted soil fertility, soil moisture, and year-round cultivation (Popper 2010).

The marshy lands of the Mānā Plain formed a suitable habitat for a variety of animals, including fish, shellfish, and a diversity of birds, as well as an assortment of vegetation, making this area rich in natural resources. The diverse environment of Waimea Ahupua‘a also served to provide early populations with a variety of food resources and habitation settings. In 1789 Captain George Dixon described Kekaha’s dryland cultivation of sweet potatoes, gourds, and coconuts (Handy and Handy 1972).

HISTORICAL LAND USE

The Organic Acts of 1845 and 1846 initiated the Māhele, which introduced private property rights by authorizing the sale of Hawaiian lands in fee simple.

The old feudal arrangement of joint and undivided ownership had given place to the system of individual allodial tenures, and aliens had been admitted to the enjoyment of the same rights as Hawaiian subjects in the ownership and use of land (Kuykendall 1967:298).

The land tenure in Mānā and Kekaha changed after the Māhele. In the 1850s, Archibald Archer and his partner were granted a 30-acre lease on lands in Pokoi‘i, Kekaha, and Mānā. Archer and his partner attempted to grow tobacco, but were unsuccessful. Shortly thereafter, Kamehameha IV appointed Norwegian immigrant Valdemar Knudsen as the local manager of the Crown Lands in the Waimea area (Figure 3). Under Knudsen’s direction, the Mānā Plain began producing rice and sugar cane.

In 1898, Kekaha Sugar Company was formed, beginning the expansion of sugar production (Condé and Best 1973:141). The marshy lands on the Mānā Plain were drained and converted into agricultural lands for the Kekaha Sugar Company (Handy and Handy 1972). In the early days, all water for irrigation was pumped from springs located around Kekaha. As

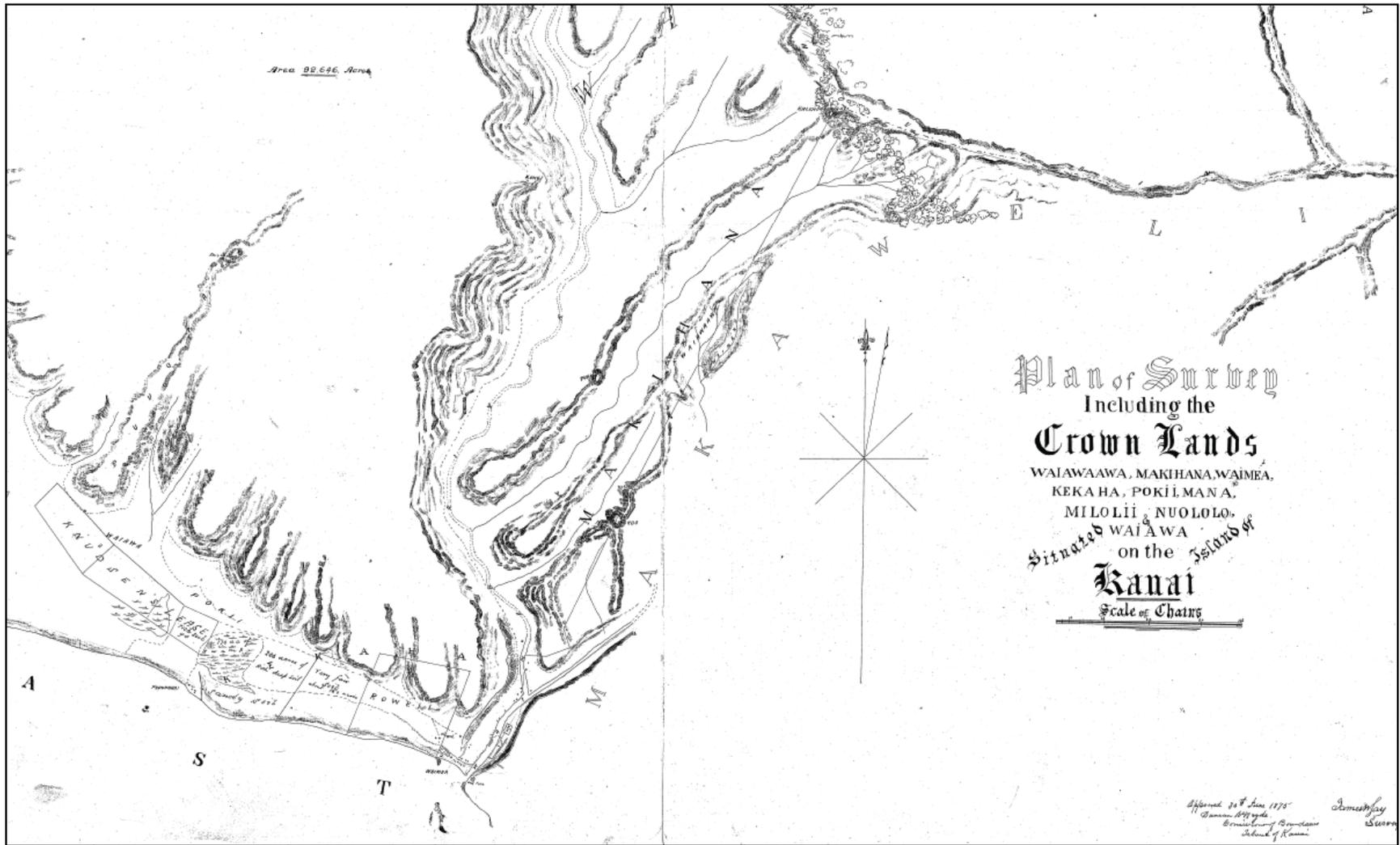


Figure 3. Map Showing Crown Lands Leased to Knudsen Dated 1874, Registered Map 1364 (State of Hawaii Land Division Survey 2014).

early as 1881, G. N. Wilcox began conducting surveys to bring water from the mountains, and in 1884 H. P. Faye drilled artesian wells on the Mānā Plain. Sugar workers completed the building of irrigation ditches and dug artesian wells in order to bring water to arid lands. As a result, 2,000 to 3,235 acres were reclaimed by 1931 and used for growing sugar cane (Saito and Campbell 1986).

TWENTIETH CENTURY LAND USE

In 1910, the Kekaha Sugar Company had built 15 miles of railroad tracks and had two locomotives. Sugar cane was transported by flume from the *mauka* (inland) fields to collection points on the railway. The nine-roller mill at the factory produced 80 tons of sugar a day and the sugar bags were sent by rail to the steamship landing at Waimea (Saito and Campbell 1986:3).

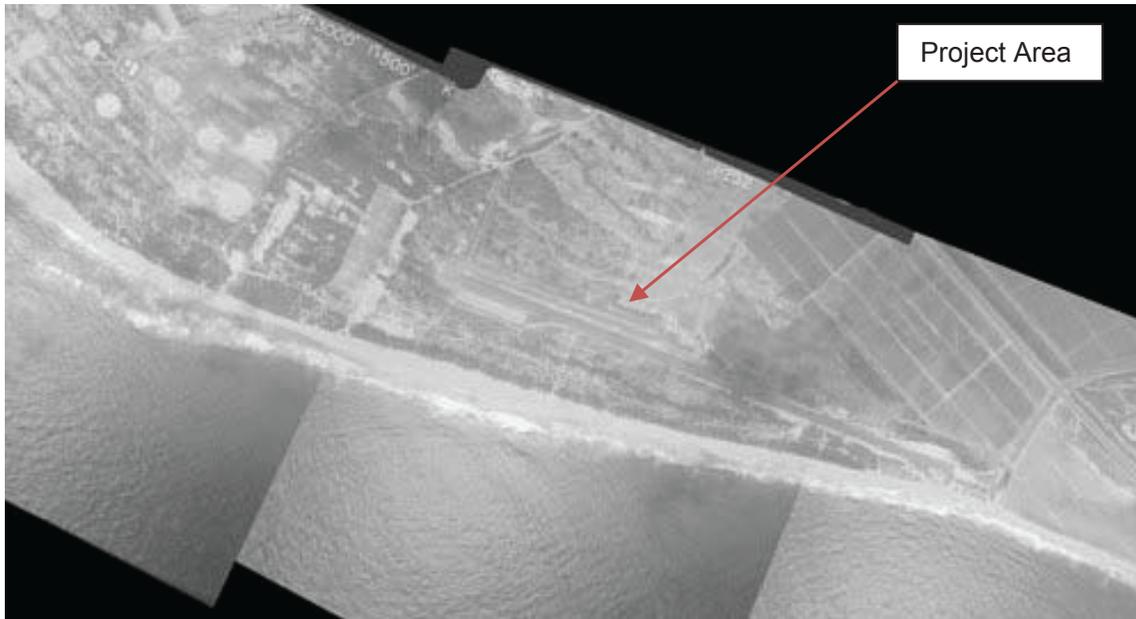
Kekaha's agricultural lands comprised over 7,000 acres by the 1930s, and had always been leased from the government. The lease required renegotiations every 15 to 35 years, depending on the terms of the existing lease.

By the 1940s, the Kekaha Sugar Company had transitioned to mechanical harvesting of sugar, and by 1947 trucks had replaced the railway system. During World War II, due to a shortage of manpower, schools in Waimea and Kekaha provided work-for-victory teams of students to help on the plantation. Other war work included The Red Cross, Kauai Volunteers, the United States Organization USO (United States Organization), and truck farming. At the end of the war, in 1945, the International Longshore and Warehouse Union (ILWU), Local 149 Unit 9, was formed at Kekaha Sugar Company (Saito and Campbell 1986:3). The Kekaha Sugar Company also used lands in the project area for pasture and holding pens for cattle and horses owned by the sugar company. In later years, the land became a dumping area for bagasse (Ching 1982:2). In 2000, the Kekaha Sugar Mill closed.

Currently, land in the project area is owned by the State of Hawaii, DLNR, and is leased to the Garden Isle Racing Association for use as a drag racing strip. Figure 4 presents two aerial photographs (University of Hawaii 2013), taken in 1950 and 1975. In the 1950 aerial photograph the Mānā Drag Racing Strip is not present. The photograph shows agricultural fields in the vicinity of the drag racing strip. The drag strip, however, is clearly visible in the 1975 aerial photo in Figure 4. According to Mr. Tony Ricci, President of the Garden Isle Racing Association, construction of the Mānā Drag Racing Strip began in 1969 and was completed in 1971 (Personal communication from Tony Ricci; March 13, 2015). Based on the 1971 completion date provided by Mr. Ricci's, the Mānā Drag Racing Strip is approximately 44 years old.



1950 Photograph



1975 Photograph

Figure 4. Aerial Photographs Illustrating Land Use in the Project Area in 1950 and 1975.

PREVIOUS ARCHAEOLOGICAL STUDIES

There have been several previous archaeological studies conducted near or within portions of the current project area, namely Ching (1982), McMahon (1988), and Folk and Hammatt (1993). Table 1 shows relevant previously recorded archaeological sites. These studies are summarized in this section and are geographically represented on Figure 5.

Table 1. Previous Archaeological Studies within 500m of the Project Area.

Reference	TMK/Location	Nature of Study	SIHP Sites	Summary of Results
Ching 1982	(4) 1-2-002:001, 009, 040	Archaeological Reconnaissance	None	No archaeological sites or artifacts were discovered.
McMahon 1988	(4) 1-2-002:040	Field Check	None	No archaeological sites or artifacts were discovered. Recommend Monitoring
Folk and Hammatt 1993	(4) 1-2-002:009	Archaeological Inventory Survey	None	No archaeological or historic sites or artifacts were discovered.
Watanabe et al. (2014)	(4) 1-2-02: 001, 009, 035, 036, 040	Archaeological Monitoring	None	No archaeological or historic sites or artifacts were discovered.

Ching (1982) conducted an archaeological reconnaissance for the proposed Kua'i central sanitary landfill project in Kekaha. No archaeological sites or artifacts were encountered during his study. Ching indicated that the lands in his project area were modified in the 1930s by the sugar plantation and others, and that a large fishpond was drained for sugar cane agriculture. Possible archaeological sites expected were fishing shrines, fishing shelters, and burials, but none of these site types were encountered. Burials were expected in sand dunes that have not been too disturbed or modified, but the sand dunes were out of project area (Ching 1982:2). The author recommended that no further archaeological studies were required in his project area.

McMahon (1988) conducted a field check of 132 acres of land that were densely covered with California grasses and koa hoale (*Leucaena leucocephala*), as well as being riddled with modern trash. Due to the dense vegetation, the field check had an inconclusive finding. The surface coral sands in beach areas were visible and the possibility for burials seemed to be high. The author recommended monitoring for activities near the coastal area.

Folk and Hammatt (1993) conducted an archaeological inventory survey for the Kekaha Phase II Landfill Site. Excavation of 55 trenches was conducted with a backhoe and a minimum of 10 feet in length and varied depths. Two features constructed in the 1950s ran through the project area: a low linear mound and an irrigation canal. The low linear mound occurred after the removal of sand from the dunes. No significant historic or cultural artifacts or archaeological

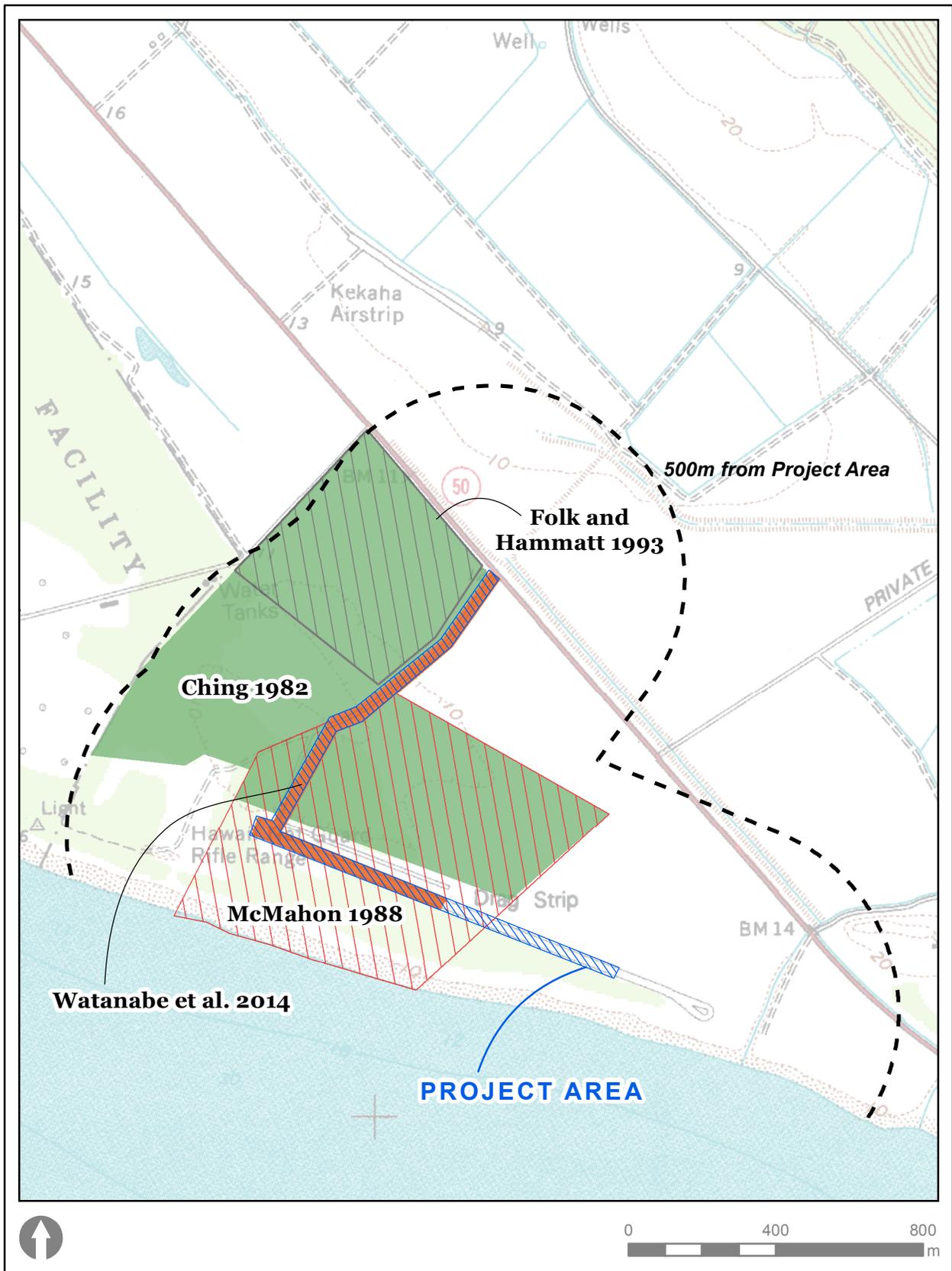


Figure 5. Locations of Previous Archaeological Studies within 500m of the Mānā Drag Strip Project Area.

sites were discovered during Folk and Hammatt's survey. No further archaeological study for this project was recommended.

