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428169

August 4, 2011

Gary Hooser, Director
Office of Environmental Quality Control
State of Hawaii
235 South Beretania Street, Suite 702
Honolulu, Hawai'i 96813

Dear Mr. Hooser,

Subject: Draft Environmental Assessment for the
Pali Golf Course Maintenance Facility
TMK (1) 4-5-035:001, District of Koolaupoko,
Kaneohe, Hawaii

The Department of Design and Construction has reviewed the draft environmental assessment for the Pali Golf Course Maintenance Facility and anticipates a Finding of No Significant Impact (FONSI) determination. Please publish the notice of availability in the next available OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form, one hard copy of the document and one copy in PDF format.

Please call Ken Masden at 768-8414 if you have any questions.

Very truly yours,

for Collins D. Lam, P.E.
Director

CDL:li

Enclosures

OEQC Publication Form
The Environmental Notice

Instructions to Applicant or Agency:

1. Fill out this Publication Form and email to: oeqc@doh.hawaii.gov
2. Send one (1) pdf and one (1) hardcopy of the EA / EIS to OEQC

Name of Project:	Pali Golf Course Maintenance Facility
Applicable Law:	HRS 343
Type of Document:	Environmental Assessment
Island:	Oahu
District:	Koolaupoko
TMK:	(1) 4-5-035:001
Permits Required:	Conservation District Use Permit Building Permit Grading Permit National Pollution Discharge Elimination System Permit
Name of Applicant or Proposing Agency:	City and County of Honolulu Department of Design and Construction
Address	650 South King Street, 11th Floor
City, State, Zip	Honolulu, Hawaii 96813
Contact and Phone	Kenneth Masden, 808-768-8414
Approving Agency:	City and County of Honolulu
Address	Department of Design and Construction
City, State, Zip	650 South King Street, 11th Floor
Contact and Phone	Honolulu, Hawaii 96813 Kenneth Masden, 808-768-8414
Consultant	Allen Ng & Associates, Architect
Address	1720 Ala Moana Blvd., Suite A-6
City, State, Zip	Honolulu, Hawaii 96815
Contact and Phone	Allen Ng, 808-942-3823

Project Summary:

The Pali Golf Course is a municipally-owned public golf course located in the Ko'olaupoko district of O'ahu, Kāne'ohe, Hawai'i. The City and County of Honolulu, Department of Design and Construction has prepared plans for new maintenance facilities at the Pali Golf Course. The proposed new maintenance facilities would consist of three maintenance and storage buildings, as well as a small parking area for golf course maintenance vehicles.

The Proposed Action would be located on a currently undeveloped site situated to the west of the golf course clubhouse. The proposed facilities would be discreetly set back from the golf course by a vegetative visual barrier consisting of flora that already exists at the site and, where necessary, additional plants that are climate-compatible and native Hawaiian as appropriate.

The close proximity of the Proposed Action to the existing golf course administrative office in the clubhouse was an important factor in choosing the proposed action site. The current facilities being at such a distance from the administrative offices make supervising golf maintenance personnel difficult. The proposed new location is expected to increase productivity and efficiency, and have a smaller impact on course users.

Draft Environmental Assessment

Pali Golf Course Maintenance Facility

Tax Map Key (1) 4-5-035:001
District of Koʻolaupoko
Kāneʻohe, Oʻahu, Hawaiʻi

August 2011

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FIGURES

APPENDICES

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ACRONYMS AND ABBREVIATIONS

AAQS	ambient air quality standard
BMPs	Best Management Practices
CAA	Clean Air Act
CDUA	Conservation District Use Application
CDUP	Conservation District Use Permit
CFR	Code of Federal Regulations
CIA	Cultural Impact Assessment
CZM	Coastal Zone Management
dB	decibel
dBA	A-weighted decibel scale
DLNR	State of Hawaiʻi Department of Land and Natural Resources
DMM	discarded military munitions
DNL	day-night average noise level
DOA	State of Hawaiʻi Department of Agriculture
DOH	State of Hawaiʻi Department of Health
EA	environmental assessment
EIS	environmental impact statement
EPA	United States Environmental Protection Agency
FDA	United States Food and Drug Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
ft	foot/feet
HAR	Hawaiʻi Administrative Rules
HPU	Hawaiʻi Pacific University
HRS	Hawaiʻi Revised Statutes
KgB	Kaneohe silty clay, with 3 to 8 percent slopes
OCCL	State of Hawaiʻi Office of Conservation and Coastal Lands
MC	munitions constituents
MD	munitions debris
MEC	munitions and explosives of concern
NPDES	National Pollutant Discharge Elimination System
ROH	Revised Ordinances of Honolulu
sqft	square feet
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UXO	unexploded ordnance
WCP	Wil Chee - Planning, Inc.

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1.0 INTRODUCTION AND PROJECT DESCRIPTION

1.1 INTRODUCTION

The Pali Golf Course is a municipally-owned public golf course located in the Koʻolaupoko district of Oʻahu, Kāneʻohe, Hawaiʻi. The City and County of Honolulu, Department of Design and Construction has prepared plans for new maintenance facilities at the Pali Golf Course. Being located on county land, and within the State Land Use Conservation District, construction of the new maintenance facilities triggers the preparation of an environmental assessment (EA) and a conservation district use application (CDUA).

PROJECT INFORMATION

THE APPLICANT	**THE CITY AND COUNTY OF HONOLULU** **DEPARTMENT OF DESIGN AND CONSTRUCTION** **650 SOUTH KING STREET, 11TH FLOOR** **HONOLULU, HAWAIʻI 96813** **PH: (808) 768-8480** **FAX: (808) 768-4567**
APPLICANTS REPRESENTATIVE	**ALLEN NG & ASSOCIATES, ARCHITECT** **1720 ALA MOANA BLVD., SUITE A-6** **HONOLULU, HAWAIʻI 96815** **PH: (808) 942-3823**
EA PREPARATION	**WIL CHEE - PLANNING & ENVIRONMENTAL** **1018 PALM DRIVE** **HONOLULU, HAWAIʻI 96814** **PH: (808) 596-4688**
PROJECT LOCATION	**PALI GOLF COURSE** **45-050 KAMEHAMEHA HIGHWAY** **KĀNEʻOHE, HAWAIʻI 96744**
TMK AND OWNER	**(1) 4-5-035:001** **THE CITY AND COUNTY OF HONOLULU**
PROJECT LAND AREA	**52,000 SQUARE FEET**
ZONING	**P-1 PRESERVATION**
STATE LAND USE	**CONSERVATION DISTRICT** **SUBZONE: GENERAL**
CURRENT/EXISTING USE	**UNDEVELOPED AREA LOCATED WITHIN A LARGER PROPERTY THAT ENCOMPASSES AN 18-HOLE GOLF COURSE**
PROPOSED USE	**GOLF COURSE MAINTENANCE FUNCTIONS**

ANTICIPATED PERMITS AND APPROVALS	**CONSERVATION DISTRICT USE PERMIT** **BUILDING PERMIT** **GRADING PERMIT** **NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT**
ESTIMATED COST	**$2.39 MILLION**
APPROVING AUTHORITY	**THE CITY AND COUNTY OF HONOLULU** **DEPARTMENT OF DESIGN AND CONSTRUCTION** **650 SOUTH KING STREET, 11TH FLOOR** **HONOLULU, HAWAIʻI 96813** **PH: (808) 768-8480** **FAX: (808) 768-4567**

1.2 SCOPE AND AUTHORITY

This EA has been prepared pursuant to the Hawaii Revised Statutes (HRS), Chapter 343 and the associated Title 11, Chapter 200, Hawaii Administrative Rules (HAR), Department of Health, State of Hawaiʻi. The intent of this EA is to ensure that comprehensive and systematic consideration is given to potential impacts of the Proposed Action upon the natural and man-made environment. This EA is intended to serve as an environmental disclosure document which identifies the purpose of and need for the Proposed Action, reasonable implementation alternatives, existing environmental conditions, potential environmental impacts, and mitigation measures to avoid or minimize such impacts. The findings presented in this EA will provide the basis for determining whether an Environmental Impact Statement (EIS) is necessary, or whether a Finding of No Significant Impact (FONSI) is appropriate.

1.3 DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action is to construct three maintenance and storage buildings, as well as a small parking area for golf course maintenance vehicles at the Pali Golf Course. The maintenance buildings will be used for vehicle storage, pesticide storage, equipment washing, and golf course maintenance administrative functions.

1.4 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to provide new maintenance facilities to replace existing, inadequate facilities and to relocate maintenance operations closer to the clubhouse and other administrative functions. The need for the Proposed Action is to improve maintenance efficiency at the Pali Golf Course by replacing inadequate facilities with modern facilities designed to serve the course's maintenance requirements. Currently, maintenance operations, vehicles, and equipment are housed in a run-down maintenance shed adjacent to Old Pali Road. The poor condition of current maintenance facilities is adversely affecting operations and the efficiency of course maintenance functions.

1.5 PROJECT LOCATION

The Proposed Action is located within Pali Golf Course, which is located in the Koʻolaupoko District of Kāneʻohe, on the windward side of the Island of Oʻahu (Figure 1). The Pali Golf Course is situated at the foot of Nuʻuanu Pali, beneath the Pali Lookout. It is bounded to the west by Kionaole Road and to the south by Nuʻuanu Pali. To the north and northeast is Kamehameha Highway. The Project Site is a small partially cleared area adjacent to the course clubhouse, immediately south of Hole 10 (Figure 2).

1.6 HISTORY OF THE PROJECT SITE

The Pali Golf Course is a municipally-owned public recreation facility. The course was designed by Willard Wilkinson and opened in 1954 (World Golf 2010). The facility features an 18-hole regulation-length course and sits on a 215-acre property situated beneath the Pali Lookout. The City and County of Honolulu purchased the land from Harold K. Castle in the early 1950s and developed the site into a golf course. Between 1953 and 1957, the course consisted of nine holes. It was redesigned and expanded to include 18 holes and a clubhouse in 1957 (Dingeman 2006).

Prior to the property being sold to the City and County of Honolulu, Mr. Castle used the land as a ranch and for cattle grazing (WCP 1994). Between 1943 and 1945, the U.S. military used the property as a troop encampment. Military use of the area extended beyond the project site and eyewitnesses interviewed during a 1994 investigation described the area of the encampment that is now occupied by the Pali Golf Course as used, primarily, for troop housing (WCP 1994). Despite being formerly used for military services, the likelihood of encountering munitions and explosives of concern (MEC) is highly improbable. The site has been graded, developed, and disturbed since U.S. military occupation of the area, and in 1945, the area was reportedly cleared of explosive hazards (WCP 1994). However, the issue of possible MEC contamination being discovered during excavation and grading is discussed in the EA.

1.7 EXISTING PROJECT SITE CONDITIONS

Currently, the project site is an undeveloped, partially cleared area within the Pali Golf Course property. The site of the Proposed Action is adjacent to the existing clubhouse and sits immediately south of Hole 10. The site is partially vegetated with trees and shrubs of various sizes; however, a portion of the site was previously cleared and is currently a small open field.

1.8 PERMITS

The site is located within the State Land Use Conservation District. Land uses within the Conservation District require approval by the Board of Land and Natural Resources. The proposed project will require a Conservation District Use Permit (CDUP). A Conservation District Use Application (CDUA) will be completed and submitted to the State of Hawaiʻi, Office of Conservation and Coastal Lands (OCCL) along with this EA.

A NPDES Permit is required for developments that are greater than 1 acre in size. The total land area for the proposed action is approximately 1.19 acres; therefore, it is anticipated that a NPDES permit would be required for this project.

In addition to the CDUP and NPDES Permits, a Grading Permit and Building Permit would be required for this project.

1.9 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Climate and Weather
The Proposed Action is a relocation of existing uses and would not result in an increased release of greenhouse gases into the atmosphere or other actions that might produce local or global changes in climate or weather. There is no anticipated impact to climate or weather.

Air Quality
Short-term impacts to air quality would occur during the construction phase and would include emissions from construction vehicles and equipment and dust. However, best management practices (BMPs) to minimize the release of harmful or toxic air pollutants during construction would be implemented in accordance with federal and state air quality regulations. Erecting dust fences, wetting down exposed soils, use of temporary ground cover as needed, and other suitable practices would be implemented during construction of the Proposed Action.

Noise
Short-term impacts to the noise environment would occur during the construction phase. The use of BMPs to minimize the level, frequency, and duration of noise pollution would include properly muffled construction equipment, shutting off equipment when not in use, limiting the hours of construction, and, if practical, using noise barriers for additional construction noise mitigation.

Topography and Soils
Short-term impacts to soil resources may occur during the construction phase; however, BMPs to minimize or eliminate soil erosion would be used, to include the use of silt fencing, sediment traps, and the use of temporary ground cover and landscaping bare earth areas as soon as practicable. No long-term impacts are anticipated. Topographic changes would not adversely impact surrounding areas. Stormwater runoff would be managed to infiltrate into the ground, and runoff would be carried away from sensitive areas. No long-term or short-term impacts to topography are anticipated.

Water Resources
The Proposed Action would include a chemical storage facility and an equipment washing area, which has the potential to present the risk of chemicals entering groundwater systems; however, this risk is minimal. All pesticides and fertilizers used by the Pali Golf Course must be approved for use in the United States by the U.S. Food and Drug Administration (FDA) and/or the U.S. Environmental Protection Agency (EPA) depending on the agent's use. There would be no change in use associated with the Proposed Action, only a change in location. Precautionary measures currently in use at the golf course would continue to be utilized.

Biological Resources

A biological survey was conducted for this EA (See Appendix B). There are no instances of plant species currently listed as endangered, threatened, or proposed for listing under either the federal or the State of Hawaiʻi endangered species programs at the project site. No significant or sensitive habitat has been identified at the site of the Proposed Action. Impacts to biological resources are expected to be less than significant.

Natural and Manmade Hazards

Natural and manmade hazards associated with this project include the risk of flooding and the risk of exposure to MEC.

The Proposed Action would not increase the risk of flooding in the area, nor present a significant risk to human or ecological health should flooding occur. The Proposed Action incorporates multiple retaining walls and swales to slow and direct stormwater runoff away from the existing streambed located 10 to 20 feet (ft) downgradient of the site. These design features would minimize the impacts that the Proposed Action poses to flooding hazards.

Though the area was reportedly cleared of MEC in 1945, .30 caliber rifle rounds were discovered at the Pali Golf Course in December 2005 by a contractor while digging a trench for a new irrigation system. Therefore, it is recommended that a UXO technician accompany the construction crew to substantially reduce the risk of exposure to MEC during clearing and grading. If MEC is discovered during clearing or grading, all construction activities would immediately stop, the area would be cleared of all project personnel, and local authorities would be contacted for risk evaluation and mitigation.

Surrounding Land Use

The Proposed Action is located within the Pali Golf Course. Surrounding the Proposed Action site are course holes, the clubhouse, and undeveloped land on the golf course property. Surrounding the Pali Golf Course are other recreational facilities, open space venues, and a college campus. There would be no land use conflicts resulting from the Proposed Action.

Archaeological, Cultural, and Historic Resources

There are no known archaeological, cultural, or historic resources at the site of the Proposed Action. It is unlikely, though not impossible, that such resources may be discovered at the project site. Should archaeological, cultural, or historic resources be discovered during clearing, grading, or construction, all activities would cease and the proper authorities would be contacted to make an inspection.

Visual and Aesthetic Resources

Protecting and enhancing visual and aesthetic resources is a priority listed in the Koʻolaupoko Sustainable Communities Plan. The Proposed Action would not block any viewsheds or alter the aesthetic character of the Pali Golf Course or surrounding areas. The proposed maintenance facilities would be placed discreetly behind a natural vegetative corridor that would run between the maintenance facilities and the golf course. The vegetative corridor would consist primarily of flora that is already in place at the site.

Recreational Facilities

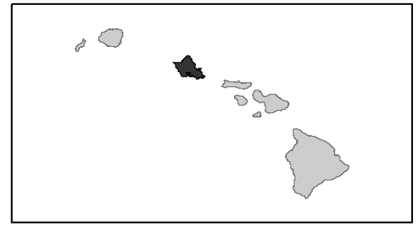
The Proposed Action would not impair or remove any recreational opportunities at Pali Golf Course. Construction activities may slightly interfere with course operations during the construction phase of the project; however, this potential impact would be short-term in nature.

Traffic

There are no long-term impacts to traffic or circulation from the Proposed Action. Short-term impacts may occur during the construction phase as construction equipment and vehicle enters and exits the Pali Golf Course, however, this impact is temporary in nature and is not expected to reach a level of significance.

1.10 ANTICIPATED FINDINGS AND DETERMINATIONS

Based on the information gathered during preparation of this EA, it is expected that no significant impacts would result from implementing the Proposed Action. Consequently, it is anticipated that a FONSI will be issued by the approving agency and an EIS will not be required.



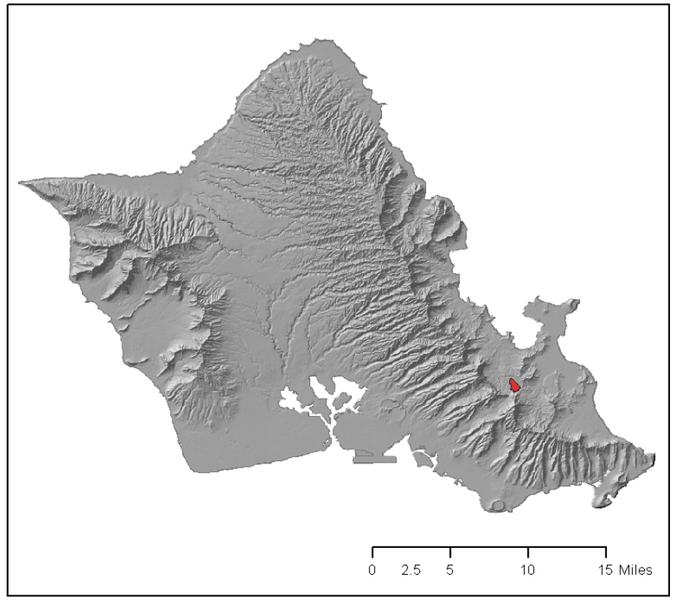


Figure 1. Project Location Map

Pali Golf Course Maintenance Facility
Draft Environmental Assessment

Pali Golf Course
Kaneohe, Island of Oahu, Hawaii

0 375 750 1,500 Feet
0 60 120 240 360 480 Meters

Figure 1. Project Location

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Figure 2. Proposed Action Site Location

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2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 DETAILED DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action is to construct three maintenance and storage buildings, as well as a small parking area for golf course maintenance vehicles at the Pali Golf Course (Figure 3). The maintenance facility and parking area would be accessed by a new restricted-access road located behind the clubhouse. A new cart path that connects to an existing cart path south of Holes 10 and 11 would also provide access to the new maintenance facility.

The Proposed Action would be located on a currently undeveloped site situated to the west of the golf course clubhouse. The proposed facilities would be set back from the existing course by approximately 5 to 12 ft—varying as dictated by topographic constraints. The entire development will be enclosed by a 6 ft high chain link security fence. Approximately 15 parking spaces would be provided on the premises. The maintenance buildings would be used for vehicle storage, pesticide storage, equipment washing, and maintenance administrative functions.

Multiple swales and retaining walls are included in the project design to control, slow, and filter stormwater runoff and runoff that may be accumulated from the equipment washing area. The development will be graded so that runoff is oriented away from the non-perennial stream located to the west and downgradient of the proposed site. Additionally, careful site planning would ensure that no excessively steep slopes or drainage concerns would result from the Proposed Action.

To minimize impacts to aesthetic resources and maintain a natural and landscaped viewshed, a vegetative and landscaped visual barrier is proposed that would consist of existing flora and, wherever necessary, new vegetation. The vegetative barrier would be approximately 5 to 12 ft wide, depending on topography, and will have density, thickness, and height to preserve the natural setting of the course while providing a visual barrier between course users and the maintenance facilities. Wherever practicable, flora that already exists in this area would remain intact. Any additional vegetation that may be planted to complete the visual barrier would consist of climate-compatible and native vegetation as appropriate. Further, the facilities would be painted neutral colors so that they blend into the landscape as much as possible.

The close proximity of the Proposed Action to the existing golf course administrative office in the clubhouse was an important factor in choosing the Proposed Action site. The current facilities being at such a distance from the administrative offices make supervising golf maintenance personnel difficult. The proposed new location is expected to increase productivity and efficiency, and have a smaller impact on course users.

The chosen site for the Proposed Action may impose limitations on the size of the proposed new maintenance facility due to the limits of the size of the site. The total land area to be developed is approximately 52,000 square feet (sqft). To ensure that the Proposed Action

would result in less than significant impacts, a series of mitigation measures are built into the Proposed Action and BMPs would be implemented during construction and operation.

Construction-phase BMPs would include, among other things, the use of silt fences and sediment traps to control soil or sediment transport. Operation-phase mitigation measures would include orienting drainage and runoff away from the channel near the project site and continued use of precautions to prevent spilling pesticides and fertilizers that would be stored at the maintenance facility. Design-level and construction-phase mitigation techniques are discussed in Chapter 4 under the relevant sections for specific environmental resources.

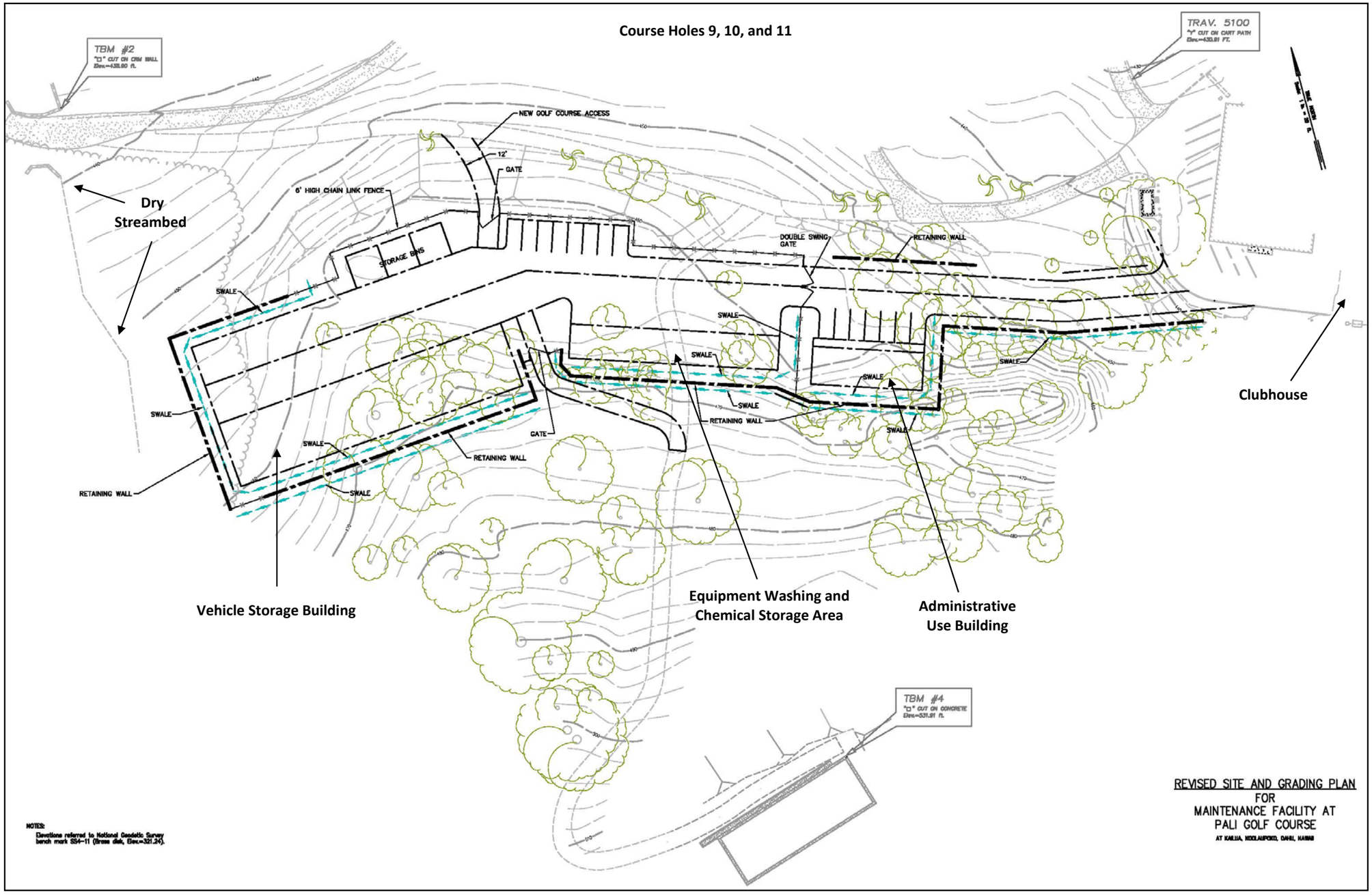

Figure 3. Proposed Action Site Plan

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2.2 ALTERNATIVE ACTION 1 (NO ACTION)