Watanabe et al. (2014) conducted archaeological monitoring for improvements to the Mānā drag racing strip; this project area overlays a significant portion of the current project area (see Figure 5). Ground disturbing activities were limited to relatively shallow depths (30.0 to 38.0 cmbs) and exposed two fill layers and one in situ layer. No significant historic or cultural artifacts or archaeological sites were discovered during monitoring. However, because of the shallowness of the ground-disturbing activities, the commonality of Hawaiian burials in sand dunes, and nearby cultural deposits around 50.0 to 75.0 cmbs, Watanabe et al (2014) strongly recommended archaeological monitoring for any future ground disturbing activities deep enough to penetrate the Jaucas dune sand deposit in the project area.

Numerous archaeological studies have been conducted north of the current project area, within, and near, the Pacific Missile Range Facility (PMRF). For detailed information regarding previous investigations at PMRF see Carson (2007), Drolet (1997b), Gonzalez et al. (1990), McGerty and Spear (1997), SEARCH (2014), and Sweeny (1994). Table 2 lists the relevant previously recorded historic properties and traditional cultural properties (TCP) in the PMRF. Figure 6 illustrates the locations of the previous archaeological studies and known historic properties in the PMRF.

Site 05-1834, recorded as a Pre-Contact - traditional Hawaiian site, was reported to be a 10-acre burial site, found by base personnel in 1987 along the beach, just north of Waiokapua Bay (see Figure 4) (Drolet et al. 1996; Search 2014:154). The report of human remains has not been confirmed by archaeological investigation (SEARCH 2014: 154; Tomonari-Tuggle and Yoklavich 2005).

Site 05-2002 has been recorded as a possible World War II-era or post- World War II-era fence associated with nearby housing. This site includes 5 metal barbed wire fence posts, 1 metal grate, and 1 loose bundle of barbed wire (SEARCH 2014:168).

Site 05-2003 has been classified as a plantation period trash deposit. This site consists of deteriorated metal / wood / rubber associated with automobiles, appliances, and miscellaneous household items. The trash deposit is located east of the SE corner of "Hale Kai" officer's cottage (SEARCH 2014:165; Wulzen and Jensen 1995:B-4).

Site 05-2011 includes surface ruins of a possible World War II-era or post- World War II-era training structure (Fe. A) and a recent trash deposit (Fe. B) (SEARCH 2014:169).

Site 05-4016, a Pre-Contact traditional Hawaiian site, is a fire pit exposed at 85 centimeters below surface in a 27-meter-long backhoe trench. It is located on the north side of Waiokapua Bay. The fire pit occurred at the interface of two layers, neither of which contained evidence of cultural use. A charcoal sample from the fire pit yielded a radiocarbon date ranging from the twelfth to the fourteenth century (SEARCH 2014:153; Sweeney 1994:33-34).

Site 05-0721/Kawai'ele is recorded as a traditional Hawaiian archaeological site, a TCP, and a Plantation-period archaeological site. Kawai'ele is the name of a beach, point of land, fishing grounds, ditch, and swamp located in south-central PMRF-Barking Sands. This TCP is associated with numerous legends and traditions associated with mirages seen in this area. Kawai'ele Pond was used as a fishpond in the early historic period and presumably in the precontact era. Kawai'ele Ditch as it exists today is a late nineteenth century construct with twentieth century alterations. It has also been said that an original form of the ditch was constructed by the *menehune*, (a legendary race of small people who worked at night building fishponds, roads, and temples) (SEARCH 2014:162).

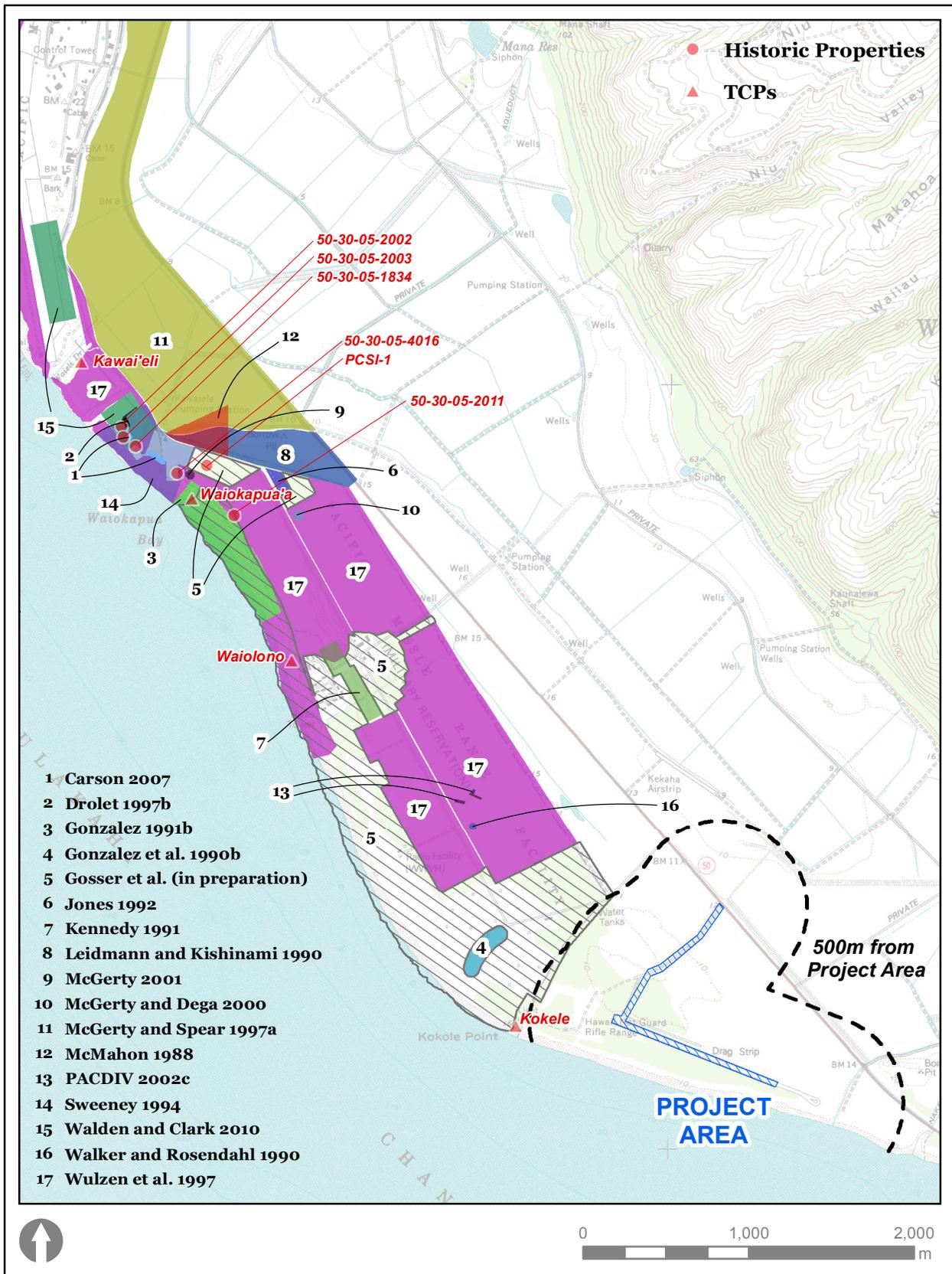


Figure 6. Locations of Previous Archaeological Studies, Known Historic Properties, and TCPs in the Southern Portion of the Pacific Missile Range Facility (PMRF).

Table 2. Historic Properties and Traditional Cultural Properties in the Southern Portion of PMRF.

SIHP* Site Number [50-30-] / Place Name	Topographic Location	Site Description	Site Function	Reference
05-1834	Barking Sands Dune	Burials (boundaries not determined)	Burial	Bennett (1931); Drolet et al. 1996; Tomonari-Tuggle and Yoklavich (2005)
05-2002	Barking Sands	Fence posts / grate / barbed wire	Enclosure (1)	SEARCH (2014)
05-2003	Barking Sands Dune	Trash Deposit	Dump / Beach Encampment	Wulzen and Jensen (1995); Tomonari-Tuggle and Yoklavich (2005)
05-2011	Barking Sands	Wooden Structure / Trash Deposit	Housing Complex	SEARCH (2014)
05-4016	Barking Sands Dune	Fire Pit	Habitation	Sweeny (1994); Tomonari-Tuggle and Yoklavich (2005)
05-0721/ Kawai'eli	Barking Sands	Marsh / Fishpond / Ditch	Habitation / Agriculture	SEARCH (2014); Tomonari- Tuggle and Yoklavich (2005)
Waiokapua'a	Barking Sands	Beach / Bay / Point	NA	SEARCH (2014)
Waiolono	Barking Sands	Beach	NA	SEARCH (2014)
Kokele	Barking Sands	Point	NA	SEARCH (2014)
05-2272	Barking Sands	Two historical concrete brick and mortar structures	Military Defensive Infrastructure	Clark et al.(2015)

*Statewide Inventory of Historic Places

Waiokapua'a, a TCP, is known as a beach/bay/point located in the southern portion of PMRF. There are no known traditions and the literal translation is "water of the pig" (Flores and Kaohi 1992:22; SEARCH 2014:160).

Waiolono, a TCP, is recognized as a beach and a point of land located in the southern portion of PMRF. The beach is known for having "tapa tearing sand crabs" and the marshy inland area (Limaloa), which is fed by a fresh water spring, is known for mirages. The literal translation for this area is "water of Lono" (Flores and Kaohi 1992:22; SEARCH 2014:160).

Kokele, a TCP, is a point located at the southern boundary of PMRF. There are no known traditions recorded for this area. The literal translation is "any food crop stunted by weeds or drought" (Flores and Kaohi 1992:18; SEARCH 2014:160).

McMahon (1988) conducted an archaeological reconnaissance inspection of a heavily vegetated 132-acre parcel at PMRF-Barking Sands. Modern rubbish, trash dumping, and an auto salvage yard were identified. It was recommended that SHPD be notified about any land clearing activities and archaeological monitoring in the area (SEARCH 2014:117).

Gonzalez et al. (1990) conducted archaeological survey and testing of two parcels in the southern portion of the current project area. Gonzalez et al. (1990) identified a 1950s-1960s domestic trash scatter and two large-mammal bone scatters in disturbed contexts. Four large mammal bones were found in a 10 m-wide area in a disturbed context within the Kokole Point Launch Facility; they were mapped and reburied. Limited testing in the area identified a possible cultural deposit 50-75 cm below the surface (SEARCH 2014:117).

Leidmann and Kishinami (1990) conducted an archaeological reconnaissance survey (three transects) and subsurface testing (10 backhoe trenches) of a proposed sand borrow site at Kawaiiele, PMRF-Barking Sands. During this survey, Leidmann and Kishinami identified a modern refuse scatter and common avifaunal and marine shell remains. No archaeological sites, features, or cultural deposits were identified. Archaeological monitoring during sand mining was recommended (SEARCH 2014:117).

Walker and Rosendahl (1990) conducted an archaeological survey of three 1-acre areas within PMRF-Barking Sands. No archaeological sites were found within the Barking Sands project areas (SEARCH 2014:118).

Gonzalez (1991) surveyed 4 areas in PMRF-Barking Sands: Areas A and B in the Nohili Dune area; Area C approximately 1 km south of the mouth of Nohili Ditch; and Area D about 1.1 km to 1.6 km south of Kawaiiele Ditch in Major's Bay. No archaeological sites, features or cultural deposits were identified (SEARCH 2014:118).

Kennedy (1991) conducted an archaeological survey and subsurface testing (31 backhoe trenches) of a 15.6-acre section within the southern portion of PMRF-Barking Sands. Kennedy identified a historic ditch, military ordnance, and a modern fire pit; no significant archaeological sites, features, or deposits were identified (SEARCH 2014:118).

Jones (1992) conducted an archaeological survey and subsurface testing (18 backhoe trenches) of a 6 acre area on the north side of Sidewinder Road at PMRF-Barking Sands. No archaeological sites, features or cultural deposits were identified; recent military use was represented by occasional bottle scatters (SEARCH 2014:119).

Sweeney (1994) conducted archaeological survey and testing (10 backhoe trenches, 9 auger cores, and 4 shovel cuts in an eroding sand bank) in two areas near Major's Bay within the southern section of PMRF-Barking Sands. During this survey, a single firepit (Site 05-4016) was identified in a charcoal lens 85 cm below surface in Trench 7. The charcoal sample from

the firepit yielded a radiocarbon date of 770 ± 60 years B.P.; representing the earliest dated evidence of human activity along southwest coast of Kaua'i (SEARCH 2014:121).

Drolet (1997b) conducted archaeological monitoring of clearing, grubbing, and 5 backhoe trenches for two 20 m-x-20 m parcels for beach cottages and a waterline trench for Beach Cottages 7 and 8 along the beach front in the central portion of PMRF-Barking Sands. No archaeological sites, features or cultural deposits were identified (SEARCH 2014:122).

McGerty and Spear (1997) conducted an archaeological reconnaissance survey of a parcel immediately adjacent to PMRF-Barking Sands and oral history interviews of six individuals about plantation-period use of the area. No archaeological sites, features or cultural deposits were identified; however oral history data for Mānā Plain, including PMRF-Barking Sands was collected (SEARCH 2014:122).

Wulzen et al. (1997) conducted an archaeological reconnaissance survey of roughly 990 acres of unimproved land at PMRF-Barking Sands. During this survey, 53 sites containing 78 features, including 2 previously recorded sites, were identified. Eight of the sites were identified as traditional Hawaiian; the remaining 45 have been identified as War II and Cold War era sites (SEARCH 2014:123).

McGerty and Dega (2000) conducted an archaeological survey of a 940 square meters area and testing excavation of 4 backhoe trenches within the south-central portion of PMRF-Barking Sands. No archaeological sites, features or cultural deposits were identified (SEARCH 2014:125).

McGerty (2001) conducted a cultural resources assessment in order to identify historic properties listed or properties eligible for the National Register of Historic Properties (NRHP) within the northern portion of the current project area. No NHRP listed or eligible historic properties were identified (SEARCH 2014:125).

The Pacific Division, Naval Facilities Engineering Command (PACDIV 2002) conducted an archaeological subsurface survey and testing (4 backhoe trenches, 13 shovel test pits) of an area north of the Nohili Ditch (Site 05-1830) to identify the eastern extent of Site 05-1829 and the potential of human burials within PMRF Barking Sands. This survey identified buried traditional Hawaiian cultural features (possible fire or refuse pits, postmold) and two cultural layers associated with Site 05-1829; future avoidance and establishment of a safety perimeter were recommended (SEARCH 2014:126).