Under Alternative Action 1, No Action, new maintenance and storage buildings would not be built. Storage of maintenance vehicles and chemicals, washing of maintenance equipment, and maintenance administrative functions would continue to be conducted as currently practiced at the existing site.

2.3 ALTERNATIVE ELIMINATED FROM DETAILED STUDY

The following discussion briefly summarizes an alternative action that was examined, but eliminated from further consideration and the reasons for its elimination.

2.3.1 ALTERNATIVE ACTION 2: REDEVELOPMENT OF MAINTENANCE FACILITIES AT ITS CURRENT LOCATION

Currently, maintenance functions are being conducted out of a run-down facility located west-northwest of the clubhouse (Figure 4). Initially, redevelopment of the existing maintenance facility was evaluated as an alternative to the Proposed Action. The benefits and drawbacks, and reason this alternative was dismissed from further analysis are provided in the list below.

Benefits

- Site is already developed
- Less clearing and grading

Drawbacks

- Not easily accessible by maintenance vehicles
- Existing cart paths and access points would not support maintenance vehicle needs
- Would require upgrading the cart paths and roadways throughout the golf course
- Developing access roads for maintenance vehicles would disrupt course users in the short- and long-term

Reasons for Dismissal

- Current maintenance facility would need to be completely demolished and rebuilt
- Site of current maintenance facility is not adequate for the needs of maintenance vehicles and administrative functions
- Construction of new facilities at this location would be extremely disruptive to course users
- Inadequate access and vehicle storage capabilities
- New site provides more advantages for maintenance security and efficiency
- The distance between this location and the golf course administrative offices in the clubhouse make management and supervision of maintenance personnel difficult

Figure 4. Proposed and Existing Maintenance Facilities Locations

3.0 AFFECTED ENVIRONMENT

3.1 CLIMATE AND WEATHER

The climate of Hawaiʻi is maritime/tropical and is distinguished by continuous mild weather and stable temperatures throughout the year. The Hawaiian Islands experience only two distinct seasons: "summer" (May to October) and "winter" (October to April). Dominant conditions of the summer season include intense solar radiation, warmer temperatures, and the nearly-continual presence of tradewinds (east-northeasterly winds). The winter season is characterized by cooler temperatures, interrupted tradewind patterns, and higher levels of average rainfall.

The Pali Golf Course is located on windward Oʻahu and weather data for the area shows prevailing winds from the east-northeast at about 11.5 miles per hour. The location's average annual precipitation is about 40 inches per year (Juvik and Juvik 1998). Average temperatures on Oʻahu are generally between 70 and 80 degrees Fahrenheit.

3.2 AIR QUALITY

Ambient air pollution concentrations are regulated under the federal Clean Air Act (CAA), found in 40 CFR Part 50, and under the State of Hawaiʻi Ambient Air Quality Standards (AAQS) found in HAR Chapter 11-59. Federal AAQS are divided into primary and secondary standards. The primary standards are intended to protect public health with an adequate margin of safety, while secondary standards are intended to protect public welfare through the prevention of damage to soils, water, vegetation, animals, wildlife, man-made materials, visibility, climate, and economic values. State AAQS are intended to "protect public health and welfare and to prevent the significant deterioration of air quality." Additionally, the State of Hawaii's Air Pollution Control Regulations found in HAR 11-60.1, prohibit visible emissions of fugitive dust from construction activities without reasonable precautions being taken to prevent such.

The State of Hawaiʻi Department of Health (DOH) operates a network of five air quality monitoring stations on Oʻahu. The nearest monitoring station to the Pali Golf Course is located in downtown Honolulu. Recent data from the air quality monitoring stations reflect the generally good air quality in the City and County of Honolulu (DOH 2009).

3.3 NOISE

The impacts of sound on the environment are determined by several factors including loudness, duration of exposure, frequency, and variations or fluctuations in noise levels during exposure. The decibel (dB) is used to measure sound level. The A-weighted decibel scale (dBA) approximates the frequency response of the human ear and is the most commonly used noise descriptor. Average noise exposure over a 24-hour period is often presented as a day-night average noise level (DNL). DNL values are calculated from 24-hour averages in which nighttime values are decreased by 10 dBA to account for the greater disturbance potential from nighttime noise. Federal agencies have determined that an exterior noise level of 65 dBA DNL is

considered acceptable for residences. Exterior noise levels as high as 70 to 75 dBA DNL are generally acceptable for office, commercial, industrial, and other non-noise sensitive land uses.

Construction noise typically generates noise levels of 80 to 90 dBA at a distance of 50 feet. With concurrent operation of several pieces of equipment, construction noise can be major; however, beyond 1,000 feet from the construction site noise levels generally are not substantial. Acceptable noise exposures identified by the Occupational Safety and Health Administration for an 8-hour work day is 90 dBA.

Ambient noise levels at the Pali Golf are typically low, with no stationary sources of loud or frequent noise. From the site of the Proposed Action, traffic noise from H-3 or Kamehameha Highway is minimal. The main source of noise at the Pali Golf Course is from day-to-day golf course operations and from course users.

3.4 TOPOGRAPHY AND SOILS

Detailed soil descriptions for the area are provided from a soil survey conducted by the United States Department of Agriculture (USDA) (1972). Based on the USDA soil survey, project site soils are classified as Kaneohe silty clay, with 3 to 8 percent slopes (KgB). The following information for type KgB soils is excerpted from the 1972 USDA soil survey:

> In a representative profile, the surface layer is dark reddish-brown silty clay about 14 inches thick. The subsoil, 40 to 50 inches thick, is dusky-red and dark-red silty clay that has a subangular blocky structure. The substratum is soft, weathered gravel. The soil is slightly acidic at the surface and strongly acidic in the subsoil.
>
> Permeability is moderately rapid. Runoff is slow to medium and the erosion hazard is slight. Available water capacity is 1.2 inches per ft in the surface layer and 1.4 inches per ft in the subsoil. In places roots penetrate to a depth of 5 ft or more. This soil is used for pasture and golf courses.

The Proposed Action site has soft rolling topography characterized by gentle slopes. The golf course, like many locations in Hawaiʻi, also has a natural gradient that slopes down in the mauka to makai orientation. The approximate elevation of the site is 450 ft above mean sea level.

3.5 WATER RESOURCES

3.5.1 GROUNDWATER

Groundwater is the principal source of potable water in Hawaiʻi. The project site is located in the Koʻolau Rift Zone aquifer system, which is a dike-impounded water system (USGS 1996). Dikes are near-vertical walls of impermeable rock capable of capturing and holding fresh water as it percolates into the ground. Water that enters the groundwater system at the Pali Golf Course contributes to Koʻolau Rift Zone aquifer system.

3.5.2 SURFACE WATER

Surface water typically occurs as perennial streams, which are sustained by springs fed from groundwater stored in high-level aquifers. Perennial streams and springs are the primary source

of fresh water in traditional Hawaiʻi, and still play a major role in the development of fresh water resources today (Juvik and Juvik 1998). A non-perennial tributary to Kāneʻohe Stream runs through the Pali Golf Course. At a site visit conducted for this EA,[1] the stream bed was dry and had several plants of various sizes growing in it. The streambed is located just west of the Proposed Action.[2] At its closest point, the stream is approximately 10-20 ft downgradient from the project site.

3.6 BIOLOGICAL RESOURCES

In 2011 AECOS conducted a botanical survey of the project site (See Appendix B for a copy of the botanical survey report). A total of 1.19 acres were evaluated. The results of the study found that the project site is mostly covered with trees and, in different areas either a shrub/forb or grass understory. Trees documented at the site were primarily mango (*Mangifera indica*) and albizia (*Falcateria moluccana*), with paperbark (*Melaleuca quinquenervia*), silk oak (*Grevillea robusta*), and octopus tree (*Schefflera actinophyla*) interspersed in the southern and western areas (AECOS 2011).

A total of 50 species were identified at the project site; 2 species of ferns and 48 species of flowering plants. Among the various flora at the site, one native endemic species was identified—māmaki (*Pipturus albidus*), which occurred as a single specimen and seedling. ʻOhe (*Schizostachyum glaucifolium*), a Polynesian introduction, was also identified. The other 48 species occurring on the property are naturalized or ornamental species not native to Hawaiʻi. There were no occurrences of plants currently listed as endangered, threatened, or proposed for listing under either the federal or the State of Hawaiʻi endangered species programs (AECOS 2011).

3.7 NATURAL AND MAN-MADE HAZARDS

Natural and man-made hazards include environmental conditions that pose risk to human or ecological health and safety. These hazards can include a number of environmental conditions, including risk of exposure to flooding, tsunami inundation, and illness from exposure to toxic chemicals, etc. Hazards relevant to the Proposed Action site are discussed in this section.

3.7.1 FLOODPLAINS AND FLOODING

The Pali Golf Course, including the area of the Proposed Action, is located in Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Zone D, which comprises areas in which flood hazards are unknown, yet possible (FEMA 2005).

3.7.2 MUNITIONS AND EXPLOSIVES OF CONCERN

Munitions and explosives of concern (MEC) is a term that refers to a specific category of military munitions that may pose safety risks from explosive hazards or soil/water contamination from explosives components. MEC includes unexploded ordnance (UXO),

[1] The site visit was conducted on 8 September 2010 at approximately 11:00am.
[2] The streambed can be viewed in Figure 3, on the left hand side of the figure.

discarded military munitions (DMM), and munitions constituents (MC). Also of concern would be munitions debris (MD).

As previously mentioned, the Pali Golf Course was utilized by the U.S. military between 1943 and 1945 as a troop encampment, known as the Pali Training Camp. Based on findings in a 1994 investigation conducted by the U.S. Army Engineer District, Pacific Ocean Division:

> Pali Training Camp was established as a regimental combat team mining center, emphasizing the use of and familiarity with modern arms and field weapons, in addition to providing rugged terrain for jungle and ranger training. Troops were billeted in a tent complex at the base of Nuʻuanu Pali capable of supporting 3,000 to 5,000 individuals. Latrines, showers, messhalls, administration buildings, and motor pools were also erected at the encampment. Additional barracks, an ice plant, a bakery, and a field hospital were situated within Maunawili and Makalii Valleys. The military structures at Pali Training Camp were subsequently sold as surplus building materials by bid sale in 1946, therefore they no longer exist on-site. (WCP 1994)

The training camp covered an area of approximately 4,378 acres, including what is now the Pali Golf Course. Eyewitnesses interviewed during the 1994 investigation described the area of the encampment that is now occupied by the Pali Golf Course as used for troop housing (WCP 1994). Previous U.S. Military use of the site may pose a risk to discovery of MEC during the construction phase for the project.