Carson (2007) conducted archaeological testing (10 backhoe trenches) in two locations for proposed construction of new cottages and a new duplex cabin at Major's Bay, PMRF Barking Sands. No archaeological sites, features or cultural deposits were identified (SEARCH 2014:127).

Walden and Clark (2010) conducted archaeological monitoring (35 backhoe trenches) in two areas in the central portion of PMRF Barking Sands; Area 1 is in the easement east of runway and west of Nohili Road, and Area 2 includes sections along the east and west sides of Major's Bay Road. No archaeological sites, features or cultural deposits were identified; however three possible buried A-horizons were documented (SEARCH 2014:128).

Finally, Clark et al. (2015) recently completed Archaeological Inventory Survey fieldwork, including surface survey, test excavations (21 shovel test units and 40 backhoe trench units), and controlled excavations--three test units were excavated in Site 50-30-05-2272 (Site 2272--a newly documented site). Site 2272 is a World War II era site that consists of two concrete block and mortar surface structures, both of which have a "key-hole" shape. They likely date to the World War II period and functioned as anti-aircraft gun positions at the southern end of the

Airship. Three controlled excavations at the site recovered sparse historic material, including nails, asphalt and tar fragments, and metal machine gun casing links. No subsurface cultural deposits were found during shovel testing and backhoe trenching.

CULTURAL IMPACT ASSESSMENT

This cultural impact assessment presents a detailed description of the proposed development project, the methods used, and the results of this assessment.

PROJECT DESCRIPTION

The purpose of this State-funded project is to bring electricity and lighting to the Mānā Drag Racing Strip (MDRS). The Kaua'i Island Utility Cooperative (KIUC) will bring power to the track from Kaumuali'i Highway (along an access road) and install a new pad-mounted transformer (XFMR). New stadium-type lighting along the south side (*makai*) of the MDRS will illuminate the drag racing strip (Figure 7).

This work will include the installation of approximately 26 utility poles (for overhead power lines) along the right side of the access road, and along the north side (*mauka*) of the MDRS for approximately half of the racing strip's length. The utility poles will be installed every 150.0 to 200.0 feet (45.7 to 61.0 meters [m]). No conduit trenches are required for the overhead power lines. The trenches for the utility poles, however, will be 5.0 to 10.0 feet (1.5 to 3.0 m) deep.

A maximum of 18 light poles (for overhead stadium-type lights) will be installed along the south side of the drag racing strip, with associated underground electrical conduits between each light pole. The light poles will be installed every 150.0 to 200.0 feet, and approximately 2,250 linear feet (686.0 m) of subsurface electrical conduit will be installed between the light poles along the racing strip. Trenches for the electrical conduit will be approximately 2.0 feet (0.60 m) deep.

In addition to the utility poles, light poles, and underground electrical conduit trenches, approximately 125 linear feet (38.1 m) of concrete duct bank, 3.0 feet (0.90 m) deep, will cross the track on the west end of the MDRS near the burn-out box. Trenches for the installation of electrical pull boxes/handholes and a pad-mounted XFMR will also be provided for the installation of the electrical and lighting system.

METHODS

Prior to contacting the interested parties, a literature review was conducted on the land use history and previous archaeological studies completed in this area. Based on previous archaeological projects conducted within the project area (Watanabe et al. 2014), it was considered unlikely that pre-Contact period historic properties would be discovered.

Letter contact was then made with OHA, SHPD, KHCC, Friends of Iolani Palace, Kako'o O'iwi, Association of Hawaiian Civic Clubs, and Hui Malama I Na Kupuna O Hawaii Nei. Formal letters were sent out to these organizations/agencies on December 15, 2014 requesting information concerning their views on this project, including any effects it might have on historic or cultural sites that they might know about in the area. Likewise, they were asked to share any information about legends, cultural properties, or traditional practices associated with this area.

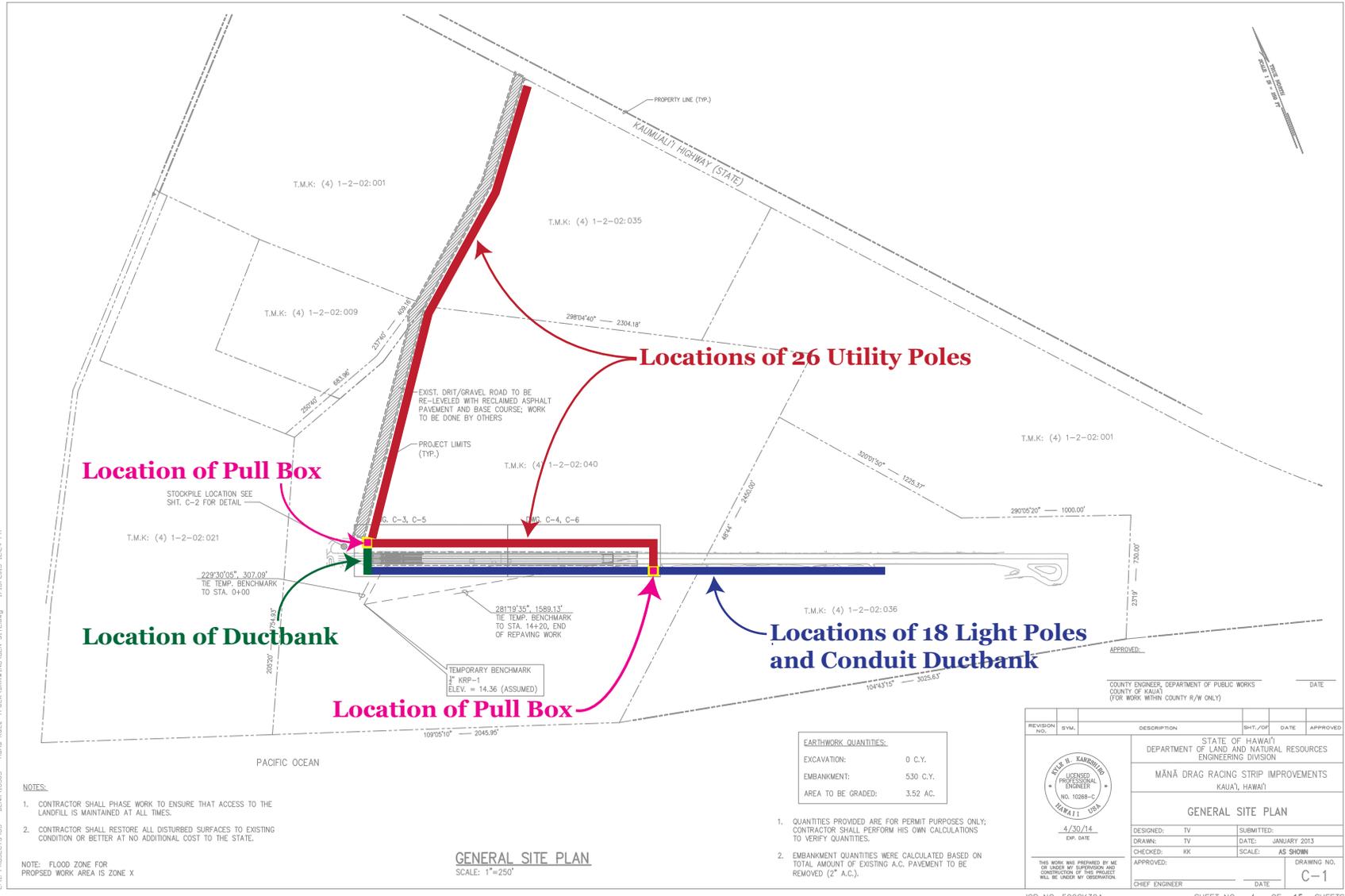


Figure 7. Map Showing Proposed Lighting Improvements at Mānā Drag Strip.

RESULTS

The responses from these agencies were as follows:

- OHA: They did not respond.
- SHPD: They provided no written response to the letter however they consulted with PCSI regarding the project and required an Archaeological Inventory Survey (AIS) and an AIS Plan that was subsequently reviewed and approved by SHPD.
- KHCC: They did not respond.
- Friends of Iolani Palace: They did not respond.
- Kako'o 'Oiwī: They did not respond.
- Association of Hawaiian Civic Clubs: They did not respond.
- Hui Malama I Na Kupuna O Hawaii Nei: They did not respond.

More recently, in March and April 2015, separate consultations in support of the Archaeological Inventory Survey (AIS) for the project included conversations with several knowledgeable individuals on Kaua'i. The AIS consultation efforts included conversations with Ms. Alethea Kaohi of West Kaua'i Technology & Visitors Center in Waimea as well Mr. Kunane Aipoalani and Ms. Debbie Ruiz, both of whom work at the PMRF just north of the Mānā Drag Racing Strip project area. Ms. Kaohi stated that the former place name for lands in the vicinity of what is now the Mānā Drag Racing Strip was "Limaloa." She said that she was not aware of any burial finds in the current project area. Neither Mr. Aipoalani nor Ms. Ruiz had heard of any accounts about Native Hawaiians formerly living or burying their dead in the vicinity of the current project area. Furthermore, they did not have any information regarding Traditional Cultural Properties or traditional practices associated with the area.

ARCHAEOLOGICAL INVENTORY SURVEY (AIS) IN SUPPORT OF LIGHTING AND ELECTRICAL IMPROVEMENTS TO THE MĀNĀ DRAG RACING STRIP

An AIS, including a pedestrian survey and a subsurface testing program for the Mānā Drag Racing Strip, was conducted by PCSI between March 16 and April 9, 2015. No archaeological surface structures or material scatters were encountered during the pedestrian survey of the project area. It was noted that the project area has been extensively modified (likely through grading and bulldozing) in support of construction of the drag strip.

Guided by the Archaeological Inventory Survey Work Plan (Watanabe et al. 2014) subsurface testing for the AIS consisted of the excavation of 15 auger holes (TR1-15) and 75 backhoe trenches (TR16-90), totaling 90 subsurface test locales. Figures 8 and 9 present the locations of TR1-90. Trenches 1-15, TR17-24, and TR87 were excavated in proposed utility pole locations. Trenches 1-15 were excavated by auger along the shoulder of the access road leading into the drag strip (see Figure 8). Trenches 17-24 were excavated by backhoe along the edge of the asphalt located north of the drag strip (see Figure 9). Trench 87 was excavated south of the paved turn-off road for the drag strip (see Figure 9). Trenches 25-82 were excavated by backhoe in proposed locations of light poles and conduit trenches in the grassy strip between the drag strip and the paved turn-off road (see Figure 9). Trench 16, as well as TR83-86 and TR88-90 were excavated in proposed locations for associated hardware such as pull boxes and transformer pads (see Figure 9).

No pre-Contact or historical subsurface archaeological materials or features were encountered during the backhoe testing. Excavations in the auger and backhoe trenches revealed stratigraphic sequences ranging from three to six layers. Stratigraphic sequences in all 90 excavations were documented during fieldwork. This documentation included stratigraphic layer descriptions, profile drawings, and digital photography of the stratigraphic



Figure 8. Project Area Showing Locations of Backhoe Trenches along Access Road, Mana Drag Racing Strip, Kauai.



Figure 9. Project Area Showing Locations of Backhoe Trenches at the Mana Drag Racing Strip, Kauai.

sequences. Several of these layers in upper proveniences are interpreted as fill deposits. The AIS report documenting this fieldwork is currently in preparation.

SUMMARY

Due to the presence of numerous archaeological sites and burial finds at locations north and west of the project area (primarily the PMRF property), an archaeological inventory survey was recently conducted (March and April 2015) in support of the proposed lighting and electrical improvements. Archival investigations, AIS consultation with knowledgeable individuals, and AIS fieldwork indicated that the Mānā Drag Strip project area has been significantly modified over the past few decades, mostly due to the installation of recreational infrastructure and landscaping associated with the drag strip. None of the individuals or organizations contacted for the AIS consultation raised any additional concerns over the proposed project. One informant provided an alternate place name of "Limaloa" that was formerly used for the project area. No other information regarding history or traditions associated with this area was obtained.

No surface or subsurface archaeological materials or features were encountered during AIS fieldwork in March and April, 2015. Because there is still a possibility of encountering subsurface archaeological materials and/or features, it is recommended that archaeological monitoring be conducted during construction work for the lighting and electrical improvements to the drag strip.

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**APPENDIX H
PRE-ASSESSMENT CONSULTATION**



THE LIMTIACO CONSULTING GROUP
CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS

November 21, 2014

Kristi Young, Deputy Field Supervisor
U.S. Department of the Interior
Fish & Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Blvd.
Honolulu, Hawaii 96850

Subject: Pre-Consultation for Environmental Assessment
Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project
Tax Map Keys (4) 1-2-002: 036 & 040
Kekaha, Kauai, Hawaii

Dear Ms. Young,

On behalf of the State Department of Land and Natural Resources (DLNR), Engineering Division, we wish to inform you that the DLNR plans construction of electrical and lighting upgrades at the Mana Drag Race Strip in Kekaha, Kauai (see enclosed Figures 1 and 2). The facility is located on State land, and is operated by the Garden Isle Racing Association (GIRA). The Mana Drag Race Strip provides a gathering place where racing enthusiasts may safely race motorcycles, dragsters, and muscle and sport cars in an organized forum.

The State funded project proposes to bring power and lighting to the Mana Drag Race Strip. To do this, the Kauai Island Utility Commission (KIUC) will bring power to the track from Kuhio Highway along an access road and install a new pad mounted transformer. New stadium-type lighting will be installed along the south side (*makai*) of the Mana Drag Race Strip to illuminate the track. Figure 3 shows the proposed improvements.

This work will include the installation of approximately 26 utility poles and overhead power lines along the west side of the access road, and along the north side (*mauka*) of the Mana Drag Race Strip for approximately half the length of the track. The utility poles will be installed every 150 to 200 feet.

A total of 18 light poles (for overhead stadium-type lights) will be installed along the makai side of the race track, with associated underground electrical conduits between the light poles. The light poles will be installed every 150 to 200 feet. Approximately 2,250 linear feet of subsurface electrical conduit will be installed between the light poles, parallel to the race track. Trenches for the electrical conduit will be approximately 2 feet deep. The proposed light fixtures will be downcast to mitigate potential effects on shorebirds.

In addition to the utility poles, light poles, and underground electrical conduit trenches, approximately 125 linear feet of concrete duct bank will cross the track on the west end of the Mana Drag Race Strip near the burnout box. Trenches for the installation of electrical pull

Pre-Consultation for Environmental Assessment, Proposed Mana Drag Strip Electrical and Lighting Upgrades Project

November 21, 2014

Page 2

boxes/handholes and a pad mounted transformer will also be provided for the installation of the electrical lighting system.

An Environmental Assessment (EA) will be prepared for this project pursuant to Chapter 343, Hawaii Revised Statutes. We are currently soliciting comments you may have regarding the proposed project for inclusion in the forthcoming EA. If you wish to provide preliminary input on the project at this time or be a consulted party while the EA is being prepared, please review the enclosed figures and submit your written comments to the address below by December 31, 2014.

Please send comments to:

Kyle Kaneshiro, P.E. LEED AP, Principal
The Limtiaco Consulting Group
1622 Kananui Street
Honolulu, HI 96817

Thank you for your interest and participation in the environmental review process. You will be notified when the Draft EA is completed and available for public review. Should you have any questions, please contact me at (808) 596-7790.

Best regards,
The Limtiaco Consulting Group, Inc.