MEC was reportedly cleared from Pali Training Camp in 1945 and the land reverted to its previous use of cattle ranching in 1946. Since being sold to the City and County of Honolulu in the early 1950s, the property has been graded and developed into the Pali Golf Course. In 2005, .30 caliber rifle rounds were discovered by a contractor when digging a trench for a new irrigation system. Approximately 100 rounds of rifle ammunition, loose and in clips, were discovered. The ammunition was removed by U.S. Army personnel and construction resumed once the area was deemed safe. No other ammunition was found during construction.

Since the Proposed Action is located in a partially-cleared, undeveloped area of the property, MEC avoidance mitigation and response techniques will be built into the Proposed Action and discussed in greater detail in Section 4.6.2.

3.8 SURROUNDING LAND USE

The Pali Golf Course is located within the State Land Use Conservation District. Land uses within the Conservation District are subject to approval by the Board of Land and Natural Resources and require a CDUP.

Adjacent to Pali Golf Course, separated by Kionaole Road, is the Koʻolau Golf Club. Across Kamehameha Highway from the Pali Golf Course is the windward campus of Hawaiʻi Pacific University. The Hoʻomaluhia Botanical Garden is located northwest of the golf course, along Kamehameha Highway and H-3. Residential developments are located south and north of the golf course, along Kamehameha Highway, though no residential developments are immediately adjacent to the property.

3.9 ARCHAEOLOGICAL, CULTURAL, AND HISTORIC RESOURCES

In 1930, a survey was conducted in the area that is now known as the Koʻolaupoko District of Oʻahu, which documented archaeologically, culturally, or historically sensitive sites (City and County of Honolulu 2000). No archaeological, cultural, or historic resources were identified within the area that is now the Pali Golf Course or at the site of the Proposed Action.

More recently, in 2010 the Hawaiʻi Pacific University (HPU) published a Final EA for their proposed Hawaiʻi Loa campus expansion (the HPU Hawaiʻi Loa campus is adjacent to the Pali Golf Course, as is shown in Figure 1). As part of HPU's EA effort, Cultural Surveys Hawaiʻi, Inc., was contracted to conduct a Cultural Impact Assessment (CIA). This CIA encompassed the ahupuaʻa of Kāneʻohe—the ahupuaʻa in which is located the Pali Golf Course. The following information on cultural and archaeological resources within the ahupuaʻa of Kāneʻohe was provided by the CIA.

There are numerous *wahi pana* (storied places), *ʻōlelo noʻeau* (proverbs) and *moʻolelo* (stories and oral histories) that related to the Koʻolaupoko and the Kāneʻohe Ahupuaʻa (Cultural Services Hawaii 2010). Additionally, several heiau and trails that were once located within the Kāneʻohe ahupuaʻa were identified. Among the heiau identified was the Maunahuaia Heiau, which was in ruins in the early 19th century; Puuwaniania, an agricultural heiau that is now covered with strawberry guava; and, Kaluaolomana, which was documented near the H-3 freeway (Cultural Services Hawaii 2010). Among the trails identified during the CIA was the Pali Trail, which traversed the Nuʻuanu Pali and was used by Hawaiians to transport goods between Honolulu and windward Oʻahu. The Likeke Trail was also identified in the area, which runs along the base of the pali in Kāneʻohe. None of the identified heiau or trails are located within the Pali Golf Course property.

The CIA further explains that any archaeological sites that may have existed in the Kāneʻohe Ahupuaʻa were likely destroyed by the pineapple, sugar, and rice cultivation, and ranching operations that previously utilized this area in the 1900s.

The HPU EA identified one potential concern regarding adverse impacts to cultural resources. The Koʻolaupoko, Kailua, and Waimanalo Hawaiian Civic Clubs are currently collaborating with the State of Hawaiʻi to complete an ahupuaʻa boundary marker project that will preserve the landscape of the traditional Hawaiian ahupuaʻa boundaries. Concern was expressed about a ridge behind the HPU Hawaiʻi Loa campus that intercepts the ahupuaʻa boundary between Kāneʻohe and Kailua (HPU 2010). The Pali Golf Course does not intercept any traditional Hawaiian ahupuaʻa boundaries.

3.10 VISUAL AND AESTHETIC RESOURCES

The Pali Golf Course offers course-users picturesque views of Kāneʻohe Bay from both the course and the clubhouse. Golfers also have nearly continuous views of the Koʻolau Mountain Range surrounding the property—only interrupted by the trees and natural areas interspersed throughout the course. Preservation of visual and aesthetic resources, recreational resources, and open space are key elements of the Koʻolaupoko Sustainable Communities Plan, a document intended to guide the development of Koʻolaupoko District and that is regulated

under the Revised Ordinances of Honolulu (ROH) Chapter 24, Article 6, Section 3 (City and County of Honolulu 2000). The Koʻolaupoko Sustainable Communities Plan provides guidelines for development of golf courses, noting that golf courses make an important contribution to open space resources for the region.

3.11 RECREATIONAL FACILITIES

The Pali Golf Course is a popular recreational facility on the island of Oʻahu. The facility is open year round to residents and visitors. The course is a par 72, 18-hole, regulation-length facility that offers up to 6,524 yards of golf (City and County of Honolulu 2008). The Pali Golf Course is one of five courses in the region that permit public play.

The Koʻolaupoko Sustainable Communities Plan emphasizes the importance of golf courses in the region as facilities that provide areas for active recreation. A general policy of the Koʻolaupoko Sustainable Communities Plan is to, "maintain and enhance present island-based parks by utilizing land area that has not been fully developed for recreation use" (City and County of Honolulu 2000). Golf courses are listed as a park or recreational resource in the plan.

3.12 TRAFFIC

Access to the Pali Golf Course is through the main entrance off Kamehameha Highway, northwest of the Kamehameha Highway and Pali Highway intersection. Course users entering the Pali Golf Course from the southeast (turning left into the facility) have a turn lane in which to queue to prevent traffic from backing up.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 CLIMATE AND WEATHER

SIGNIFICANCE CRITERIA

Project actions are determined to have a significant adverse environmental impact on climate and weather if project actions would result in a substantial increase in the amount of greenhouse gases released into the atmosphere. A substantial increase in the release of greenhouse gases would need to be quantifiable and considered significant in accordance with current scientific literature on the subject of climate change.

4.1.1 POTENTIAL IMPACTS

PROPOSED ACTION

During the construction phase, the use of machinery and equipment would contribute greenhouse gases to the atmosphere; however, all emissions released from machinery and equipment would be in compliance with federal and state air quality standards (see Section 4.2). Potential contributions to atmospheric greenhouse gas emissions would be short-term and limited to the construction phase and would remain below a level of significance.

NO ACTION

There would be no impact to climate or weather under the No Action alternative.

4.1.2 MITIGATION MEASURES

No mitigation measures are warranted or proposed.

4.2 AIR QUALITY

SIGNIFICANCE CRITERIA

Project actions are determined to have a significant adverse impact on air quality if predicted potential air emission concentrations, in combination with ambient concentrations for criteria pollutants, exceed State or Federal AAQS or if emissions expose the public to substantial pollutant concentrations that are above acceptable health effects levels.

4.2.1 POTENTIAL IMPACTS

PROPOSED ACTION

There are no anticipated long-term increases in concentrations of air pollutants resulting from the Proposed Action. The Proposed Action is to relocate existing maintenance facilities and functions and does not represent a new use. Therefore, the Proposed Action would not result in an increase in the release of air pollutants at Pali Golf Course.

Short-term impacts to air quality may be anticipated during the construction phase. Construction related impacts would include emissions from construction vehicles and dust. However, mitigation against the release of harmful or toxic air pollutants during construction would be implemented in accordance with federal and state air quality regulations. BMPs during construction would include erecting dust fences, wetting down exposed soils, use of temporary ground cover as needed, soil stabilization materials, landscaping exposed soils as

soon as practicable, and use of emission controls and filters to removed particulate matter from heavy equipment used during the construction phase. Implementation of construction-phase BMPs should ensure that any short-term, temporary impacts are not significant.

NO ACTION

There would be no impact to air quality under the No Action alternative.

4.2.2 MITIGATION MEASURES

No mitigation measures are proposed or warranted.

4.3 NOISE

SIGNIFICANCE CRITERIA

Project actions are determined to have a significant adverse impact on the noise environment if they result in a new substantial, stationary noise source, or if they expose people to high levels of noise beyond those recommended or permitted by applicable guidelines and regulations.

4.3.1 POTENTIAL IMPACTS

PROPOSED ACTION

Though the Proposed Action would produce intermittent noise, it would not result in a new substantial, stationary noise source. The Proposed Action is a relocation of an existing use. As such, there would no change in the noise environment at the Pali Golf Course. Control measures currently in use at the facility to minimize or mitigate noise produced by maintenance functions would continue to be implemented. No long-term or significant impacts are anticipated from implementing the Proposed Action.

During the construction phase, an increase in the level or duration of noise can be anticipated which may inconvenience course users; however, these impacts would be short-term and in compliance with state and local environmental noise laws (HAR 11-46 Community Noise Control). Adherence to BMPs would reduce short-term noise impacts caused from construction activities. BMPs would include the use of properly muffled construction equipment, shutting off equipment when not in use, limiting the hours of construction, and, if practical, the use of construction noise barriers for additional construction noise mitigation.

NO ACTION

There would be no impact to the noise environment under the No Action alternative.

4.3.2 MITIGATION MEASURES

No mitigation measures are proposed or warranted.

4.4 TOPOGRAPHY AND SOILS

SIGNIFICANCE CRITERIA

Project actions are determined to have a significant adverse impact on soils if there is an increase in erosion and transport of soils and sediment off-site, particularly if the resulting transport of sediment would cause adverse impacts to water quality or aquatic habitats.

Project actions are determined to have a significant adverse impact on topography if significant changes are made to the topography resulting in excessively steep slopes or unstable ground conditions.

4.4.1 POTENTIAL IMPACTS

PROPOSED ACTION

No long-term adverse impacts on topography or soil are anticipated. Short-term impacts to soil resources may occur during the construction phase when exposed soils are susceptible to erosion, particularly if it rains heavily. However, BMPs to minimize or eliminate soil erosion would be implemented, and would include, among other things, the use of silt fences, sediment traps, use of temporary ground cover and landscaping bare earth areas as soon as practicable.

There would be no long-term or short-term impacts to topography. Topographic changes would not adversely impact surrounding land uses. Stormwater runoff would be managed to infiltrate into the ground, and runoff would be carried away from the non-perennial stream located 10-20 ft downgradient of the project site. The use of swales and grading would slow and control runoff of stormwater and water used to wash equipment. No excessively steep slopes or drainage concerns will result from the Proposed Action.

NO ACTION

There would be no change to topography or soils from the No Action alternative.

4.4.2 MITIGATION MEASURES

No mitigation measures are warranted or proposed.