Kyle H. Kaneshiro, P.E., LEED AP
Principal
kyle@tlcghawaii.com

Enc(s)
cc: Adrian Chang, DLNR



BARKING SANDS PACIFIC
MISSILE RANGE FACILITY
AIRPORT

KEKAHA
LANDFILL

Lighthouse Road

PROJECT LOCATION
MANA DRAG RACING STRIP

Kamuela Highway

SAMPLE



PROJECT SITE

HANAIEI

KOKE'E

KAPAA

KAUAI

MANA DRAG RACING STRIP

MANA

LIHUE

KEKAHA

WAIMEA

HANAPEPE

NAWILIWILI HARBOR

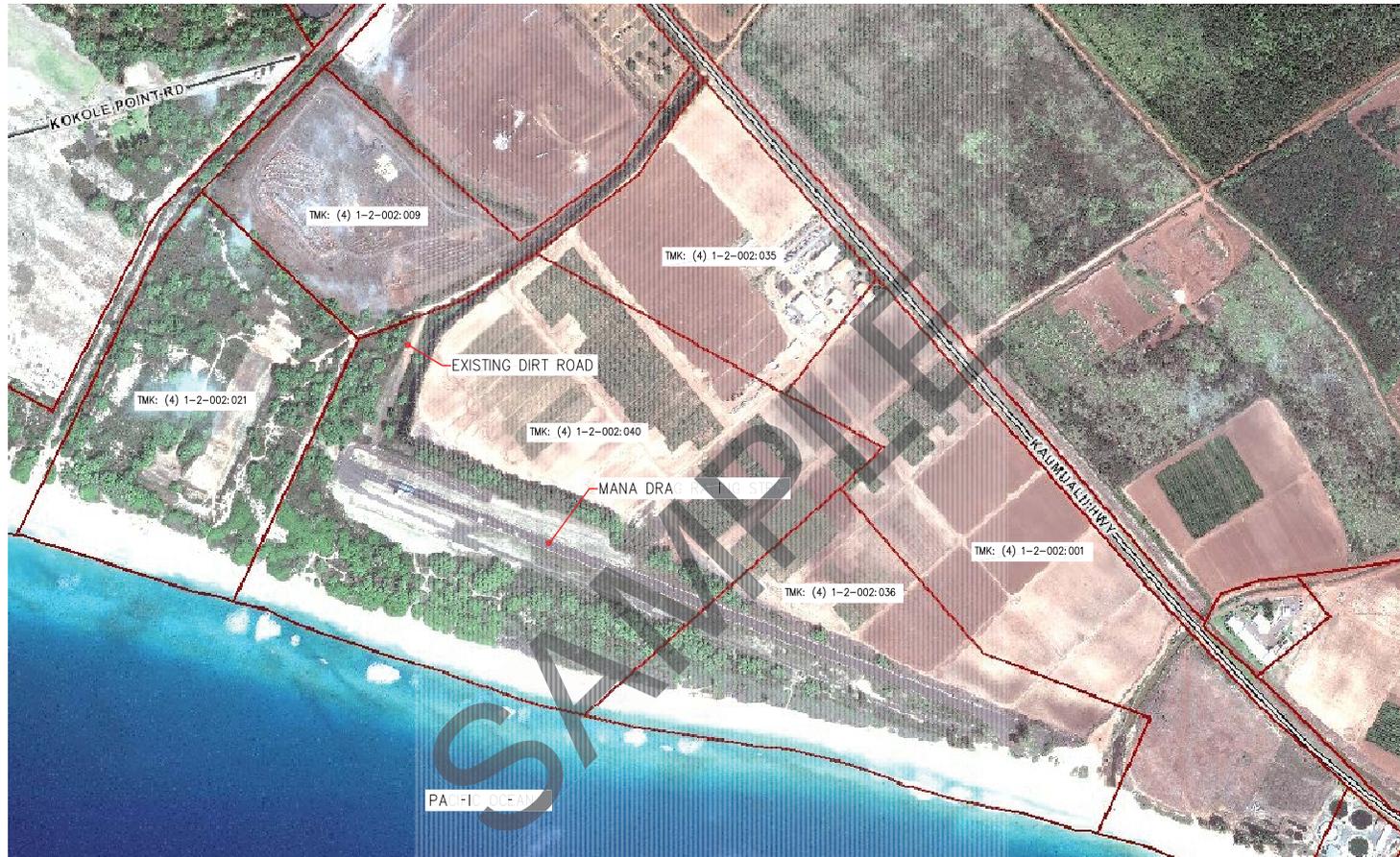
PACIFIC OCEAN

ISLAND OF KAUAI
NOT TO SCALE

THE LIMTIACO CONSULTING GROUP
CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS
690 WULF ROAD, SUITE 401 • HONOLULU, HAWAII 96817

FIGURE 1
LOCATION MAP

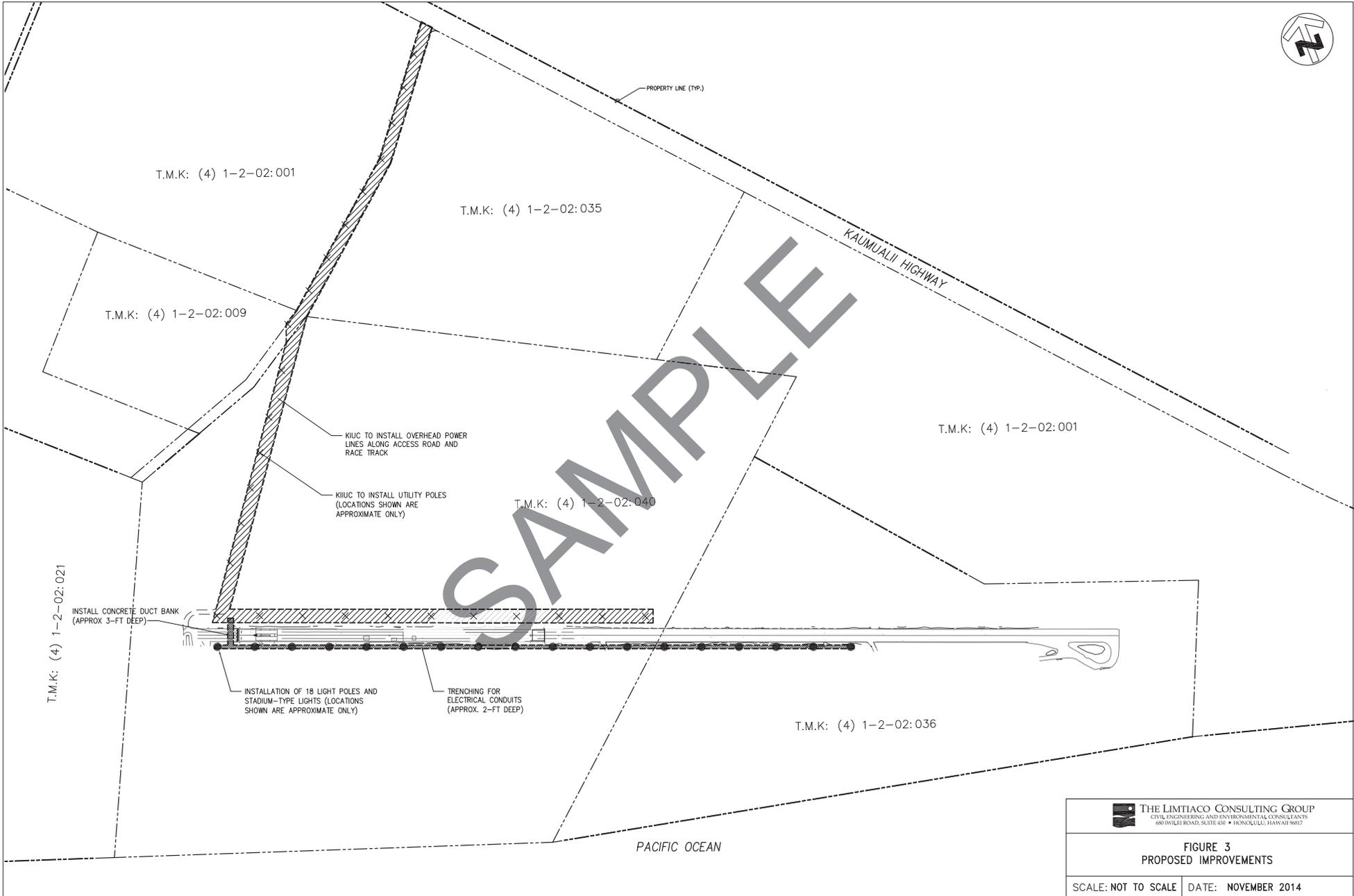
SCALE: NOT TO SCALE | DATE: NOVEMBER 2014



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FIGURE 2
 AERIAL VIEW

SCALE: NOT TO SCALE | DATE: NOVEMBER 2014




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FIGURE 3
PROPOSED IMPROVEMENTS

SCALE: NOT TO SCALE | DATE: NOVEMBER 2014



United States Department of the Interior



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

In Reply Refer To:
2015-TA-0078

10-22-14 P03:53 ROVD

Kyle Kaneshiro, P.E. LEED AP
Principal
The Limtiaco Consulting Group
1622 Kananui Street
Honolulu, HI 96817

DEC 22 2014

Subject: Technical Assistance for the Draft Environmental Assessment, Proposed Mana Drag Race Strip Electrical and Lighting Upgrades, Kauai

Dear Mr. Kaneshiro:

The U.S. Fish and Wildlife Service (Service) received your letter, dated November 21, 2014, requesting our comments on the proposed Mana Drag Race Strip Electrical and Lighting Upgrades on the island of Kauai, as a pre-consultation for the associated draft Environmental Assessment (EA). The State of Hawaii Department of Land and Natural Resources (DLNR) Engineering Division proposes to install power and new lighting at the Mana Drag Race Strip. The existing facilities are currently operated by the Garden Isle Racing Association (GIRA). The proposed project involves the installation of approximately 26 utility poles at spacing of 150 to 200 feet between poles and overhead powerlines which would span the west side of the access road and half the length of the north side of the race strip. New overhead stadium-type lighting will be installed along the south side of the race strip at spacing of 150 to 200 feet between light poles. Approximately 2,250 linear feet of subsurface electrical conduit will be installed in trenches between light poles. The trenches will be approximately two feet deep. A concrete duct bank, approximately 125 linear feet, will be installed across the west end of the race strip. The electrical lighting system upgrades will also include trenches for electrical pull boxes / hand holes and a pad mounted transformer. The property is located on State of Hawaii land at TMK (4) 1-2-002: 036 & 040. The following comments are in accordance with the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C 1531 *et seq.*).

We reviewed the information you provided and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Program, as it pertains to federally listed species and designated critical habitat. The following species are known to occur or transit through the proposed project area:



the endangered Hawaiian black-necked stilt (*Himantopus mexicanus knudseni*), Hawaiian moorhen (*Gallinula chloropus sandvicensis*), Hawaiian coot (*Fulica alai*), Hawaiian duck (*Anas wyvilliana*) (hereafter collectively referred to as Hawaiian waterbirds); the endangered Hawaiian goose (*Branta sandvicensis*); the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*); the endangered Hawaiian petrel (*Pterodroma sandwichensis*), the threatened Newell's shearwater (*Puffinus auricularis newelli*), and a candidate for listing the band-rumped storm-petrel (*Oceanodroma castro*) (hereafter collectively referred to as seabirds); and the threatened green sea turtle (*Chelonia mydas*). The proposed project area is also within designated critical habitat (currently unoccupied) for the endangered *Panicum niihauense*.

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

To aid in the drafting of your EA we provide the following recommendations to avoid and minimize project impacts to listed species, candidate species, and critical habitat.

Hawaiian Goose

In order to avoid impacts to Hawaiian geese, we recommend a biologist familiar with the nesting behavior of the Hawaiian goose survey the area prior to the initiation of any work, or after any subsequent delay in work of three or more days (during which birds may attempt nesting). If a nest is discovered, work should cease immediately and our office should be contacted for further guidance. Furthermore, all on-site project personnel should be apprised that Hawaiian geese may be in the vicinity of the project at any time during the year. If a Hawaiian goose (or geese) appears within 100 feet of ongoing work, all activity should be temporarily suspended until the Hawaiian goose (or geese) leaves the area of its own accord.

Hawaiian Hoary Bat

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

Seabirds

Seabirds, including the Newell's shearwater, Hawaiian petrel, and band-rumped storm petrel fly at night and are attracted to artificially-lighted areas resulting in disorientation and subsequent fallout due to exhaustion. Seabirds are also susceptible to collision with objects that protrude above the vegetation layer, such as utility lines, guy-wires, and communication towers.

Additionally, once grounded, they are vulnerable to predators and are often struck by vehicles along roadways. Construction activities should only occur during daylight hours. Any increase in the use of nighttime lighting, particularly during peak fallout period (September 15 through December 15), could result in additional seabird injury or mortality. The draft EA should address all potential impacts to listed seabirds and outline conservation measures to minimize these impacts.

You state in your November 21, 2014 letter that 18 light poles for overhead stadium-type lighting will be installed along the south side of the race strip. We understand the proposed light fixtures will be downcast, however, to further minimize impacts to seabirds, we recommend the lighting in the project area be fully shielded or full cut-off luminary fixtures, such that the bulb can only be seen from below using the lowest wattage bulbs possible. Additional information on the light fixtures, their height and wattage, and operational use are necessary to assess potential impacts to seabirds. Your draft EA should examine potential impacts to the Newell's shearwater, Hawaiian petrel, and band-rumped storm petrel that may occur as a result of construction and the operational use of stadium lighting. In addition to this information, the draft EA should analyze other measures to avoid potential impacts to seabirds due to seabird fallout (e.g., not operating or turning on stadium lights during the peak fallout period).

You also state that 26 utility poles and overhead power lines will need to be installed along the west side of the access road, and along the north side of the race strip. These utility poles and overhead lines may constitute a collision hazard for seabirds as they traverse between the ocean and their breeding colonies. Additional information on the proposed height of the powerlines in relation to the vegetation layer and surrounding buildings in the area is necessary to assess the potential impacts to seabirds. We suggest the draft EA provide this additional informational as well as determine whether undergrounding utility lines in this area may be feasible to avoid impacts to seabirds. If it is not feasible to underground power lines or install power lines at or the below the vegetation layer, other measures to minimize the potential for seabird collision should be analyzed in the draft EA (e.g., vertical versus horizontal arrays, etc.).

Hawaiian Waterbirds

Our records indicate there is a high probability that Hawaiian waterbirds may occur in the vicinity of the proposed project. We recommend you incorporate the following measures into your project description in the draft environmental assessment to avoid and minimize impacts to Hawaiian waterbirds:

- A biological monitor should conduct Hawaiian waterbird and nest surveys at the proposed project site prior to project initiation.
- Any documented nests or broods within the project vicinity should be reported to the Service within 48 hours.
- A 100-foot buffer should be established and maintained around all active nests and/or broods until the chicks/ducklings have fledged. No potentially disruptive activities or habitat alteration should occur within this buffer.
- The Service should be notified immediately prior to project initiation and provided with the results of pre-construction Hawaiian waterbird surveys.

- A biological monitor(s) should be present on the project site during all construction or earth moving activities to ensure that Hawaiian waterbirds and nests are not adversely impacted.
- If a listed Hawaiian waterbird is observed within the project site, or flies into the site while activities are occurring, the biological monitor should halt all activities within 100 feet of the individual(s). Work should not resume until the Hawaiian waterbird(s) leave the area on their own accord.
- A post-construction report should be submitted to the Service with 30 days of the completion of the project. The report should include the results of Hawaiian waterbird surveys, the location and outcome of documented nests, and any other relevant information.

Sea Turtles

Artificial lighting can disorient adult sea turtles and hatchlings by affecting their ability to find the ocean. To minimize potential impacts to sea turtles that may utilize beaches in the project vicinity, no light from the proposed project should be visible from the beach. We recommend installation of shielded lighting at construction sites near beaches and around shoreline developments. Shielded lights reduce the direct and ambient lighting of beach habitats within and adjacent to the project site. Effective light shields should be completely opaque, sufficiently large, and positioned so that light from the shielded source does not reach the beach. Projects should also be designed to minimize adverse impacts to basking or nesting sea turtles from off-leash pets, mammalian predators, and human disturbance.

Panicum niihauense

Portions of the beach dune area in the vicinity of the proposed project are designated critical habitat for an endangered grass, *Panicum niihauense*. The species is impacted by off-road vehicles that modify habitat and most likely destroy individual plants and invasive introduced plant species that modify dune habitat of and compete with *Panicum niihauense*. These invasive plant species include *Chloris barbata* (swollen fingergrass), *Leucaena leucocephala* (haole koa), *Prosopis pallida* (kiawe), *Atriplex semicocata* (Australian saltbush), and *Verbesina encelioides* (golden crown-beard). The endangered grass occurs on the State of Hawaii Polihale State Park. There have been no observations of this endangered plant species in the critical habitat within the project area. The Service recommends that your draft EA address any project components that have the potential to impact the critical habitat and minimize potential disturbance.

Implementation of these measures will minimize impacts but does not ensure that take of listed species associated with this proposed action will be fully avoided. Under the ESA, take is defined to mean "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering.

If it is determined that the proposed project may affect federally listed species, we recommend you contact our office early in the planning process so that we may assist you with the ESA compliance. If the proposed project is funded, authorized, or permitted by a Federal agency, then that agency should consult with us pursuant to section 7(a)(2) of the ESA. If no Federal agency is involved with the proposed project, the appropriate State of Hawaii department should apply for an incidental take permit under section 10(a)(1)(B) of the ESA. A section 10 permit application must include a habitat conservation plan that identifies the effects of the action on listed species and their habitats, and defines measures to minimize and mitigate those adverse effects.

We appreciate your efforts to conserve endangered species. Please contact Adam Griesemer, Endangered Species Biologist (phone: 808-285-8261, email: adam_griesemer@fws.gov) should you have any questions pertaining to this response.

Sincerely,



Aaron Nadig
Assistant Field Supervisor:
Oahu, Kauai, NWHI, Am.Samoa

Cc: Adrian Chang, DLNR



THE LIMTIACO CONSULTING GROUP
COURTESY, GEOTECHNICAL AND ENVIRONMENTAL ENGINEERING

June 2, 2015

Aaron Nadig, Assistant Field Supervisor
U.S. Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850
Attn: Adam Griesemer

Subject: Pre-Consultation for Environmental Assessment
Response to Comments for the Proposed Mana Drag Race Strip Electrical and
Lighting Upgrades Project
Tax Map Keys (4) 1-2-002: 036 & 040
Kekaha, Kauai, Hawaii

Dear Mr. Nadig,

Thank you for your comment letter dated December 22, 2014 regarding consultation for the State of Hawaii, Department of Land and Natural Resources (DLNR) *Mana Drag Race Strip Electrical and Lighting Upgrades* project. We have the following response to U.S. Fish and Wildlife Service (USFWS) comments:

Thank you for your comments regarding the possible presence of threatened and endangered species and/or their critical habitat within the project site including the following: Hawaiian black-necked stilt, Hawaiian moorhen, Hawaiian coot, Hawaiian duck, Hawaiian goose, Hawaiian hoary bat, Hawaiian petrel, Newell's shearwater, band-rumped storm petrel, green sea turtle, Hawaiian monk seal, and *Panicum niihauense*.

The Draft Environmental Assessment (EA) will address that fledgling Hawaiian petrel, Newell's shearwater, and band-rumped storm petrel have been known to become disoriented during their first flights due to artificial lighting. Once disoriented, the birds can easily become grounded and vulnerable to predation. To mitigate this potential impact, the Project proposes the use of downcast lighting. Downcast lighting directs light toward the ground, and does not allow large amounts of light to project to areas outside the project site. Additionally, the Garden Isle Racing Association (GIRA) has previously coordinated and will continue to coordinate their monthly race events with the USFWS to ensure minimal impacts to fledgling seabirds, particularly during the fall months.

The Draft EA will acknowledge that artificial lighting also has the potential to disorient adult and hatchling green sea turtles, which could potentially affect their ability to find their way to the ocean. To mitigate this impact, the downcast lighting will be placed on the makai side of the drag race strip and will be directed mauka (away from the beach). Additionally, no lighting will be constructed within the shoreline setback area. These measures will limit the visibility of artificial light from the beach, and will mitigate any potential adverse impacts on green sea turtles. Existing sand dunes and vegetation

Aaron Nadig, Assistant Field Supervisor

June 2, 2015

Page 2

located between the project site and the shoreline will further mitigate the potential impacts of artificial lighting on the shoreline area.

Overhead electrical lines will be constructed at a height lower than the top nearby of ironwood trees. Because the treeline is readily visible, it will cause seabirds to fly above the overhead electrical lines and will mitigate bird strikes.

The Draft EA will acknowledge that temporary construction activities have the potential to disturb endangered species habitat. In particular, vegetation clearing and earth-disturbing activities during construction have the potential to adversely impact nesting areas. To mitigate this potential impact, a biological monitor will survey the project site prior to construction to ensure no endangered or threatened species are present in areas to be disturbed. The USFWS will be notified prior to construction and will be provided with the results of this survey. Any nests or broods will be reported to the USFWS and will be protected with establishment of a 100-foot buffer area around the nest. Prior to the initiation of any earth-moving activities, a biological monitor or contractor trained in identification of threatened and endangered species will survey the areas to be affected and ensure that nests or broods will not be adversely affected. Work will be halted within 100 feet of any threatened or endangered species that enters the project site, and will not be resumed until they leave the area on their own accord. A post-construction report, including the results of surveys, locations of documented nests, and other relevant information will be submitted to the USFWS within 30 days of the completion of construction.

Thank you for your interest and participation in the environmental review process. You will be notified when the Draft EA is completed and available for public review. Should you have any questions, please contact me at (808) 596-7790.

Best regards,

The Limtiaco Consulting Group, Inc.



Kyle H. Kaneshiro, P.E., LEED AP
Principal

kyle@limtiaco.com

cc: Adrian Chang, DLNR



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

In reply, please refer to:
File:

14-936A CAB

December 16, 2014

Mr. Kyle H. Kaneshiro, P.E., LEED AP
Principal
The Limtiaco Consulting Group, Inc.
1622 Kananui Street
Honolulu, Hawaii 96817

Dear Mr. Kaneshiro:

**SUBJECT: Pre-Consultation for Environmental Assessment
Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project
Tax Map Keys: (4) 1-2-002: 036 & 040
Kekaha, Kauai, Hawaii**

The project should address any potential dust concerns from construction. The activities must comply with the provisions of Hawaii Administrative Rules, §11-60.1-33 on Fugitive Dust.

We encourage the contractor to implement a dust control plan, which does not require approval by the Department of Health, to comply with the fugitive dust regulations. The dust control measures include, but are not limited to, the following:

- a) Planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
- b) Providing an adequate water source at the site prior to start-up of construction activities;
- c) Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase;
- d) Minimizing dust from shoulders and access roads;
- e) Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
- f) Controlling dust from debris being hauled away from the project site. Also, controlling dust from daily operations of material being processed, stockpiled, and hauled to and from the facility.

If you have any questions, please contact Mr. Barry Ching of the Clean Air Branch at 586-4200.

Sincerely,

A handwritten signature in black ink, appearing to read "Nolan S. Hirai".

NOLAN S. HIRAI, P.E.
Manager, Clean Air Branch

BC:rg



THE LIMTIACO CONSULTING GROUP
A DIVISION OF THE HONOLULU CONSULTING GROUP, INC.

June 2, 2015

Nolan Hirai, P.E., Manager
Department of Health
Clean Air Branch
P.O. Box 3378
Honolulu, Hawaii 96801

Subject: Pre-Consultation for Environmental Assessment
Response to Comments for the Proposed Mana Drag Race Strip Electrical and
Lighting Upgrades Project
Tax Map Keys (4) 1-2-002: 036 & 040
Kekaha, Kauai, Hawaii

Dear Mr. Hirai,

Thank you for your comment letter dated December 16, 2014 regarding consultation for the State of Hawaii, Department of Land and Natural Resources (DLNR) *Mana Drag Race Strip Electrical and Lighting Upgrades* project. We have the following response to Clean Air Branch (CAB) comments:

We acknowledge that the project may result in temporary impacts to air quality due to ground disturbing activities during construction. The contractor will be responsible for implementing an appropriate dust control plan and will be responsible for complying with all relevant State regulations regarding air quality.

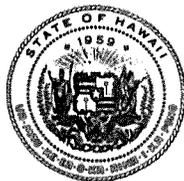
Thank you for your interest and participation in the environmental review process. You will be notified when the Draft Environmental Assessment is completed and available for public review. Should you have any questions, please contact me at (808) 596-7790.

Best regards,
The Limtiaco Consulting Group, Inc.

Kyle H. Kaneshiro, P.E., LEED AP
Principal
kyle@tlcgohawaii.com

cc: Adrian Chang, DLNR

DAVID Y. IGE
GOVERNOR OF HAWAII



KEITH YAMAMOTO
DIRECTOR OF HEALTH

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

In reply, please refer to:
EMD/CWB

12049PJF.14

December 24, 2014

Mr. Kyle H. Kaneshiro, P.E., LEED AP
Principal
The Limtiaco Consulting Group
1622 Kakanui Street
Honolulu, Hawaii 96817

DOH-11A-111-1001

Dear Mr. Kaneshiro:

**SUBJECT: Pre-Consultation for Environmental Assessment
Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project
Kekaha, Island of Kauai, Hawaii**

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated November 21, 2014, requesting comments on the subject document. The DOH-CWB has reviewed the subject document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. Your applicant may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://health.hawaii.gov/epo/files/2013/10/CWB_Oct22.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:
 - a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
 - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
 - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).
2. National Pollutant Discharge Elimination System (NPDES) permit coverage is required for pollutant discharges into State surface waters and for certain situations involving storm water (HAR, Chapter 11-55).

- a. Discharges into Class 2 or Class A State waters can be covered under an NPDES general permit only if all of the NPDES general permit requirements are met. Please see the DOH-CWB website (<http://health.hawaii.gov/cwb/>) for the NPDES general permits and instructions to request coverage.
- b. All other discharges into State surface waters and discharges into Class 1 or Class AA State waters require an NPDES individual permit. To request NPDES individual permit coverage, please see the DOH-CWB forms website located at: <http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/forms/>.
- c. NPDES permit coverage for storm water associated with construction activities is required if your project will result in the disturbance of one (1) acre or more of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. NPDES permit coverage is required before the start of the construction activities.

Land disturbance includes, but is not limited to clearing, grading, grubbing, uprooting of vegetation, demolition (even if leaving foundation slab), staging, stockpiling, excavation into pavement areas which go down to the base course, and storage areas (including areas on the roadway to park equipment if these areas are blocked off from public usage, grassed areas, or bare ground).

3. If the project involves work in, over, or under waters of the United States, it is highly recommend that your applicant contact the Army Corp of Engineers, Regulatory Branch (Tel: 438-9258) regarding their permitting requirements.

Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (Emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and HAR, Chapter 11-54.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of \$25,000 per day per violation.

Mr. Kyle H. Kaneshiro
December 24, 2014
Page 3

12049PJF.14

If you have any questions, please visit our website at: <http://health.hawaii.gov/cwb>, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,


ALEC WONG, P.E., CHIEF
Clean Water Branch

JF:bk



THE LIMHACO CONSULTING GROUP
• 162 KANAKANUI STREET, HONOLULU, HAWAII 96813 •

June 2, 2015

Alec Wong, P.E., Chief
Department of Health
Clean Water Branch
P.O. Box 3378
Honolulu, Hawaii 96801

Subject: Pre-Consultation for Environmental Assessment
Response to Comments for the Proposed Mana Drag Race Strip Electrical and
Lighting Upgrades Project
Tax Map Keys (4) 1-2-002: 036 & 040
Kekaha, Kauai, Hawaii

Dear Mr. Wong,

Thank you for your comment letter dated December 24, 2014 regarding consultation for the State of Hawaii, Department of Land and Natural Resources (DLNR) *Mana Drag Race Strip Electrical and Lighting Upgrades* project. We have the following response to Clean Water Branch (CWB) comments:

1. We acknowledge that any project and its potential impacts must meet the anti-degradation policy, designated uses, and water quality criteria outlined in the State of Hawaii (State) Water Quality Standards (Chapter 11-54, Hawaii Administrative Rules). The receiving water for the project is the Pacific Ocean, which is designated a Class A marine water in the vicinity of the project site.

The project may result in minor and temporary water quality impacts of the type and scale typical of minor construction projects which include limited amounts of ground disturbance. Appropriate construction best management practices (BMPs) will be employed to minimize water pollution and soil erosion into State waters.

The project will conform with the general policy of water quality anti-degradation (§11-54-1.1, Hawaii Administrative Rules) and will not endanger the designated uses of nearby waterbodies (§11-54-3, Hawaii Administrative Rules). Implementation of construction BMPs will mitigate possible impacts to the water quality criteria (§11-54-4, Hawaii Administrative Rules).

2. We acknowledge that a National Pollutant Discharge Elimination System (NPDES) permit must be obtained for pollutant discharges into surface waters of the State, including for certain situations involving storm water. The project involves over 1 acre of land, and will obtain an NPDES permit for storm water runoff related to construction activities.
3. The proposed project does not involve work in, over, or under Waters of the United States. If it is later found that such work is required, we understand that additional

Alec Wong, P.E., Chief

June 2, 2015

Page 2

permit requirements may be triggered pursuant to Section 401 and 404 of the Clean Water Act and Section, Rivers and Harbors Act. If such work is required, we will consult with the United States Army Corps of Engineers.

4. We acknowledge that all discharges related to the project must comply with the State water quality standards, regardless of whether or not a CWB permit is required. We understand that noncompliance may be subject to penalties of \$25,000 per day per violation.

Thank you for your interest and participation in the environmental review process. You will be notified when the Draft Environmental Assessment is completed and available for public review. Should you have any questions, please contact me at (808) 596-7790.

Best regards,
The Limtiaco Consulting Group, Inc.