4.5 WATER RESOURCES

SIGNIFICANCE CRITERIA

Actions could be considered to have an adverse impact if groundwater systems or surface water systems were impacted to an extent that functioning or development of these resources was reduced. Additionally, project actions could be considered to have an adverse impact if project actions were to release toxic or harmful chemicals into groundwater or surface water resources, rendering them unsuitable for human use or harmful within ecological systems

4.5.1 GROUNDWATER

4.5.1.1 POTENTIAL IMPACTS

PROPOSED ACTION

The Proposed Action would include a chemical storage facility and an equipment washing area. Both of these uses present the risk of chemicals polluting groundwater systems; however, this risk is minimal. All pesticides and fertilizers used by Pali Golf Course must be approved for use in the United States by the U.S. Food and Drug Administration (FDA) and/or the U.S. Environmental Protection Agency (EPA) depending on the agent's use. Guidelines for storing and using commercial pesticides and fertilizers are provided by their respective manufacturers and are approved by the FDA. Chemical storage and use is regulated by the

U.S. Federal[3] and State of Hawai'i[4] governments and the Proposed Action would be in compliance with guidelines and specifications for storing and using chemical fertilizers and pesticides. There would be no change in use associated with the Proposed Action, only a change in location. Precautionary measures currently in use at the golf course would continue to be utilized.

NO ACTION

There would be no change under the No Action alternative.

4.5.1.2 MITIGATION MEASURES

No mitigation is warranted or proposed.

4.5.2 SURFACE WATER

4.5.2.1 POTENTIAL IMPACTS

PROPOSED ACTION

The Proposed Action is located in proximity to a dry, non-perennial tributary of Kāne'ohe Stream. The following built-in design measures, in compliance with the recommendations of the State of Hawai'i Department of Land and Natural Resources (DLNR) during early consultation for this project (see Appendix A), would be implemented to avoid any possible negative impact to surface water and drainage:

- Lands denuded of vegetation would be planted or covered as quickly as possible to prevent siltation and runoff into the stream environment
- Site work would be scheduled during times of minimal rainfall
- Construction materials, petroleum products, debris, and landscaping products would be prevented from falling, blowing, or leaching into the stream area
- The Proposed Action's drainage plan will direct all rain and stormwater runoff away from the stream channel to avoid erosion and siltation

NO ACTION

There would be no change to surface water or drainage conditions under the No Action alternative.

4.5.2.2 MITIGATION MEASURES

No mitigation is warranted or proposed.

4.6 BIOLOGICAL RESOURCES

SIGNIFICANCE CRITERIA

Project actions are determined to have a significant adverse impact on the flora environment if there is any disturbance to or removal of endangered or threatened species, or removal of trees of significance. In determining the extent of impacts to fauna species, criteria such as

[3] For more information about federal regulations for pesticide and fertilizer use, please see the National Pesticide Information Center (EPA 2010a) and the EPA's fertilizer information site (EPA 2010b).

[4] For more information about State of Hawai'i regulations on pesticide use, please see the Department of Agriculture's Information page (DOA 2010).

the extent of habitat loss or gain, and the presence or absence of threatened, endangered or protected species are used. The loss of sensitive habitat is indicative of significant impacts, whereas minor relocation and/or modification of habitats are indicative of adverse but not significant impacts.

4.6.1 POTENTIAL IMPACTS

PROPOSED ACTION

The Proposed Action would result in the loss of some floral resources. However, there are no instances of plant species currently listed as endangered, threatened, or proposed for listing under either the federal or the State of Hawai'i endangered species programs at the project site. No significant or sensitive habitat has been identified at the site of the Proposed Action. Therefore, impacts to biological resources would be less than significant.

NO ACTION

There would be no impact to biological resources from the No Action alternative.

4.6.2 MITIGATION MEASURES

No mitigation measures are proposed or warranted.

4.7 NATURAL AND MAN-MADE HAZARDS

SIGNIFICANCE CRITERIA

Project actions are determined to have a significant adverse impact if they increase the risk to human health or the environment from natural or man-made hazards. An increase in risk would be creating an environmental condition that would make human or natural populations more likely to suffer from a natural or man-made hazard.

4.7.1 FLOODPLAINS AND FLOODING

4.7.1.1 POTENTIAL IMPACTS

PROPOSED ACTION

Due to the gently downward sloping topography of the golf course property, the project site is generally not prone to flooding. Further, it is unlikely that the stream would overtop the banks of the channel as the stream bed is several feet below the banks of the channel; however, due to the proposed action's location near a stream, there would always be the potential for stream-related flooding during extremely heavy rains. Due to this risk, the Proposed Action incorporates multiple retaining walls and swales to slow and direct stormwater runoff away from the existing streambed located 10-20 ft downgradient of the site. These design features would minimize the potential for the Proposed Action to contribute to possible flood conditions related to the stream. Therefore, the Proposed Action would not have significant impacts related to flooding as it would not increase the risk of flooding in the area, nor present a significant risk to human or ecological health should flooding occur.

NO ACTION

Under the No Action alternative, the project site would not be developed. Therefore, there would be no impacts related to flood hazards.

4.7.1.2 MITIGATION MEASURES

No mitigation measures are warranted or proposed.

4.7.2 MUNITIONS AND EXPLOSIVES OF CONCERN

4.7.2.1 POTENTIAL IMPACTS

PROPOSED ACTION

Though the area was reportedly cleared of MEC in 1945, .30 caliber rifle rounds were discovered in 2005 when a contractor was digging a trench for a new irrigation system. Though unlikely, construction activities may encounter MEC, thus posing a hazard for construction workers. Avoidance techniques are recommended during the construction phase for this project and are discussed in Section 4.6.2.2 below.

NO ACTION

There is no additional risk of exposure to MEC under the No Action alternative.

4.7.2.2 MITIGATION MEASURES

Though the likelihood of encountering MEC is low, it is recommended that a UXO technician accompany the construction crew to substantially reduce the risk of exposure to MEC during clearing and grading. Identifying MEC is not always easy. Unidentifiable anomalies found in the ground should be avoided. If MEC is discovered during clearing or grading, all construction activities would immediately stop, the area would be cleared of all project personnel, and local authorities would be contacted for risk evaluation and mitigation. Construction activities would not resume until the potential hazard is removed.

4.8 SURROUNDING LAND USE

SIGNIFICANCE CRITERIA

Project actions are determined to have a significant adverse environmental impact if they conflict with surrounding land use.

4.8.1 POTENTIAL IMPACTS

PROPOSED ACTION

The Proposed Action is located within the Pali Golf Course. Surrounding the Proposed Action site are course holes, the clubhouse, and undeveloped land on the golf course property. Surrounding the Pali Golf Course are other recreational facilities, open space venues, and a college campus. There would be no land use conflicts resulting from the Proposed Action.

NO ACTION

There would be no change in land use under the No Action alternative; thus, there would be no impacts on surrounding land use.

4.8.2 MITIGATION MEASURES

No mitigation measures are proposed or warranted.

4.9 ARCHAEOLOGICAL, CULTURAL AND HISTORIC RESOURCES

SIGNIFICANCE CRITERIA

Project actions would be considered to have significant impacts if they adversely affect any known or discovered archaeologically or culturally sensitive resources encountered at the site.

4.9.1 POTENTIAL IMPACTS

PROPOSED ACTION

There are no known archaeological, cultural, or historic resources at the site of the Proposed Action. It is unlikely, though not impossible, that such resources may be inadvertently discovered during construction.

NO ACTION

There would be no impact under the No Action alternative.

4.9.2 MITIGATION MEASURES

Should any archaeological, cultural, or historic resources, such as human remains or artifacts, be discovered during clearing or grading, all construction activity would immediately cease and the proper authorities would be contacted to make an assessment.

4.10 VISUAL AND AESTHETIC RESOURCES

SIGNIFICANCE CRITERIA

Project actions are determined to have a significant adverse impact on visual and aesthetic resources if they block significant viewsheds or adversely conflict with the aesthetic character of the area.

4.10.1 POTENTIAL IMPACTS

PROPOSED ACTION

The Proposed Action would not block any viewsheds or alter the aesthetic character of the Pali Golf Course or the surrounding areas. The proposed maintenance facilities would be placed discreetly behind a natural vegetative barrier that would provide density, thickness, and height between the maintenance facilities and the golf course. The natural vegetative barrier would consist primarily of flora that is already in place at the site. Where necessary, vegetation may be added to the corridor to complete the visual barrier and would consist of compatible species, preferably native to Hawai'i.

It is highly unlikely that the maintenance facilities would be visible from nearby roads and highways, as an abundance of vegetation exists between the Proposed Action site and adjacent transportation corridors. The facilities may be visible to course users on Holes 9, 10, or 11; however, design of the facilities and completion of the landscaped vegetation barrier would minimize this potential impact. Appropriate height, use of neutral colors, and selection of compatible materials will be incorporated into the design for the Proposed Action to minimize any impacts to visual resources.

NO ACTION

There would be no change in visual or aesthetic resources under the No Action alternative.

4.10.2 MITIGATION MEASURES

No mitigation measures are proposed or warranted.

4.11 RECREATIONAL FACILITIES

SIGNIFICANCE CRITERIA

Project actions are determined to have a significant adverse impact on recreational facilities if they reduce or remove recreational opportunities at the site.

4.11.1 POTENTIAL IMPACTS

PROPOSED ACTION

The Proposed Action would not impair or remove any recreational opportunities at the Pali Golf Course. Construction activities may slightly interfere with course operations during the construction phase of the project; however, this potential impact would not be significant and would be short-term in nature.

NO ACTION

There would be no impact to recreational facilities under the No Action alternative.

4.11.2 MITIGATION MEASURES

No mitigation measures are warranted or proposed.

4.12 TRAFFIC

SIGNIFICANCE CRITERIA

Project actions would be considered to have a significant adverse impact to traffic if they result in a permanent increase in traffic volume such that existing levels-of-service are degraded to an extent that necessitates substantial road improvements to increase the capacity of the affected street systems, or if they cause long-term disruption or alteration of circulation patterns.

4.12.1 POTENTIAL IMPACTS

PROPOSED ACTION

The Proposed Action is a relocation of an existing use within the Pali Golf Course that is not anticipated to have an impact on the number of visitors the golf course receives. Public access to the golf course will not change. There is no anticipated impact to circulation patterns or traffic volume in the region resulting from the Proposed Action.

There may be short-term impacts to traffic on Kamehameha Highway or to course visitors turning into the golf course during the construction phase as construction equipment and vehicles enter and exit the project site; however, these impacts would be temporary in nature and would not be significant.

NO ACTION

There would be no impact on traffic resulting from the No Action alternative.

4.12.2 MITIGATION MEASURES

No mitigation measures are proposed or warranted.

5.0 CUMULATIVE IMPACTS ANALYSIS

Cumulative impacts are two or more individual effects, which, when considered together, compound or increase the overall impact on a resource or ecosystem. Cumulative impacts can arise from the individual effects of a single action or from the combined effects of past, present or future actions. Therefore, cumulative impacts can result from individually minor actions which collectively produce significant impacts over time. In the context of the Proposed Action, which is a change in location of an existing use, there are few potential impacts to resources or ecosystems anticipated when examined individually or cumulatively with past, present, or future actions in the area.

Due to the limited scope of the Proposed Action, examination and analysis of potential cumulative impacts for the purposes of this EA was limited to existing and proposed projects within the Pali Golf Course property and on adjoining properties. At this time, there are no known pending or proposed projects within vicinity of the Proposed Action.

The Proposed Action is located in proximity to a dry non-perennial tributary to Kāneʻohe Stream. Cumulative impacts to water resources would most likely result from several small developments contributing individually insignificant, but cumulatively significant, amounts of runoff into a drainage basin, or by significantly increasing sedimentation or turbidity into receiving waters. At this time, no known pending or proposed projects within proximity to the Proposed Action have been identified, nor do any perennial streams exist within vicinity of the Proposed Action. Existing uses adjacent to the Proposed Action include the clubhouse, cart barn, and course holes. Currently, including the Proposed Action, stormwater runoff is managed as to avoid negatively impacting the nearby non-perennial stream. With best available information, there is no reason to believe that adverse cumulative impacts to water resources would result from the Proposed Action.