Kyle H. Kaneshiro, P.E., LEED AP
Principal

cc: Adrian Chang, DLNR

DAVID Y. IGE
GOVERNOR OF HAWAII



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

JESSE K. SOUKI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

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

December 30, 2014

Kyle Kaneshiro, Principal
The Limtiaco Consulting Group
1622 Kanakanui Street
Honolulu, HI 96817

Dear Mr. Kaneshiro,

SUBJECT: Pre-Consultation for Environmental Assessment, Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project

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

At this time, enclosed are comments from (1) Land Division – Kauai District; (2) Division of Boating & Ocean Recreation; (3) Division of Aquatic Resources; (4) Office of Conservation & Coastal Lands; and (5) Engineering Division. No other comments were received as of our suspense date. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at 587-0439. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji
Land Administrator

Enclosure(s)



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 26, 2014

MEMORANDUM

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

RECEIVED
LAND DIVISION
2014 DEC -4 PM 1:01
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

FROM: *fr* Russell Y. Tsuji, Land Administrator *RS*
SUBJECT: Pre-Consultation for Environmental Assessment, Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project
LOCATION: Tax Map Keys (4) 1-2-002: 036 & 040, Kekaha, Kauai, Hawaii
APPLICANT: State Department of Land and Natural Resources, Engineering Division by its consultant The Limtiaco Consulting Group

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by **December 29, 2014**. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: *Marvin Mikasa*
Print Name: MARVIN MIKASA
Date: 12/2/14



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 26, 2014

MEMORANDUM

TO:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Kauai District
- Historic Preservation

FROM:

Fr Russell Y. Tsuji, Land Administrator *RS*

SUBJECT:

Pre-Consultation for Environmental Assessment, Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project

LOCATION:

Tax Map Keys (4) 1-2-002: 036 & 040, Kekaha, Kauai, Hawaii

APPLICANT:

State Department of Land and Natural Resources, Engineering Division by its consultant The Limtiaco Consulting Group

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by **December 29, 2014**. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: *Edward R. Underwood*

Print Name: Edward R. Underwood

Date: 12/1/14

RECEIVED
LAND DIVISION
2014 DEC -5 AM 9:53
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 26, 2014

MEMORANDUM



DAR # 5036

TO:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Kauai District
- Historic Preservation



FROM:

fr Russell Y. Tsuji, Land Administrator *RS*

SUBJECT:

Pre-Consultation for Environmental Assessment, Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project

LOCATION:

Tax Map Keys (4) 1-2-002: 036 & 040, Kekaha, Kauai, Hawaii

APPLICANT:

State Department of Land and Natural Resources, Engineering Division by its consultant The Limtiaco Consulting Group

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by **December 29, 2014**. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed:

Print Name:

Jesse Santos

Date:

12/4/04

DAVID Y. IGE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

JESSE K. SOUKI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

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

Date: 12/2/2014
DAR # 5036

MEMORANDUM

TO: William Aila Jr., Chairperson *[Signature]*
DATE: _____
FROM: Michael Fujimoto, Aquatic Biologist
SUBJECT: Pre-Consultation for EA, Proposed Mana Drag Strip Electrical and Lighting Upgrades

Comment	Date Request	Receipt	Referral	Due Date
	11/26/2014	11/26/2014	12/1/2014	12/29/2014

Requested by: Kyle Kaneshiro, The Limtiaco Consulting Group

Summary of Proposed Project

Title: Pre-Consultation for Environmental Assessment Proposed Mana Drag Race Strip Electrical and Lighting Upgrades

Project by: The Limtiaco Consulting Group, on behalf of DLNR Engineering Division

Location: Kekaha, Kauai, HI

Brief Description: The Department of Land and Natural Resources is planning to construct electrical and lighting upgrades at the Mana Drag Race Strip in Kekaha, Kauai. The proposed work will include the installation of approximately 26 utility poles and overhead power lines along the west side of the access road and along the north side (mauka) of the drag strip. In addition a total of 18 light poles for overhead lighting will be installed.

Comments: All of the proposed work will be conducted on fast land. After reviewing the information provided by the applicant for the proposed construction and upgrade activities for the Mana Drag Strip, DAR does not foresee any adverse effects on aquatic resources in the area.

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plans, DAR requests the opportunity to review and comment on those changes.

NEH. ABERCROMBIE
GOVERNOR OF HAWAII



KA-15-94

WILLIAM J. AILA, JR.
CHAIRMAN
DEPT. OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
OFFICE OF CONSERVATION AND COASTAL LANDS

2014 NOV 28 A 9:39

DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 26, 2014

MEMORANDUM

FROM
TO:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Kauai District
- Historic Preservation

2014 DEC 17 PM 1:39
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII
RECEIVED
LAND DIVISION

TO: FROM:
SUBJECT:
LOCATION:
APPLICANT:

fr Russell Y. Tsuji, Land Administrator
Pre-Consultation for Environmental Assessment, Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project
Tax Map Keys (4) 1-2-002: 036 & 040, Kekaha, Kauai, Hawaii
State Department of Land and Natural Resources, Engineering Division by its consultant The Limtiaco Consulting Group

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by **December 29, 2014**. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed:
Print Name: ALEX J. ROY
Date: 12/17/2014

DAVID Y. IGE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

JESSE K. SOUKI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

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

REF: OCCL: AJR

COR: KA-15-94

Kyle Kaneshiro
c/o The Limtiaco Consulting Group
1622 Kanakanui Street
Honolulu, HI 96817

DEC 17 2014

SUBJECT: PRE-CONSULTATION FOR ENVIRONMENTAL ASSESSMENT; PROPOSED MANA DRAG RACE STRIP ELECTRICAL AND LIGHTING PROJECT
KEKAHA, WAIMEA DISTRICT, ISLAND OF KAUA'I
TMKS: (4) 1-2-002:036 & 040

Dear Mr. Kaneshiro,

This letter is in reference to a pre-consultation request by the State of Hawaii Department of Land and Natural Resources Engineering Division for the proposed construction of electrical and lighting upgrades at the existing Mana Drag Race Strip. For reference, the majority of the proposed project will be located within the State Land Use Conservation District *Limited* Subzone with a small portion contained within an existing access road right of way (i.e., located in the Agricultural District.

This State funded project proposes to bring power and lighting to the Garden Isle Racing Association (GIRA) Mana Drag Race Strip (MDRS) which is located on State owned lands. In order to complete this proposed use the Kauai Island Utility Commission (KIUC) will bring power lines and poles to the track from Kūhiō Highway, along the existing access road to a new constructed pad-mounted transformer. New, stadium-type lighting will be installed along the south side of the existing track and will include the installation of approximately 26 new utility poles, and 18 new light poles with associated underground utility conduits. Additional work includes the construction of approximately 2,250 linear feet of subsurface electrical conduit, and trenching to accommodate the new conduit line.

After reviewing the submitted material and information the OCCL has determined that:

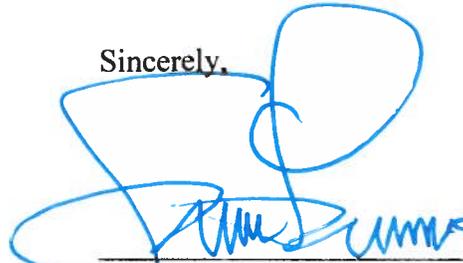
1. The installation of new electrical and lighting appurtenances, trenching and construction at the existing *Mana Drag Race Strip* is an identified land use in the Conservation District Limited Subzone pursuant to Hawaii Administrative Rules (HAR) §13-5-22, P-8 **STRUCTURES AND LAND USES, EXISTING, (C-1) Moderate alteration of existing**

structures, facilities, uses, and equipment. In order to apply for this use the applicant will be required to submit a complete Conservation District Use Application (CDUA) and all associated information to apply for a *Departmental Permit*;

2. Pursuant to HAR §13-5-40, *Hearings*, this project *will not* require a public hearing;
3. In conformance with §343, Hawaii Revised Statutes (HRS), as amended, and HAR, §11-200-8, this proposed project will require the filing of an Environmental Assessment (EA); and
4. The project is located within the County of Kaua'i Special Management Area (SMA) therefore an SMA approval or determination from the County of Kaua'i Planning Department will be required as part of the application process.

Should you have any questions regarding this letter or the CDUA process, please contact Alex J. Roy, M.Sc. of the Office of Conservation and Coastal Lands staff at 808-587-0316 or via email at alex.j.roy@hawaii.gov

Sincerely,



Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

CC: *Kaua'i Board Member*
KDLO
DOFAW
Engineering



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 26, 2014

MEMORANDUM

TO: FR

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division**
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Kauai District
- Historic Preservation

FROM: FR

Russell Y. Tsuji, Land Administrator *RS*

SUBJECT: Pre-Consultation for Environmental Assessment, Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project

LOCATION: Tax Map Keys (4) 1-2-002: 036 & 040, Kekaha, Kauai, Hawaii

APPLICANT: State Department of Land and Natural Resources, Engineering Division by its consultant The Limtiaco Consulting Group

RECEIVED
 LAND DIVISION
 2014 DEC 23 PM 3:35
 DEPT. OF LAND & NATURAL RESOURCES
 STATE OF HAWAII

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by **December 29, 2014**. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: *Cory S. Chang*
 Print Name: Cory S. Chang, Chief Engineer
 Date: 12/23/14

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji

REF: Pre-Consultation for EA for Proposed Mana Drag Race Strip Electrical and Lighting

Upgrades Project, Kekaha

Kauai.007

COMMENTS

- () We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ____.
- (X) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zones VE, AE, and X. The National Flood Insurance Program regulates developments within Zones VE and AE as indicated in bold letters below, but not Zone X.
- () Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ____.
- (X) Please note that the project site must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

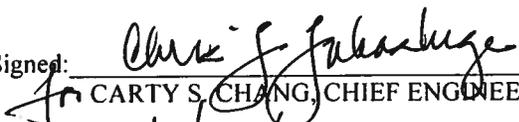
Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable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

- () Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.
- () Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
- () Mr. Carolyn Cortez at (808) 270-7253 of the County of Maui, Department of Planning.
- (X) Mr. Stanford Iwamoto at (808) 241-4896 of the County of Kauai, Department of Public Works.
- () The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
- () The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

- () Additional Comments: _____

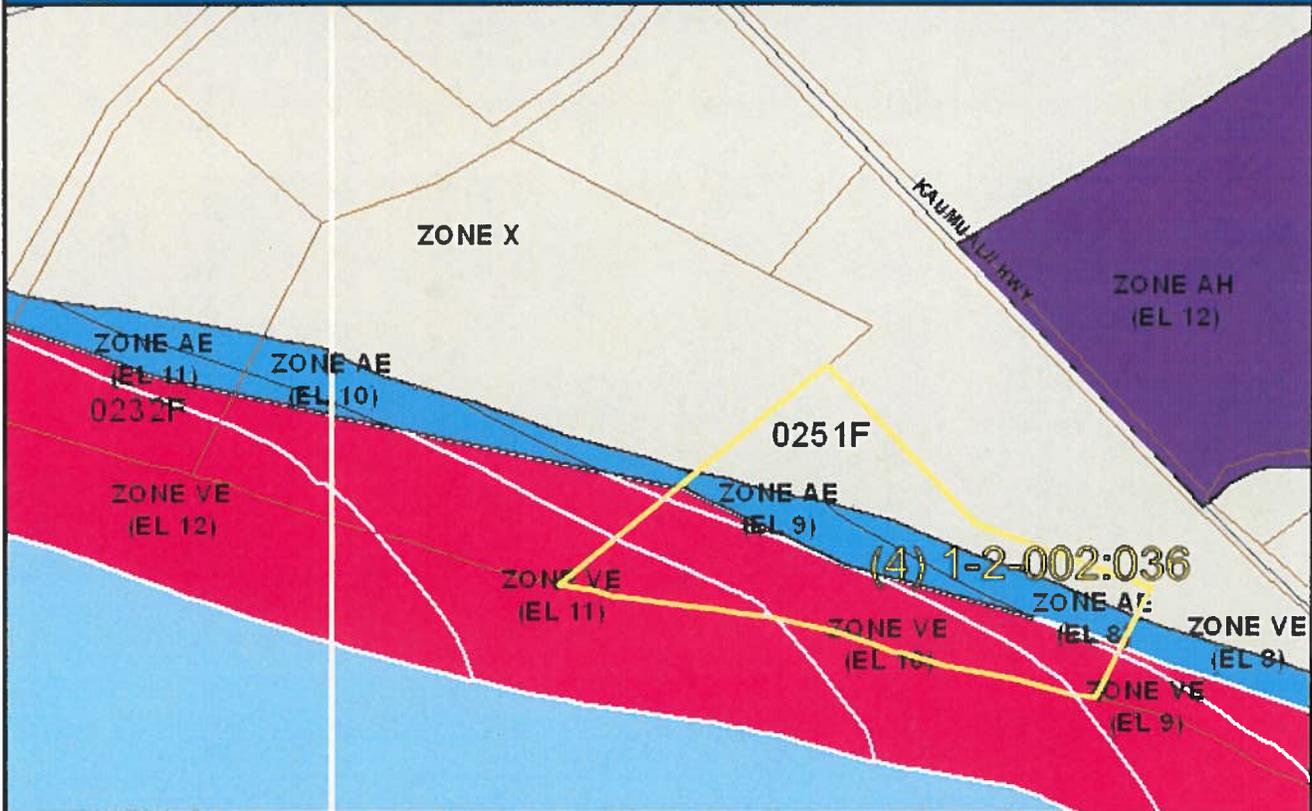
- () Other: _____

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

Signed: 
CARTY S. CHANG, CHIEF ENGINEER
Date: 12/23/14



State of Hawaii FLOOD HAZARD ASSESSMENT REPORT



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD ZONE DEFINITIONS

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD – The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water-surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

- Zone A:** No BFE determined.
- Zone AE:** BFE determined.
- Zone AH:** Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
- Zone AO:** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
- Zone V:** Coastal flood zone with velocity hazard (wave action); no BFE determined.
- Zone VE:** Coastal flood zone with velocity hazard (wave action); BFE determined.
- Zone AEF:** Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA – An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

- Zone XS (X shaded):** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- Zone X:** Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

- Zone D:** Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

PROPERTY INFORMATION

COUNTY:	KAUAI
TMK NO:	(4) 1-2-002-036
PARCEL ADDRESS:	
FIRM INDEX DATE:	NOVEMBER 26, 2010
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL(S):	1500020251F
PANEL EFFECTIVE DATE:	NOVEMBER 26, 2010

PARCEL DATA FROM:	JANUARY 2012
IMAGERY DATA FROM:	MAY 2005

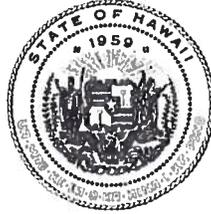
IMPORTANT PHONE NUMBERS

<u>County NFIP Coordinator</u>	
County of Kauai	
Stanford Iwamoto, P.E.	(808) 241-4896
<u>State NFIP Coordinator</u>	
Carol Tyau-Beam, P.E., CFM	(808) 587-0267

Disclaimer: The Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use of the information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR from any liability, which may arise from its use.

If this map has been identified as 'PRELIMINARY' or 'UNOFFICIAL', please note that it is being provided for informational purposes and is not to be used for official/legal decisions, regulatory compliance, or flood insurance rating. Contact your county NFIP coordinator for flood zone determinations to be used for compliance with local floodplain management regulations.

DAVID Y. IGE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

CARTY S. CHANG
ACTING CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

FIRST DEPUTY

WILLIAM M. TAM
INTERIM 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

January 9, 2015

Kyle Kaneshiro, Principal
The Limtiaco Consulting Group
1622 Kananui Street
Honolulu, HI 96817

via email: kyle@tlcghawaii.com

Dear Mr. Kaneshiro,

SUBJECT: Pre-Consultation for Environmental Assessment, Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments sent to you dated December 30, 2014, enclosed are additional comments from the Division of Division of Forestry & Wildlife on the subject matter. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji
Land Administrator

Enclosure(s)



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 26, 2014

MEMORANDUM

TO:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Kauai District
- Historic Preservation

FROM:

Russell Y. Tsuji, Land Administrator

SUBJECT:

Pre-Consultation for Environmental Assessment, Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project

LOCATION:

Tax Map Keys (4) 1-2-002: 036 & 040, Kekaha, Kauai, Hawaii

APPLICANT:

State Department of Land and Natural Resources, Engineering Division by its consultant The Limtiaco Consulting Group

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by **December 29, 2014**. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: _____

Print Name: _____

Date: _____

[Handwritten Signature]
LISA HADWAY
12/23/14

2014 DEC 26 AM 10:05
RECEIVED
LAND DIVISION
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

JESSE K. SOUKI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
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CONSERVATION AND RESOURCES ENFORCEMENT
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FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

December 17, 2014

TO: Russell Y. Tsuji, Administrator
Land Division

FROM: Lisa J. Hadway, Administrator
Division of Forestry and Wildlife

A handwritten signature in blue ink, appearing to read "Lisa J. Hadway".