The Koʻolaupoko Sustainable Communities Plan makes several recommendations to preserve or improve the visual and aesthetic resources in the district, and explicitly states that, “significant scenic views of ridges, upper valley slopes, shoreline areas from major public parks, highways, coastal waters and hiking trails must be protected” (City and County of Honolulu 2000). The Plan indicates that golf courses located in the district should use natural vegetative barriers, as opposed to man-made barriers, to improve upon the aesthetic character of these recreational areas. Components of the Proposed Action will contribute positively to the cumulative visual and aesthetic character of the region by incorporating a natural vegetative corridor as a visual barrier between course users and the proposed maintenance facilities. This is a continuing trend with development and maintenance of other golf courses in the area as well.

The Proposed Action is not expected to have any long-term adverse impacts, thus it would not contribute to any long-term or significant cumulative impacts on any of the resources or environments examined for this EA.

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6.0 FINDINGS AND DETERMINATIONS

This Draft EA demonstrates that the Proposed Action is not anticipated to result in adverse environmental impacts at the project site or any other area; therefore, an EIS is not warranted. A FONSI is anticipated for this project.

6.1 REASONS FOR SUPPORTING THIS PRELIMINARY DETERMINATION

This determination is based upon criteria outlined in Chapter 343, HRS, as amended, and Title 11, Chapter 200, HAR 1996.

(1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resources

The relatively small scope of the Proposed Action does not result in a significant loss of any natural or cultural resources. Though some clearing and grading will be required in order to implement the Proposed Action, the project site is small. Development of this area would not impact sensitive or critical habitat or degrade natural resources in the area, and there are no known cultural resources at the project site.

(2) Curtail the range of beneficial uses of the environment

There would be no change in beneficial uses of the environment from implementing the Proposed Action. The proposed maintenance facility will improve recreational resources of the Pali Golf Course by improving the course's ability to meet maintenance requirements.

(3) Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 343, HRS and any revisions thereof and amendments thereto, court decisions, or executive orders

The Proposed Action does not present any conflicts with the State's long-term environmental policies or goals and guidelines as expressed in any legislative statutes, rules, regulations, court decisions, or executive orders. The Proposed Action is in compliance with all local, state, and federal laws, as well as with local, regional, and state planning documents.

(4) Substantially affects the economic or social welfare of the community or state

The Proposed Action would have no impact on economic or social welfare in the surrounding community or the state. The project is to increase maintenance efficiency at the Pali Golf Course and there is no direct correlation between the Proposed Action and economic or social welfare.

(5) Substantially affects public health

The Proposed Action would have no impact on public health. There would be no change in use associated with the Proposed Action, only a change in location.

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

There would be no secondary impacts resulting from the Proposed Action. The project site is a small area within the Pali Golf Course property, a municipally-owned

recreational facility. Implementation of the Proposed Action is being proposed to increase maintenance efficiency at the course.

(7) Involves a substantial degradation of environmental quality

There would be no degradation of environmental quality resulting from the Proposed Action. BMPs would eliminate or reduce the potential for degradation to water resources, topography, soils, or any other resources potentially impacted during the construction phase for the Proposed Action, and no long-term adverse environmental impacts are anticipated.

(8) Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions

Section 5.0 evaluates the Proposed Action for potential cumulative impacts. There are no known pending or scheduled projects in the vicinity of the Proposed Action that might result in adverse cumulative impacts. It is anticipated that no adverse cumulative impacts would result from the Proposed Action.

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

There are no rare, threatened, or endangered species or habitats at the Proposed Action site; therefore, the project would not result in any impact to these resources.

(10) Detrimentally affects air or water quality or ambient noise levels

The Proposed Action would have no impact on air quality, water quality, or ambient noise levels. Implementation of BMPs during the construction phase for the project would ensure that any short-term impacts to these resources would remain below a level of significance.

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

The Proposed Action is not located in a flood plain, in a tsunami zone, near a beach, or in an erosion-prone area. The Proposed Action also is not located on geologically hazardous land, within an estuary, or near fresh or coastal waters. There would be no impact related to these resources from the Proposed Action.

(12) Substantially affects scenic vistas and viewplanes identified in county or state plans or studies

The Proposed Action would have no impact on scenic vistas or viewplanes. The proposed maintenance facilities would be placed discreetly behind a natural vegetative corridor placed between the maintenance facilities and course users. Further, it is highly unlikely that the maintenance facilities would be visible from nearby roads and highways, as an abundance of vegetation exists between the Proposed Action site and adjacent transportation corridors.

(13) Requires substantial energy consumption

The Proposed Action presents no increase or change in energy consumption at the Pali Golf Course.

7.0 CONSERVATION DISTRICT USE PERMIT JUSTIFICATION

The Proposed Action is located in the State Land Use Conservation District. Before being eligible for a CDUP, the applicant must demonstrate that the proposed land use is consistent with the following criteria, as outlined in HAR §13-5-30 (c):

(1) The proposed land use is consistent with the purpose of the conservation district

The purpose of the Conservation District is to regulate land use for the purpose of conserving, protecting, and preserving the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare (HAR Title 13, Chapter 5). The purpose of the Proposed Action is to increase the efficiency with which the Pali Golf Course can be maintained, thereby improving the facility's ability to preserve open space and recreational opportunities. The purpose of the Proposed Action is consistent with the purpose of the Conservation District. No breach of public health, safety, or welfare will be committed by the Proposed Action. The Proposed Action also helps to promote long term sustainability of the resources that this facility offers to the Conservation District overall, being open space, recreational opportunities, and preservation of aesthetic resources and open vistas.

(2) The proposed land use is consistent with the objectives of the subzone of the land on which the use will occur

Within the Conservation District there are several subzones that further define the range of acceptable uses for that particular subzone. The Proposed Action is located in the General subzone, which is land categorized as being the least environmentally sensitive (OCCL 2010). The objective of the General subzone as defined in HAR §13-5-14 is intended to designate open space where specific conservation uses may not be defined, but where urban use would be premature. HAR §13-5-14 also states that the General subzone shall encompass: (1) lands with topography, soils, and climate, or other related environmental factors that may not be normally adaptable or presently needed for urban, rural, or agricultural use; and (2) lands suitable for farming, flower gardening, operation of nurseries or orchards, and grazing; including facilities accessory to these uses when the facilities are compatible with the natural physical environment. Also noted is that land uses permitted in the General subzone are restricted to those listed in HAR §13-5-25, of which, existing golf courses are listed as a permitted use. The Proposed Action is an accessory use needed to support the Pali Golf Course, a permitted use within the General subzone.

(3) The proposed land use complies with the provision and guidelines contained in Chapter 205A HRS, entitled "Coastal Zone Management," where applicable

The Coastal Zone Management (CZM) program is built to meet 10 policies and objectives. Below is a discussion of how the Proposed Action complies with the provisions and guidelines contained within the CZM program.

> *(1) Recreational Resources - To provide coastal recreational opportunities accessible to the public and protect coastal resources uniquely suited for recreational activities that cannot be provided elsewhere.*

The Proposed Action is not located in the coastal zone; therefore, it does not influence accessibility to coastal recreational opportunities in any way.

(2) Historic Resources - To 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.
There are no known historic or prehistoric resources located at the site of the Proposed Action, or within the Pali Golf Course. Though it is unlikely that any historic resources would be uncovered during the construction phase for the Proposed Action, should any artifacts or remains be uncovered, construction would immediately cease, and the State Historic Preservation Division would be contacted to evaluate the inadvertent find.

(3) Scenic and Open Space Resources - To protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.
Though the site is not located on the coast, precautions were taken to preserve and protect scenic and open space resources in compliance with other land management plans, such as the Koʻolaupoko Sustainable Communities Plan. The Proposed Action consists of three single-story structures that will not be visible to course users or those passing-by on nearby highways or roads. A vegetative buffer will provide a visual barrier between the course and the maintenance facilities, and will consist primarily of vegetation that is already in place. No interruptions to scenic vistas or open space resources will result from the Proposed Action.

(4) Coastal Ecosystems - To protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.
The Proposed Action is not located in proximity to any reefs or other coastal ecosystems. The Proposed Action will not influence, impact, or cause adverse impacts to any coastal ecosystems through primary, secondary, or tertiary impacts.

(5) Economic Uses - To provide public or private facilities and improvements important to the state's economy in suitable locations; and ensure that coastal dependent development such as harbors and ports, energy facilities, and visitor facilities, are located, designed, and constructed to minimize adverse impacts in the coastal zone area.
The Proposed Action is located on a municipally-owned public golf course and significant public recreational facility. Though the Proposed Action itself would have minimal impact on the state's economy, it would impact the Pali Golf Course's ability to compete with other publicly and privately-owned golf courses, as it would directly influence the efficiency with which the course is maintained.

The Proposed Action is not located in the coastal zone and would result in no adverse impacts to resources within the coastal zone. Further, the Proposed Action would not result in adverse environmental impacts in the Conservation District or elsewhere.

(6) Coastal Hazards - To reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

The Proposed Action is not located within the tsunami evacuation zone or near the coast to be at risk of hazard from exposure to storm waves. The Proposed Action does, however, account for stream flooding, erosion, subsidence, and pollution potential.

The Action is located in FEMA FIRM Zone D, where flood occurrence is unknown yet possible. The Proposed Action utilizes grading and swales to slow and direct stormwater runoff away from an existing streambed located 10-20 ft downgradient of the site. These design features minimize any potential impacts that the Proposed Action poses to flooding hazards.

To address the potential for erosion, BMPs would be implemented to avoid any possible negative impacts to surface water and drainage. Lands denuded of vegetation would be planted or covered as quickly as possible to prevent siltation and runoff into the stream environment. Site work would be scheduled during times of minimal rainfall. Further, construction materials, petroleum products, debris, and landscaping products would be prevented from falling, blowing, or leaching into the stream area.

(7) Managing Development - To improve the development review process, communication, and public participation in the management of coastal resources and hazards.

The Proposed Action is not located adjacent to or in proximity to coastal resources or hazards. However, the Proposed Action does require environmental review as prescribed under HRS Chapter 343, which requires a public comment period following the publication of the draft environmental assessment. This process provides the public with an opportunity to participate in the development management process.

(8) Public Participation - To stimulate public awareness, education, and participation in coastal management; and maintain a public advisory body to identify coastal management problems and provide advice and assistance to the CZM program.

The Proposed Action is not located adjacent to or in proximity to coastal resources. However, as previously stated, the Proposed Action provides opportunity for public participation and public comment during the two public review periods that follow publication of the draft and final versions of the EA, as prescribed under HRS Chapter 343.

(9) Beach Protection - To protect beaches for public use and recreation; locate new structure inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion.

The Proposed Action is not located adjacent to or in proximity to a beach, and is located inland of the shoreline by approximately three miles. Further, the Proposed Action does not promote inland erosion that might influence the landscape downgradient near the shoreline or beaches.

(10) Marine Resources - To implement the state's ocean resources management plan.

Ocean resources management planning is not relevant to the Proposed Action.

(4) The proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community, or region

As discussed in chapter 4 of this EA, there will be no significant adverse impacts to the natural environment resulting from the Proposed Action. Any adverse impacts that would occur would be short-term, construction-related and insignificant. Further, these temporary impacts would be minimized by implementing construction site BMPs, such as installation of silt fencing, limiting vegetative loss and replanting vegetation as soon as possible, and avoiding construction during rainy weather.

(5) The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels

The Proposed Action is to build three maintenance facilities to support maintenance functions for the Pali Golf Course. The Proposed Action will be located south of Hole 10, adjacent to the Pali Golf Course Club House, and will be enclosed behind a natural-vegetation visual barrier. There would be no features of the Proposed Action that could be considered incompatible with the locality or surrounding areas.