SUBJECT: Comments on Pre-Consultation for Environmental Assessment, Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project

The Division of Forestry and Wildlife (DOFAW) has received your November 26, 2014 memo and appreciates the opportunity to comment on the Pre-Consultation for an Environmental Assessment on the Proposed Mana Drag Race Strip Electrical and Lighting Upgrades Project on the island of Kaua'i. It is our understanding that the proposed action includes installation of approximately 26 utility poles and overhead power lines and 18 light poles with overhead stadium-type lights with downcast fixtures.

DOFAW is concerned that the project components and activities have the potential to adversely impact three threatened and endangered seabirds on Kaua'i including the Hawaiian petrel (*Pterodroma sandwichensis*, federal and state-listed endangered), Newell's shearwater (*Puffinus newelli*, federal and state-listed threatened), and Band-rumped storm petrel (*Oceanodroma castro*, state-listed endangered).

Collision of seabirds with utility lines has been documented in Kaua'i since the 1970s. Furthermore, DOFAW has been working on new techniques in monitoring seabird collision with utility lines on the island of Kaua'i, which has provided additional evidence that utility line collision is a considerable threat to our threatened and endangered seabirds.

Additionally, artificial lighting can adversely impact seabirds by causing disorientation which may result in collision with manmade artifacts such as power lines, buildings, fences and vehicles. Fledgling seabirds are especially affected by artificial lighting during the fledging period (September – December). Young seabirds attracted to artificial lighting may become grounded due to exhaustion from circling these light sources. Unable to take-off these birds become vulnerable to predation from predators such as mongoose, cats, pigs, and dogs. DOFAW acknowledges that proposed stadium lighting will be downcast and recommends a meeting with DOFAW to ensure that effective avoidance measures are in place to prevent these adverse impacts to native seabirds.

DOFAW, in coordination with the US Fish and Wildlife Service, has been developing a Habitat Conservation Program, to address island-wide incidental take of listed seabirds from impacts associated with light attraction and collision with utility lines. The development of this program and eventual approval will allow for projects that are unable to avoid impacts to listed seabirds due to light attraction and utility line collision to move forward under the provisions of our state endangered species statute, HRS Chapter 195D. DOFAW recommends a meeting be arranged to determine if and how this project may fit into the Habitat Conservation Program in development.

DOFAW appreciates the opportunity to provide comments on this project and request that Land Division continue to seek input from DOFAW on impacts to wildlife.

If you have any questions, please contact Ms. Afsheen Siddiqi, Conservation Initiatives Coordinator, at 808-587-0010.



THE LIMHACO CONSULTING GROUP
ENGINEERING • PLANNING • DESIGN • ENVIRONMENTAL

June 2, 2015

Russel Y. Tsuji, Administrator
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawaii 96809
Attn: Steve Molmen

Subject: Pre-Consultation for Environmental Assessment
Response to Comments for the Proposed Mana Drag Race Strip Electrical and
Lighting Upgrades Project
Tax Map Keys (4) 1-2-002: 036 & 040
Kekaha, Kauai, Hawaii

Dear Mr. Tsuji,

Thank you for your comment letters dated December 30, 2014 and January 9, 2015, which contained comments from the (1) Land Division – Kauai District, (2) Division of Boating and Recreation, (3) Division of Aquatic Resources, (4) Office of Conservation and Coastal Lands, (5) Engineering Division and (6) Division of Forestry and Wildlife. We have the following responses to comments.

Land Division – Kauai District

We acknowledge that the Land Division – Kauai District does not have any objections to the proposed project.

Division of Boating and Ocean Recreation

We acknowledge that the Division of Boating and Ocean Recreation does not have any comments on the proposed project.

Division of Aquatic Resources

We acknowledge that the Division of Aquatic Resources does not foresee any adverse effects on aquatic resources due to the proposed project.

Office of Conservation and Coastal Lands

We acknowledge that much of the project area is located within the Limited Subzone of the Conservation State Land Use District. Thank you for your determination that based on the information we have provided, the Office of Conservation and Coastal Lands considers the project to fall under “Moderate alteration of existing structures, facilities, uses, and equipment”. We understand that the proposed project will require a Departmental Permit pursuant to Chapter 13-5, Hawaii Administrative Rules. Thank you for your determination that this project will not require public hearing.

We understand the project requires preparation of an Environmental Assessment pursuant to Chapter 343, Hawaii Revised Statutes. We are currently in the process of preparing the

Russell Y. Tsuji, Administrator

June 2, 2015

Page 2

Draft Environmental Assessment, and will notify you when it has been published for public review.

We understand that the project is located in the Special Management Area (SMA), and intend to pursue a SMA Major from Kauai County.

Engineering Division

We acknowledge that the project site is located within Flood Zones AE and VE. The proposed improvements will be designed in accordance with all Federal, State and local regulations regarding development within flood hazard districts.

Division of Forestry and Wildlife

Thank you for your comments regarding project components and activities that have the potential to adversely impact the Hawaiian petrel (*Pterodroma sandwichensis*), Newell's shearwater (*Puffinus newelli*), and Band-rumped storm petrel (*Oceanodroma castro*). We understand that the collision of seabirds with utility lines has been documented since the 1970s, and that artificial lighting can cause the disorientation and grounding of fledgling seabirds.

Overhead electrical lines will only be installed where there is an existing tree line. The overhead lines will be installed at a height lower than the existing tree line to minimize potential for seabird collision.

Thank you for your comment that artificial lighting can adversely impact seabirds. Our Draft Environmental Assessment will include your recommendation that stadium lighting shall be downcast to minimize any potential impacts to seabirds.

We will review any available information regarding the draft Habitat Conservation Program addressing the island-wide incidental take of listed seabirds from impacts associated with light attraction and collision with utility lines. Any relevant information will be included in the Draft Environmental Assessment.

In the past, the Garden Isle Racing Association has scheduled their events in collaboration with the U.S. Fish and Wildlife Service to mitigate the effects of artificial lighting on seabirds and their fledgling. This coordination will continue in the future.

Based on discussions with Division of Forestry and Wildlife staff, the Draft Environmental Assessment will recommend that stadium lighting be faced away from the shoreline. Facing the lighting away from the shoreline will prevent unnecessary light contamination on the shoreline, which has the potential to disorient sea turtles and their hatchlings.

To mitigate potential construction impacts, a biological monitor will survey the project site prior to construction to ensure no endangered or threatened species are present in areas to be disturbed. The U.S. Fish and Wildlife Service (USFWS) will be notified prior to construction and will be provided with the results of this survey. Any nests or broods will be reported to the USFWS and will be protected with establishment of a 100-foot buffer area around the nest. Prior to the initiation of any earth-moving activities, a biological monitor or contractor trained in identification of threatened and endangered species will survey the

Russell Y. Tsuji, Administrator

June 2, 2015

Page 3

areas to be affected and ensure that nests or broods will not be adversely affected. Work will be halted within 100 feet of any threatened or endangered species that enters the project site, and will not be resumed until they leave the area on their own accord. A post-construction report, including the results of surveys, locations of documented nests, and other relevant information will be submitted to the USFWS within 30 days of the completion of construction.

Thank you for your interest and participation in the environmental review process. You will be notified when the Draft Environmental Assessment is completed and available for public review. Should you have any questions, please contact me at (808) 596-7790.

Best regards,

The Limtiaco Consulting Group, Inc.



Kyle H. Kaneshiro, P.E., LEED AP
Principal

cc: Adrian Chang, DLNR, Engineering Division
Marvin Mikasa, DLNR Land Division – Kauai District
Edward Underwood, DLNR Division of Boating and Ocean Recreation
Michael Fujimoto, DLNR Division of Aquatic Resources
Samuel J. Lemmo, DLNR Office of Conservation and Coastal Lands
Lisa Hadway, DLNR Division of Forestry and Wildlife

David Ige
GOVERNOR OF HAWAII



**HISTORIC PRESERVATION DIVISION
DEPARTMENT OF LAND AND NATURAL RESOURCES**

601 Kamokila Boulevard, Suite 555
Kapolei, HI 96806

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

JESSE K. SOUKI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

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

December 26, 2014

Kyle Kaneshiro, P.E., Principal
The Limtiaco Consulting Group
622 Kananui Street
Honolulu, Hawaii 96817

12-26-14 10:00 AM RCVD

LOG NO: 2014.05580
DOC NO: 1412MN29
Archaeology

Dear Mr. Kaneshiro:

**SUBJECT: Chapter 6E-8 Historic Preservation Review -
Mānā Drag Racing Strip Electrical and Lighting Upgrades Project
Waimea Ahupua'a Kona District, Island of Kaua'i
TMK: (4) 1-2-002: 001, 009, 035, 036, 040**

Mahalo for your letter initiating pre-consultation for the environmental assessment for the proposed Mana Drag Racing Strip electrical and lighting upgrades. We received your letter and attached map and photograph on November 25, 2014. An Environmental Assessment (EA) is being prepared for this project pursuant to Chapter 343 of the Hawaii Revised Statutes, and Limtiaco Consulting Group is soliciting comments for inclusion within the forthcoming EA.

Mahalo for considering potential impacts of the project on cultural and historic resources, in accordance with the Hawaii Administrative Rules (HAR) §13-275. We have approved the archaeological inventory survey (AIS) work plan provided by Pacific Consulting Services, Inc. (*Work Plan for Archaeological Survey and Testing in Support of Lighting and Electrical Improvements at the Mānā Drag Racing Strip in Kekaha, Waimea Ahupua'a, Kona District, Island of Kaua'i, Hawai'i. TMK: (4) 1-2-002:001, 009, 035, 036, 040* T. Watanabe, J. Walden, S. Clark, M. Mintmier, and S. Collins; Log No. 2014.05153, Doc No. 1412MN15). We received the work plan on November 28, 2014.

At the request of The Limtiaco Consulting Group, Inc., Pacific Consulting Services, Inc (PCSI) will conduct an archaeological inventory survey in support of improvements to the Mānā drag racing strip, located along the coast in Kekaha. The project is state-funded and the land is owned by the Department of Land and Natural Resources (DLNR). The project proposes installation of electricity and lighting to the drag racing strip. The work includes routing electricity via an access road from Kuhio Highway to the strip, installation of a new pad-mounted transformer (XFMR), installation of approximately 26 utility poles (for overheard power lines) to bring electricity to the strip, 18 light poles along the south side of the strip, including underground electrical conduit trenches, and approximately 125 linear feet of concrete duct bank, as well as trenches for the installation of the electrical pull boxes/handholes and the pad mounded XFMR. The project area is primarily underlain with Jaucas loamy fine sand (JfB), Beach coarse sand (BS) and Fill Land silty clay (Fd) (USDA 2012). Previous archaeological work within the project area has yielded sparse or negative findings. However, archaeological work conducted north of the project area, within the Pacific Missile Range Facility (PMRF) Barking Sands, has identified numerous sites, including pre-Contact Hawaiian sites, traditional cultural properties (TCPs), and historic and World War II (WWII) sites.

In addition to 100% pedestrian survey, Pacific Consulting Services, Inc. (PCSI) will conduct subsurface testing via the excavation of 80 backhoe trenches, placed throughout the project area. Prior to excavation, PCSI will tone for utility lines to avoid impacting existing subsurface utility lines. The trenches will be approximately 2 meters², and 1.3-1.5 meters deep, and will follow the design plans for installation of the utility lines and light poles. The Archaeological Inventory Survey will follow the guidelines pursuant to HAR§13-276 for documentation, laboratory and archival work.

Mr. Kyle Kaneshiro
December 26, 2014
Page 2

The Archaeological Inventory Survey (AIS) will determine if historic properties are present in the project area and may be affected by the project. Once the AIS is complete, we look forward working with the Limtiaco Consulting Group and DLNR to determine the best strategy for mitigating potential effects to historic properties. Mahalo for early consultation on this project. Please contact the Kaua'i archaeologist Mary Jane Naone at (808) 271-4940 or Maryjane.naone@hawaii.gov if you have questions regarding this letter.

Aloha,

A handwritten signature in black ink, appearing to read 'Theresa K. Donham', with a horizontal line extending to the right.

Theresa K. Donham
Archaeology Branch Chief



THE LIMTIACO CONSULTING GROUP

CONSULTING IN PLANNING AND ENVIRONMENTAL SERVICES

June 2, 2015

Theresa K. Donham, Archaeology Branch Chief
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Boulevard, Suite 555
Kapolei, Hawaii 96806
Attn: Mary Jane Naone

Subject: Pre-Consultation for Environmental Assessment
Response to Comments for the Proposed Mana Drag Race Strip Electrical and
Lighting Upgrades Project
Tax Map Keys (4) 1-2-002: 036 & 040
Kekaha, Kauai, Hawaii

Dear Ms. Donham,

Thank you for your comment letter dated December 26, 2014 regarding consultation for the State of Hawaii, Department of Land and Natural Resources (DLNR) *Mana Drag Race Strip Electrical and Lighting Upgrades* project. We have the following response to State Historic Preservation Division (SHPD) comments:

Surface and sub-surface survey work at the project site has been completed by Pacific Consulting Services, Inc. (PCSI), and an "End of Field Report" has been submitted to the SHPD by PCSI. The survey found no archaeological materials during and learned of no cultural resources at the project site. An archaeological inventory survey (AIS) is being prepared by PCSI. Once completed, the AIS will be submitted to the SHPD for review and approval. Due to the lack of resources discovered at the project site, we anticipate no significant adverse impacts on archaeological, historic, or cultural resources as a result of the proposed project. We will continue to coordinate with your office to determine whether archaeological monitoring should be performed during construction.

Thank you for your interest and participation in the environmental review process. You will be notified when the Draft Environmental Assessment is completed and available for public review. Should you have any questions, please contact me at (808) 596-7790.

Best regards,
The Limtiaco Consulting Group, Inc.

Kyle H. Kaneshiro, P.E., LEED AP
Principal

kk20@lcsghawaii.com

cc: Adrian Chang, DLNR, Engineering Division



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
560 N. NIMITZ HWY., SUITE 200
HONOLULU, HAWAII 96817

HRD14/7320

December 30, 2014

Kyle Kaneshiro, P.E. LEED AP, Principal
The Limtiaco Consulting Group
1622 Kananui Street
Honolulu, HI 96817

Re: Pre-Consultation on Environmental Assessment
Mānā Drag Race Strip Electrical and Lighting Upgrades Project
Waimea Ahupua'a, Kona Moku, Kaua'i
Tax Map Key: (4) 1-2-002:036, 040

Aloha e Kyle Kaneshiro:

The Office of Hawaiian Affairs (OHA) is in receipt of your November 21, 2014 letter, pre-consultation on a draft environmental assessment (DEA), seeking comments for the proposed Mānā Drag Race Strip Electrical and Lighting Upgrades Project ("the project"). According to your letter, the project proposes to bring power and lighting to the Mānā Drag Race Strip ("the strip"). Kaua'i Island Utility Commission will bring power to the track from Kuhio Highway and install a new pad-mounted transformer. New stadium-type lighting will be installed along the south side of the strip to illuminate the track.

According to your letter, the State-funded project proposes the installation of about 26 utility poles and overhead power lines on the mauka or north side of the strip, 15 to 200 feet apart. On the makai side of the strip, a total of 18 light poles, for overhead stadium-type lights, will be installed. Between the light poles, about 2,250 linear feet of subsurface electrical conduit trenches will be dug about two feet deep. To protect the negative effects to the Shearwater seabirds, the light fixtures will be properly downcast.

In addition to proposed work mentioned above, approximately 125 linear feet of concrete duct bank will cross the track on the west end of the strip. Trenches for the installation of electrical pull boxes and a pad-mounted transformer will also be set for the installation of the lighting system.

OHA has concerns about the impacts that subsurface disturbance for this project may have on traditional and customary native practices that may occur at this project site and neighboring areas. The project area is located on the makai side of Kaunalihi Highway, down to the ocean, and the project parallels the sandy coast of Waimea. OHA notes that because burials in sand deposits that extended inland from the coast were a traditional Hawaiian burial practice, the possibility of encountering traditional Hawaiian burials and cultural deposits is great. In a recent project review on an adjacent parcel, Kaua'i State Historic Preservation previously reviewed and identified this general area as a place where human remains have been previously found.¹ OHA requests that the State Historic Preservation Division recommend archaeological monitoring of any new ground excavation.

The project's land area is designated as Section 5(b) Ceded Lands, which hold a considerable amount of sentimental, historical, and legal significance for Native Hawaiians and OHA. These lands were illegally taken from the Hawaiian Kingdom after the 1893 overthrow and later transferred ("ceded") by the United States government to the State of Hawai'i upon statehood. Today, the state holds the Ceded Lands corpus in trust for Native Hawaiians and the general public. We ask that the Ceded Lands status of the property be indicated in all documents for this project that are subject to public review.

OHA will rely on the project's plan to continue consultation with, and seek the input of, cultural practitioners, community members, and family descendants in this district and the ahupua'a of Waimea, who best know the area.

OHA does request assurances that should iwi kūpuna or Native Hawaiian cultural or traditional deposits be identified during ground altering activities related to this project, all work will immediately cease and the appropriate agencies, including OHA, will be contacted pursuant to applicable law.

Thank you for initiating consultation and providing an opportunity to comment. Should you have any questions, please contact Kathryn Keala at 594-0272 or kathyk@oha.org.

'O wau iho nō me ka 'oia 'i'o,



Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KMC:kk

C: Kaliko Santos, Kaua'i Community Outreach Coordinator

¹ Board of Land and Natural Resources Meeting, Item D-7 (Exhibit B), May 14, 2004.



THE LIMHACO CONSULTING GROUP
AN ENVIRONMENTAL AND ENGINEERING CONSULTING FIRM

June 2, 2015

Kamana'opono M. Crabbe, Ph.D., Chief Executive Officer
Office of Hawaiian Affairs
560 North Nimitz Highway, Ste. 200
Honolulu, Hawaii 96817
Attn: Kathryn Keala

Subject: Pre-Consultation for Environmental Assessment
Response to Comments for the Proposed Mana Drag Race Strip Electrical and
Lighting Upgrades Project
Tax Map Keys (4) 1-2-002: 036 & 040
Kekaha, Kauai, Hawaii

Dear Mr. Crabbe,

Thank you for your comment letter dated December 30, 2014 regarding consultation for the State of Hawaii, Department of Land and Natural Resources (DLNR) *Mana Drag Race Strip Electrical and Lighting Upgrades* project. We have the following response to Office of Hawaiian Affairs (OHA) comments:

Thank you for providing your concerns regarding potential impacts that subsurface activities may pose to cultural and archaeological resources at the project site. We acknowledge that sand deposits extending inland from the coast were sites for traditional Hawaiian burial practices, and that subsurface activities associated with the project could potentially encounter traditional Hawaiian burials and cultural deposits.

Due to the possibility of encountering archaeological, cultural, and/or historic resources at the project site, an archaeological inventory survey (AIS) is being prepared for the project. Preparation of the AIS involves review of traditional and historic land use in the area, research of previous archaeological studies performed in the vicinity of the project site, a surface and subsurface investigation of the project site, and consultation with individuals that may have knowledge of cultural resources in the area. The survey found no archaeological materials during its surface or subsurface investigation at the project site and learned of no cultural resources during consultation. The AIS is in the process of being finalized, and it will be submitted to the State Historic Preservation Division (SHPD) for review and approval. Archaeological monitoring may be performed during construction of the project, dependent on comments received from SHPD upon completion of their review of the AIS. If archaeological monitoring is required, an archaeological monitoring plan will be submitted to the SHPD for approval prior to construction.

The Environmental Assessment (EA) will acknowledge the project site's status as Section 5(b) ceded lands.

Dr. Kamana'opono M. Crabbe, Ph.D., Chief Executive Officer

June 2, 2015

Page 2

Thank you for your interest and participation in the environmental review process. You will be notified when the Draft EA is completed and available for public review. Should you have any questions, please contact me at (808) 596-7790.

Best regards,

The Limtiaco Consulting Group, Inc.

A handwritten signature in black ink, appearing to read 'K. Kaneshiro', with a long horizontal flourish extending to the right.

Kyle H. Kaneshiro, P.E., LEED AP
Principal

kyle_kaneshiro@limtiaco.com

cc: Adrian Chang, DLNR

Bernard P. Carvalho, Jr.
Mayor



Larry Dill, P.E.
County Engineer

Nadine K. Nakamura
Managing Director

Lyle Tabata
Deputy County Engineer

DEPARTMENT OF PUBLIC WORKS

County of Kaua'i, State of Hawai'i

4444 Rice Street, Suite 275, Lihu'e, Hawai'i 96766
TEL (808) 241-4992 FAX (808) 241-6604

11/28/14

Kyle H. Kaneshiro, P.E., LEED AP
The Limitaco Consulting Group
1622 Kananui Street
Honolulu, HI 96817

Subject: Pre-Consultation for Environmental Assessment
Comments on Mānā Drag Race Strip Electrical and Lighting Upgrades

Dear Mr. Kaneshiro,

The Department of Public Works Solid Waste Division has received your letter dated November 21, 2014 which provides a summary of the State Department of Land and Natural Resources' (DLNR) proposed power and lighting upgrades to Mānā Drag Race Strip. Per your request, we have developed preliminary input on the project for your consideration.

The installation of utility poles will require some clearing and grubbing. Please be informed that the County of Kaua'i has restrictions on the disposal of green waste, outlined in Ordinance 902. We have attached a notice on the Ordinance enforcement policy which provides detail on acceptable facilities to divert green waste and other restricted materials.

Looking at the proposal, it appears there is a significant amount of electrical conduit that will be installed in the subsurface. Please note that recycled glass crushed to 3/8 inch minus is available locally and may be an appropriate aggregate for this installation. We recommend that DLNR investigate the possibility of using crushed recycled glass in your project.

If you have questions, please contact our Solid Waste Programs Coordinator, Allison Fraley at (808) 241-4837.

Sincerely,

TROY TANIGAWA, P.E.
Environmental Services
Management Engineer

Concur:

LARRY DILL, P.E.
County Engineer

BERNARD P. CARVALHO, JR.
Mayor



GARY K. HEU
Managing Director

COUNTY OF KAUAI

Enforcement policy on landfill disposal in effect

Loads exceeding 10% by volume for any of the following materials shall not be accepted at the landfill: corrugated cardboard, ferrous and non-ferrous metal, or green waste. Policy applies to loads from business, industrial, governmental, institutional, and nonresidential sources. 10% limit applies to each material type and is not cumulative.

A bill amending section 21-7.3 of the Kauai County Code relating to prohibited materials at the Kekaha Landfill was signed into law in August 2010. Restrictions on commercially generated cardboard, metals and green waste have been in place for a long time, and the policy is being actively enforced to preserve landfill space.

Businesses that have not yet developed recycling programs for their operations are encouraged to contact the County Recycling Office at 241-4837 or check the county website at: www.kauai.gov/recycling.

Below is information on diverting prohibited materials:

Cardboard is accepted for recycling free of charge at the Kauai Resource Center located on Ahukini Road in Lihu'e. The center is open Monday, Tuesday, Thursday, Friday, and Saturday from 7:30 am to 4:15 pm, and is closed for lunch from 11 to 11:45 am. Large loads of cardboard can be taken for a fee to the Garden Isle Disposal (GID) facility located on Ni'umalu Road. For information about GID's recycling operation, call 245-2372.

Metal Puhi Metals Recycling accepts ferrous and non-ferrous metals. Call Resource Recovery Solutions at 245-6919 for information. Reynold's Recycling on Wilcox Street in Lihu'e accepts non-ferrous metal. Call Reynold's at 245-7233 for redemption values.

Green waste can be brought to Kauai Nursery in Puhi. Tipping fees of \$10 per cubic yard will apply. For further information, call 245-7747. Green waste is also accepted at Heart and Soul Organics in Moloa'a. Tipping fees of \$10 per cubic yard will apply. Call 823-1007 for more information.

Additional information about Ordinance 902, which restricts commercially generated loads at the Kekaha Landfill, can be obtained by going to the county website, www.kauai.gov/landfillbans or by calling 241-4837.



THE LIMTIACO CONSULTING GROUP
PROJECT MANAGEMENT AND ENVIRONMENTAL CONSULTING

June 2, 2015

Troy Tanigawa, P.E.
County of Kauai
Department of Public Works
4444 Rice Street, Ste. 275
Lihue, Hawaii 96766
Attn: Allison Fraley

Subject: Pre-Consultation for Environmental Assessment
Response to Comments for the Proposed Mana Drag Race Strip Electrical and
Lighting Upgrades Project
Tax Map Keys (4) 1-2-002: 036 & 040
Kekaha, Kauai, Hawaii

Dear Mr. Tanigawa,

Thank you for your comment letter dated November 28, 2014 regarding consultation for the State of Hawaii, Department of Land and Natural Resources (DLNR) *Mana Drag Race Strip Electrical and Lighting Upgrades* project. We have the following response to Department of Public Works comments:

While the project will attempt to minimize the need for clearing and grubbing, we acknowledge that, in accordance with Ordinance 902 of the County of Kauai, loads exceeding 10% by volume of green waste will not be accepted at landfill. Thank you for informing us that green waste can be taken to the Kauai Nursery in Puhi for a tipping fee of \$10 per cubic yard. The possibility of using recycled crushed glass as aggregate for installation of subsurface electrical conduit will be explored during design.

Thank you for your interest and participation in the environmental review process. You will be notified when the Draft Environmental Assessment is completed and available for public review. Should you have any questions, please contact me at (808) 596-7790.

Best regards,
The Limtiaco Consulting Group, Inc.

Kyle H. Kaneshiro, P.E., LEED AP
Principal
kyh@lhcgbhawaii.com

cc: Adrian Chang, DLNR

Bernard P. Carvalho, Jr.
Mayor



Michael A. Dahilig
Director of Planning

Nadine K. Nakamura
Managing Director

Dee M. Crowell
Deputy Director of Planning

PLANNING DEPARTMENT
County of Kaua'i, State of Hawai'i
4444 Rice Street, Suite A-473, Līhu'e, Hawai'i 96766
TEL (808) 241-4050 FAX (808) 241-6699

DEC 23 2014

12-23-14 11:37 AM RCY

Mr. Kyle Kaneshiro
THE LIMTIACO CONSULTING GROUP
1622 Kakanui Street
Honolulu, Hawai'i 96817

Subject: Pre-Consultation for Environmental Assessment
Proposed Mana Drag Strip Electrical and Lighting Upgrades Project
Tax Map Key: (4) 1-2-002:036 & 040
Kekaha, Kaua'i, Hawai'i

Dear Mr. Kaneshiro,

Concerning the above referenced project, the County of Kaua'i, Planning Department has the following comments:

1. Pursuant to Section 8-1.4(e) of the Kaua'i County Code (K.C.C) which states:

"Nothing in this chapter shall regulate the placement, design and construction of utility poles, towers and transmission lines by a public utility company as defined in Section 269-1, H.R.S., provided, that the poles and towers shall be no higher than twenty (20) feet above the height limits for structures applicable in the Use District in which the poles and towers are constructed."

2. The applicant is informed that the subject property is located within the Special Management Area (SMA). Further developments on the subject parcels shall require plans to be submitted to the Planning Department for review and approval. The Applicant is made cognizant that any new "Development", as defined in Section 1.4 of the County of Kaua'i SMA Rules and Regulations may require an SMA Permit and if so, the Applicant is subject to all applicable requirements/conditions of the SMA Permit.
3. The Applicant shall consult with the Planning Department to determine whether the proposal is subject to the requirements of Ordinance No. 979, Section 8-27 of the Kaua'i County Code (1987) as amended, pertaining to shoreline setback and coastal protection.

An Equal Opportunity Employer

4. The Applicant shall consult with the United States Fish and Wildlife Service in order to minimize adverse impacts on the Federally Listed Threatened Species, Newell's Shearwater and other seabirds. In addition, all external lighting shall be only of the following type: downward facing lights. Spotlights aimed upward or spotlighting of structures, landscaping, or the ocean shall be prohibited.
5. The Applicant shall be made aware that additional requirements may be imposed during zoning permit review.

Thank you for the opportunity to comment and should you have any questions, please contact Kenneth A. Estes of my staff at 808.241.4050.



for MICHAEL A. DAHILIG
Director of Planning



THE LIMTIACO CONSULTING GROUP
CORPORATE OFFICE: 1632 KANAKANUI STREET, HONOLULU, HAWAII 96813

June 2, 2015

Michael A. Dahilig, Director
County of Kauai
Planning Department
4444 Rice Street, Ste. A473
Lihue, Hawaii 96766
Attn: Kenneth A. Estes

Subject: Pre-Consultation for Environmental Assessment
Response to Comments for the Proposed Mana Drag Race Strip Electrical and
Lighting Upgrades Project
Tax Map Keys (4) 1-2-002: 036 & 040
Kekaha, Kauai, Hawaii

Dear Mr. Dahilig,

Thank you for your comment letter dated December 23, 2014 regarding consultation for the State of Hawaii, Department of Land and Natural Resources (DLNR) *Mana Drag Race Strip Electrical and Lighting Upgrades* project. We have the following response to Planning Department comments:

1. We acknowledge that the Kauai County Code does not regulate installation of utility poles and transmission lines by public utilities, as defined in §269-1, Hawaii Revised Statutes, provided that the poles shall be no higher than 20 feet above the height limits for structures applicable in the Use District in which the poles are constructed. The proposed project includes installation of overhead electrical lines by the Kauai Island Utility Initiative, a public utility as defined in §269-1, Hawaii Revised Statutes. Installation of these electrical lines will not be regulated under the Kauai County Code.
2. We acknowledge that the project is located within the Special Management Area, and is subject to the *Special Management Area Rules and Regulations, County of Kauai – State of Hawaii* (“Rules”). We have determined that the project qualifies as Development, as defined in Section 1.4 of the Rules. At this point, the DLNR intends to pursue a Special Management Area Use Permit for the proposed improvements.
3. The project is located in a shoreline parcel, and is subject to shoreline setback requirements of Ordinance No. 979, Section 8-27 of the Kauai County Code. A shoreline survey has been approved, and we are currently in the process of receiving a shoreline certification from the State of Hawaii, Department of Land and Natural Resources. Once a certified shoreline has been obtained, a shoreline setback application will be submitted to the Planning Department to determine the location of the shoreline setback line. The project will be designed such that no development occurs within the shoreline setback area. No shoreline setback variance will be required for the project.

Michael A. Dahilig, Director

June 2, 2015

Page 2

4. The United States Fish and Wildlife Service, State Division of Forestry and Wildlife, and State Division of Aquatic Resources were consulted during preparation of the Draft Environmental Assessment (EA). The Draft EA will propose measures to mitigate impacts to threatened and endangered species or their critical habitat that may occur within the project site. All proposed lighting will be downcast and directed away from the shoreline.
5. Thank you for informing us that additional requirements may be imposed during zoning permit review.

Thank you for your interest and participation in the environmental review process. You will be notified when the Draft EA is completed and available for public review. Should you have any questions, please contact me at (808) 596-7790.

Best regards,
The Limtiaco Consulting Group, Inc.



Kyle H. Kaneshiro, P.E., LEED AP
Principal

2015/06/02 10:00 AM

cc: Adrian Chang, DLNR