(6) The existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, whichever is applicable

The open space characteristics of the Pali Golf Course will be preserved. The Proposed Action will not interfere with the visual resources or scenic vistas in any way. The Proposed Action will remain shielded behind a vegetative buffer, consisting primarily of vegetation that already exists at the site.

(7) Subdivision of land will not be utilized to increase the intensity of land uses in the conservation district

The Proposed Action does not propose any subdivision of land or increase in intensity of land use within the Conservation District.

(8) The proposed land use will not be materially detrimental to the public health, safety and welfare

There would be no change in risk to public health, safety or welfare from the Proposed Action. The proposed changes at the Pali Golf Course are merely a relocation of an existing use. There would be no materially detrimental risks to the public resulting from this relocated use.

8.0 PUBLIC AGENCY REVIEW, INVOLVEMENT, AND CONSULTATION

Early Consultation

Federal Agencies

United States Department of Fish and Wildlife

State of Hawaiʻi Agencies

Department of Land and Natural Resources

Department of Land and Natural Resources, State Historic Preservation Office

Department of Land and Natural Resources, Office of Conservation and Coastal Lands

Department of Health, Environmental Planning Office

City and County of Honolulu Agencies

Department of Enterprise Services

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9.0 LIST OF PREPARERS

This Environmental Assessment was prepared by

Wil Chee - Planning & Environmental

Celia Shen	Senior Planner Bachelor's in Architecture (BARCH) (University of Hawaiʻi) Master's in Urban and Regional Planning (MURP) (University of Hawaiʻi)
Angelyn Davis	Planner Bachelor of Arts in Geography (University of Hawaiʻi at Hilo) Master of Arts in Geography and Planning (University of Toledo)

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10.0 REFERENCES

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Wil Chee - Planning, Inc. (WCP). 20 May 1994. *DERP-FUDS Inventory Project Report, Pali Training Camp, Kailua, Island of Oahu, Hawaii, Site No. H09HI027700*. Prepared for U.S. Army Engineer District, Pacific Ocean Division.

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APPENDIX A

EARLY CONSULTATION LETTERS

WIL CHEE – PLANNING & ENVIRONMENTAL

September 30, 2010

Sir/Madam
Pacific Islands Administrator
Dept. of the Interior, U.S. Fish and Wildlife Service
300 Ala Moana Boulevard, Rm. 3-122, Box 50088
Honolulu, HI 96850

Subject: Early Consultation for an Environmental Assessment for Pali Golf Course Maintenance Facility

Dear Sir or Madam,

Enclosed you will find a project information sheet for an environmental assessment that is being prepared for proposed new maintenance facilities at Pali Golf Course. The proposed facilities will be located on Pali Golf Course property. The Pali Golf Course is owned by the City and County of Honolulu and is located within the State of Hawaii Conservation District.

Being located on county property and within the state Conservation District, building the proposed new facilities triggers the preparation of environmental review documents under HRS Chapter 343, as well as preparation of a conservation district use permit application.

The enclosed project information sheet will provide you with

- A description of the proposed action
- A map of the project location
- A brief overview of the history of the site
- Land use and zoning information, and
- Information about the project proponent, applicant's representatives, and accepting authority

Should you have any questions, comments, or concerns regarding the Proposed Action at this time, please send your responses to the following contact and address:

Wil Chee - Planning, Inc.
Attn: Angelyn Davis
1018 Palm Drive
Honolulu, HI 96814

We would greatly appreciate any feedback regarding the proposed action by Wednesday, October 20, 2010, or as soon as possible.

Sincerely,

Angelyn J. Davis, Planner

WIL CHEE – PLANNING & ENVIRONMENTAL

September 30, 2010

Laura Thielen
Department Head
Dept. of Land & Natural Resources
1151 Punchbowl Street
Honolulu, HI 96813

Subject: Early Consultation for an Environmental Assessment for Pali Golf Course Maintenance Facility

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Sincerely,

Angelyn J. Davis, Planner

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 21, 2010

Wil Chee-Planning & Environmental
1018 Palm Drive
Honolulu, Hawaii 96814

Attention: Ms. Angelyn J. Davis, Planner

Ladies and Gentlemen:

Subject: Early Consultation for an Environmental Assessment for Pali Golf Course Maintenance Facility

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 comment.

Other than the comments from Division of Aquatic Resources, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Historic Preservation will be submitting comments through a separate letter. Should you have any questions, please feel free to call our office at 587-0414. Thank you.

Sincerely,

Russell Y. Tsuji
Administrator

LD

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

2010 OCT 21 A 11:42

October 12, 2010

MEMORANDUM

DAR.3421

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

RECEIVED
OCT 13 2010
AQUATIC RESOURCES

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Early Consultation for an Environmental Assessment for Pali Golf Course Maintenance Facility
LOCATION: Island of Oahu
APPLICANT: Wil Chee-Planning & Environmental

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by October 19, 2010.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

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

Signed: _____
Date: 19 OCT 2010

STATE OF HAWAII
Department of Land and Natural Resources
DIVISION OF AQUATIC RESOURCES

MEMORANDUM

TO: Robert T. Nishimoto, Environmental Program Manager
FROM: Glenn R. Higashi, Aquatic Biologist GRH
SUBJECT: Early Consultation for Environmental Assessment for Pali Golf Course Maintenance Facility
Comments Requested By: Charlene Unoki Land Division
Date of Request: 10/12/10 Date Received: 10/13/10

Summary of Project

Title: **Early Consultation for Environmental Assessment for Pali Golf Course Maintenance Facility**
Project By: **Wil Chee-Planning & Environmental**
Location: **Island of Oahu**

Brief Description:

The applicant, Wil Chee-Planning & Environmental, on behalf of the Pali Golf Course, City & County of Honolulu, proposes to construct three maintenance and storage buildings, well as a small parking area for maintenance vehicles at the golf course. The maintenance buildings will be used for vehicle storage, pesticide storage, equipment washing, and maintenance administrative functions.

The proposed facilities will be located adjacent to the course clubhouse, on a currently undeveloped site situated south of Hole 10. The Proposed Action will be set back from the existing course by approximately 5 to 12 feet—varying as dictated by topographic constraints. The purpose of the Proposed Action is to provide new maintenance facilities to replace existing, inadequate facilities and to relocate maintenance operation to improve efficiency and accessibility. Currently, maintenance operations, vehicles, and equipment are being housed at a run-down maintenance shed adjacent to the Old Pali Road.

Comments:

The proposed project is not expected to have any significant impact on the aquatic resource values in this area. Non-perennial tributaries of the Kaneohe Stream exist in the proposed project area. Although these drainages are probably dry, mitigative measures should be implemented during the construction and after completion of the new maintenance facility to minimize the potential for pollution of the aquatic environment during rain/storm events.

1) lands denuded of vegetation should be planted or covered as quickly as possible to prevent siltation and runoff into the stream environment;
2) scheduling site work during periods of minimal rainfall;
3) prevent construction materials, petroleum products, debris and landscaping products from falling, blowing or leaching into the stream/estuary environment;
4) drainage plan to direct rain/storm runoff away from the stream channel drainage.

WIL CHEE – PLANNING & ENVIRONMENTAL

September 30, 2010

Laura Thielen
State Historic Preservation Officer
Dept. of Land & Natural Resources, State Historic Preservation Division
1151 Punchbowl Street, Room 130
Honolulu, HI 96813

Subject: Early Consultation for an Environmental Assessment for Pali Golf Course Maintenance Facility

Dear Sir or Madam,

Enclosed you will find a project information sheet for an environmental assessment that is being prepared for proposed new maintenance facilities at Pali Golf Course. The proposed facilities will be located on Pali Golf Course property. The Pali Golf Course is owned by the City and County of Honolulu and is located within the State of Hawaii Conservation District.

Being located on county property and within the state Conservation District, building the proposed new facilities triggers the preparation of environmental review documents under HRS Chapter 343, as well as preparation of a conservation district use permit application.

The enclosed project information sheet will provide you with

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- A map of the project location
- A brief overview of the history of the site
- Land use and zoning information, and
- Information about the project proponent, applicant's representatives, and accepting authority

Should you have any questions, comments, or concerns regarding the Proposed Action at this time, please send your responses to the following contact and address:

Wil Chee - Planning, Inc.
Attn: Angelyn Davis
1018 Palm Drive
Honolulu, HI 96814

We would greatly appreciate any feedback regarding the proposed action by Wednesday, October 20, 2010, or as soon as possible.

Sincerely,

Angelyn J. Davis, Planner

WIL CHEE – PLANNING & ENVIRONMENTAL

September 30, 2010

Kelvin Sunada
Chief
Dept. of Health, Environmental Planning Office
919 Ala Moana Blvd., Room 312
Honolulu, HI 96814

Subject: Early Consultation for an Environmental Assessment for Pali Golf Course Maintenance Facility

Dear Sir or Madam,

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Attn: Angelyn Davis
1018 Palm Drive
Honolulu, HI 96814

We would greatly appreciate any feedback regarding the proposed action by Wednesday, October 20, 2010, or as soon as possible.

Sincerely,

Angelyn J. Davis, Planner

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
EPO-I-3369

October 6, 2010

Ms. Angelyn J. Davis, Planner
Wil Chee – Planning and Environmental
1018 Palm Drive
Honolulu, Hawaii 96814

Dear Ms. Davis:

SUBJECT: Early Consultation for an Environmental Assessment for Pali Golf Course Maintenance Facility, 45-050 Kamehameha Highway, Kaneohe, Hawaii
TMK: (1)4-5-035:001

Thank you for allowing us to review and comment on the subject document. The document was routed to the various branches of the Environmental Health Administration. We have no comments at this time, but reserve the right to future comments. We strongly recommend that you review all of the Standard Comments on our website: www.hawaii.gov/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this application should be adhered to.

The same website also features a Healthy Community Design Smart Growth Checklist (Checklist). The Hawaii State Department of Health, Built Environment Working Group, recommends that State and county planning departments, developers, planners, engineers and other interested parties apply the healthy built environment principles in the Checklist whenever they plan or review new developments or redevelopments projects. We also ask you to share this list with others to increase community awareness on healthy community design.

If there are any questions about these comments please contact the Environmental Planning Office at 586-4337.

Sincerely,

Genevieve Salmonson

GENEVIEVE SALMONSON, Acting Manager
Environmental Planning Office

WIL CHEE – PLANNING & ENVIRONMENTAL

September 30, 2010

Samuel J. Lemmo
Administrator
Dept. of Land & Natural Resources, Office of Conservation and Coastal Lands
1151 Punchbowl Street, Room 131
Honolulu, HI 96813

Subject: Early Consultation for an Environmental Assessment for Pali Golf Course Maintenance Facility

Dear Sir or Madam,

Enclosed you will find a project information sheet for an environmental assessment that is being prepared for proposed new maintenance facilities at Pali Golf Course. The proposed facilities will be located on Pali Golf Course property. The Pali Golf Course is owned by the City and County of Honolulu and is located within the State of Hawaii Conservation District.

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Attn: Angelyn Davis
1018 Palm Drive
Honolulu, HI 96814

We would greatly appreciate any feedback regarding the proposed action by Wednesday, October 20, 2010, or as soon as possible.

Sincerely,

Angelyn J. Davis, Planner

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

PAUL J. CONRY
ACTING FIRST DEPUTY

LENORE N. OHYE
ACTING DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF:OCCL:AB

Correspondence: OA-11-69

NOV 12 2010

Angelyn Davis
Wil Chee Planning & Environmental
1018 Palm Drive
Honolulu, Hawai'i 96814

SUBJECT: Pre-Consultation for an Environmental Assessment for Pali Golf Course Maintenance Facility, Located at 45-050 Kamehameha Highway, Kāne'ohe, O'ahu, TMK: (1) 4-5-035:001

Dear Ms. Davis:

The Department of Land and Natural Resources, Office of Conservation and Coastal Lands (OCCL) has reviewed the information provided regarding the Pali Golf Course maintenance facility project, located at 45-05- Kamehameha Highway, Kāne'ohe, O'ahu, TMK: (1) 4-5-035:001.

According to your information, you plan to construct three maintenance and storage buildings, as well as a small parking area for maintenance vehicles at Pali Golf Course. The buildings will be used for vehicle storage, pesticide storage, equipment washing, and maintenance administrative functions.

According to OCCL records, the subject property appears to be located in the State Conservation District, General Subzone. There are three existing Conservation District Use Permits (CDUPs) for the Pali Golf Course: CDUPs OA-459, OA-983, and OA-2622. On July 27, 1973, the Board approved CDUP OA-459 for renovation to the clubhouse. On October 14, 1977, the Board approved CDUP OA-983 for the public recreational use at Pali Golf Course. On May 28, 1993, the Board approved CDUP OA-2622 for the renovation/improvement of the water system, replacement of the clubhouse, expansion of the cart barn, and construction of new parking lot.

The maintenance facility project may be an identified land use within the General Subzone pursuant to Hawai'i Administrative Rules (HAR) §13-5-25, *Identified land uses in the general subzone*, G-2, LAND USES NOT PREVIOUSLY IDENTIFIED (D-1), *Land uses not previously identifies in sections 13-5-22, 23 or 24, which are consistent with the objectives of the general subzone*. This action would require a Conservation District Use Application for a Board Permit. This could also require the filing of an environmental assessment (EA).

Should you have any questions about this correspondence, you may contact Audrey Barker of our office at (808) 587-0377 or audrey.t.barker@hawaii.gov.

Sincerely,

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

c: Chairperson
ODLO
DPP

APPENDIX B

BOTANICAL SURVEY

Botanical survey for a new maintenance facility at the Pali Golf Course in Kāneʻohe, Oʻahu

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Introduction

This report[1] describes results of a botanical survey conducted on 1.19 ac (0.48 ha) of essentially vacant land on the *mauka* side of the City & County of Honolulu, Pali Golf Course. The survey was conducted for use in an Environmental Assessment (EA) of a proposed new maintenance facility for the golf course. Planned improvements will entail grading of parts of the area and construction of an access road, buildings, parking areas, and other appurtenances. The purpose of the survey was to ascertain whether listed plant species or other botanical resources of importance or interest occur at the project site.

Methods

The project site was visited on January 21, 2011 and surveyed for botanical resources. The survey involved walking over all accessible areas of the project site anticipated for development (Fig. 1) and noting the names and relative abundance of all ferns and flowering plants growing there. Field notes were translated into a flora listing. For the most part, plant names follow *Manual of the Flowering Plants of Hawaiʻi* (Wagner et al., 1990, 1999) for native and naturalized flowering plants, and *A Tropical Garden Flora* (Staples and Herbst, 2005) for crop and ornamental plants, and Palmer (2003) for ferns.

[1] Report prepared for Allen Ng & Associates. This report will become part of the public record for the project Environmental Assessment prepared by Wil Chee – Planning, Inc.

Figure 1. Aerial view of the upper (*mauka*) portion of the Pali Golf Course showing outlined the area surveyed for a new maintenance facility.

Results

The project site is mostly forested, with the forest somewhat open in some areas. The site shows signs of disturbance over a long period of time, with a

graded road, small, leveled lot used for storage of materials, and an old berm of unknown former use (possibly runoff diversion).

Vegetation

The project site is mostly covered with trees and, in different areas either a shrub/forb or a grass understory. Some large trees are present, mostly mango (*Mangifera indica*) and albizia (*Falcateria moluccana*). The site abuts the greens of the golf course on the north (downslope) side, and is otherwise surrounded by a mixed forest. This forest is closed canopy, with several very large albizia trees to the west (Fig. 2). Trees abundant in a more open canopy forest south and west of the site include paperbark (*Melaleuca quinquenervia*), silk oak (*Grevillea robusta*), and octopus tree (*Schefflera actinophyla*).

Figure 2. View towards project site from club house parking lot. These large trees would not be removed for the project as the site entrance road is actually off to the right side behind roof peak.

Flora

Table 1 lists all of the plant species identified by the survey. A total of 2 species of ferns and 48 species of flowering plants were observed in the project area. Of these 50 species, only one native endemic species (2% of total) was seen. This plant, *māmaki* (*Pipturus albidus*), is likely to be growing further upslope. The single specimen on the site is a seedling. In addition, a Polynesia introduction was noted: *ʻohe* or bamboo (*Schizostachyum glaucifolium*), forming a small stand on the property. Otherwise, all of the remaining 48 plant species are naturalized or ornamental species not native to the Hawaiian Islands.

Table 1. Checklist of plants found in the survey area adjacent to the Pali Golf Course Kāneʻohe, Oʻahu, Hawaiʻi.

Species	Common name	STATUS	ABUNDANCE	NOTES
PTERIDOPHYTES ~ FERNS & FERN ALLIES				
POLYPODIACEAE				
Phymatosorus grossus (Langsd. & Fisch.) Brownlie	*laua'e*	Nat	R	
THELYPTERIDACEAE				
Christella dentata (Forssk.) Brownsey & Jermy	wood fern	Nat	C3	
FLOWERING PLANTS DICOTYLEDONS				
ACANTHACEAE				
Dicliptera chinensis (L.) Juss.	---	Nat	C	<1>
Thunbergia fragrans Roxb.	sweet clock vine	Nat	U	
ANACARDIACEAE				
Mangifera indica L.	mango	Nat	U	
ARALIACEAE				
Schefflera actinophyla (Endl.) Harms	octopus tree	Nat	O	
ASTERACEAE (COMPOSITAE)				
Bidens alba (L.) DC	beggartick	Nat	R	
Pluchea carolinensis (Jacq.) G. Don		Nat	O	
Spagneticola trilobata (L.) Pruski	wedelia	Nat	C	
BIGNONIACEAE				
Spathodea campanulata P. Beauv.	African tulip tree juv.	Nat	R	
CARICACEAE				
Carica papaya L.	papaya	Nat	R	

Table 1 (continued).

Species	Common name	STATUS	ABUNDANCE NOTES
CECROPIACEAE			
Cecropia obtusifolia Bertol.	guarumo	Nat	O
CONVOLVULACEAE			
Ipomoea obscura (L.) Ker-Gawl.	---	Nat	U
EUPHORBIACEAE			
Chamaesyce albomarginata (Torr. & A. Grey) Small	rattlesnake weed	Nat	R
FABACEAE			
Desmanthus pernambucanus (L.) Theilung	virgate mimosa	Nat	R
Falcataria moluccana (Miq.) Barneby & Grimes	albizia	Nat	O
Leucaena leucocephala (Lam.) deWit	*koa haole*	Nat	U
Mimosa pudica L.	sensitive plant	Nat	U
Neonotonia wightii (Wight & Arnott) Lackey	glycine vine	Nat	U
LAMIACEAE			
Hyptis pectinata (L.) Poit.	comb hyptis	Nat	R
LAURACEAE			
Cinnamomun burmanni (Nees) Blume	Padang cassia	Nat	R
Persea americana Mill.	avacado	Nat	R
MALVACEAE			
Sida rhombifolia	Cuba jute	Nat	R
MELASTOMATACEAE			
Arthrostrema ciliatum Pav. ex D. Don	---	Nat	C
Clidemia hirta (L.) D. Don var. hirta	Koster's curse	Nat	U
MYRSINACEAE			
Ardisia crenata Sims	Hilo-holly	Nat	R
Ardisia elliptica Thunb.	shoe-button ardisia	Nat	R
MYRTACEAE			
Psidium guajava L.	common guava	Nat	R
Syzigium cumini (L.) Skeels	Java plum	Nat	R
PASSIFLORACEAE			
Pasiflora mollissima (Kunth) L. H. Bailey	banana *poka*	Nat	O
PLANTAGINACEAE			
Plantago major L.	common plantain	Nat	O1
PROTEACEAE			
Grevillea robusta A. Cunn. ex R. Br.	silk oak	Nat	R

Table 1 (continued).

Species	Common name	STATUS	ABUNDANCE	NOTES
ROSACEAE				
Rubus rosifolius Sm.	thimbleberry	Nat	U	
RUBIACEAE				
Padaeria foetida L.	*maile pilau*	Nat	C	
ULMACEAE				
Trema orientalis (L.) Blume	gunpowder tree	Nat	U	
URTICACEAE				
Pipturus albidus (Hook. & Arnott) A. Gray	*māmaki,* juv.	**End**	R	
VERBENACEAE				
Citharexylum caudatum L.	fiddlewood	Nat	C	<1>
Citharexylum spinosum L.	fiddlewood	Nat	O	<1>
MONOCOTYLEDONES				
ARECACEAE				
Livistonia chinensis (N. Jacq.) Mart.	Chinese fan palm	Nat	R	
Ptychosperma macarthurii (Veitch) J. D. Hook.	Macarthur palm	Orn	R	
COMMELINACEAE				
Commelina diffusa N.L. Burm.	day flower	Nat	R	
HELICONIACEAE				
Heliconia latispatha Benth.	latispatha heliconia	Orn	U	
POACEAE (GRAMINEAE)				
Axonopus compressus (Swartz) P. Beau.	brd-lvd carpetgrass	Nat	U	
Digitaria insularis (L.) Mez ex Ekman	sourgrass	Nat	R	
Eleusine indica (L.) Gaertn.	wiregrass	Nat	R	
Oplismenus hirtellus (L.) P. Beauv.	basketgrass	Nat	AA	
Panicum maximum Jacq.	Guinea grass	Nat	C3	
Paspalum conjugatum Bergius	Hilo grass	Nat	C2	<1>
Schizostachyum glaucifolium (Rupr.) Munro	*'ohe*	**Pol**	U	
Setaria palmifolia (J. König) Stapf	palm grass	Nat	R	

Legend to Table 1

Status = distributional status

- **end.** = endemic; native to Hawaii and found naturally nowhere else.
- **ind.** = indigenous; native to Hawaii, but not unique to the Hawaiian Islands.
- nat. = naturalized, exotic, plant introduced to the Hawaiian Islands since the arrival of Cook Expedition in 1778, and well-established outside of cultivation.
- orn. = exotic, ornamental or cultivated; plant not naturalized (not well-established outside of cultivation).
- **pol.** = Polynesian introduction before 1778.

Table 1 (continued).

Abundance = occurrence ratings for plants in survey area.

R – Rare -	only one, two, or three plants seen.
U - Uncommon -	several to a dozen plants observed.
O - Occasional -	found regularly around the site.
C - Common -	considered an important part of the vegetation and observed numerous times.
A - Abundant -	found in large numbers; may be locally dominant.
AA - Abundant -	abundant and dominant in some areas surveyed, defining vegetation in those areas.

Notes:

<1> plant lacking seasonal flowers or fruit; identification uncertain.

Discussion

Botanical Resources

No plant species currently listed as endangered, threatened, or proposed for listing under either the federal or the State of Hawai'i endangered species programs (DLNR, 1998; USFWS, 2005, 2011) were recorded in the survey area. Almost no native plant species (here including an early Polynesian introduction as "native") are present and those recorded are common species. Trees are abundant on the site, although most are small and part of the scrub; the few larger trees present (mango and albizia) are along the upper edge of the site and may not all need to be removed for project construction. However, again, these are non-native, locally common trees of limited resource value. Albizia are fast-growing trees that attain a large size and tend to shed large branches in heavy winds; these trees should be removed from close proximity to project elements. Wild mango trees are extremely common in the Islands, and the two or three present here might be evaluated by an arborist to determine their worth for working into the project layout (these trees lie along the south side of the project site). In conclusion, development of the project site will not result in long-term deleterious impacts to any plant species currently listed as endangered, threatened, or proposed for listing, or considered an important botanical resource.

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