

# **Final Environmental Assessment**

## **PROPOSED H.P. BALDWIN HIGH SCHOOL SOFTBALL FIELD AND RELATED IMPROVEMENTS (TMK (2)3-8-007:004 (por.))**

**Prepared for:**

**State of Hawaii  
Department of Education**

**June 2011**

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## Executive Summary

**Project Name:** H.P. Baldwin High School Softball Field and Related Improvements

**Type of Document:** Final Environmental Assessment

**Legal Authority:** Chapter 343, Hawaii Revised Statutes

**Agency Determination:** Finding of No Significant Impact (FONSI)

**Applicable Environmental Assessment Review “trigger”:** Use of County Lands and State Funds

**Location:** Island of Maui  
Wailuku, Maui, Hawaii  
TMK (2) 3-8-007:004 (por.)

**Applicant:** State of Hawaii  
Department of Education  
P.O. Box 2360  
Honolulu, Hawaii 96804  
Contact: Duane Kashiwai, Administrator, Facilities  
Development Branch  
Phone No.: (808) 586-0430

**Landowner:** County of Maui

**Approving Agency:** State of Hawaii  
Department of Education

**Agent:** Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793  
Contact: Colleen Suyama, Senior Associate  
Phone No.: (808) 244-2015

**Project Summary:** The State of Hawaii, Department of Education (DOE), proposes the development of a softball field and related improvements on an approximately 3.1-acre site on the H.P. Baldwin High School campus adjacent to the Boy Scouts of America Council offices located in Wailuku, Maui. The project components will include construction of a new

softball field with dugouts, pitcher's warm up area, a batting cage, unisex restroom and small parking lot. The project will also provide Americans with Disability Act (ADA) access from other parts of campus. Site work includes excavation and embankment of the site, construction of an access roadway, walkways, installation of service utilities including water, sewer, underground electrical and a drainage system.

The use of County lands and State funds are triggers for Chapter 343, Hawaii Revised Statutes (HRS). As such, an Environmental Assessment (EA) has been prepared pursuant to Chapter 343, HRS, and Chapter 200 of Title 11, Administrative Rules, Environmental Impact Statement Rules. The EA documents the project's technical characteristics and environmental impacts, and advances findings and conclusions relative to the significance of the project. The Approving Agency for the EA is the DOE.

# **I. PROJECT OVERVIEW**

# I. PROJECT OVERVIEW

## A. PROJECT LOCATION AND LAND OWNERSHIP

The State of Hawaii, Department of Education (DOE) proposes to develop a softball field and related improvements on the H. P. Baldwin High School campus in Wailuku, Maui, Hawaii. The campus is located on the northside of Kaahumanu Avenue directly across the intersection of Maui Lani Parkway and Kaahumanu Avenue. The Baldwin High School site, identified by TMK (2) 3-8-007:004 (hereafter referred to as the “subject property”), is approximately 41.961 acres and owned by the County of Maui. The land was purchased by the County of Maui in 1938 for school purposes. Although the property is owned by the County of Maui, school operations have been transferred to the State of Hawaii. The subject property is bounded by Kaahumanu Avenue to the south, the War Memorial Complex to the east, portions of the War Memorial Complex, Liholiho Street, Leleihoku Street and Puuone Tract residential properties to the north and Lunalilo Street, the Wailuku U.S. Army Reserve Center, and the Boy Scouts of America offices to the west. See **Figure 1** and **Figure 2**. The subject property is located in the State “Urban” district, designated “Public/Quasi-Public” by the Wailuku-Kahului Community Plan map and is County zoned, “R-3, Residential”.

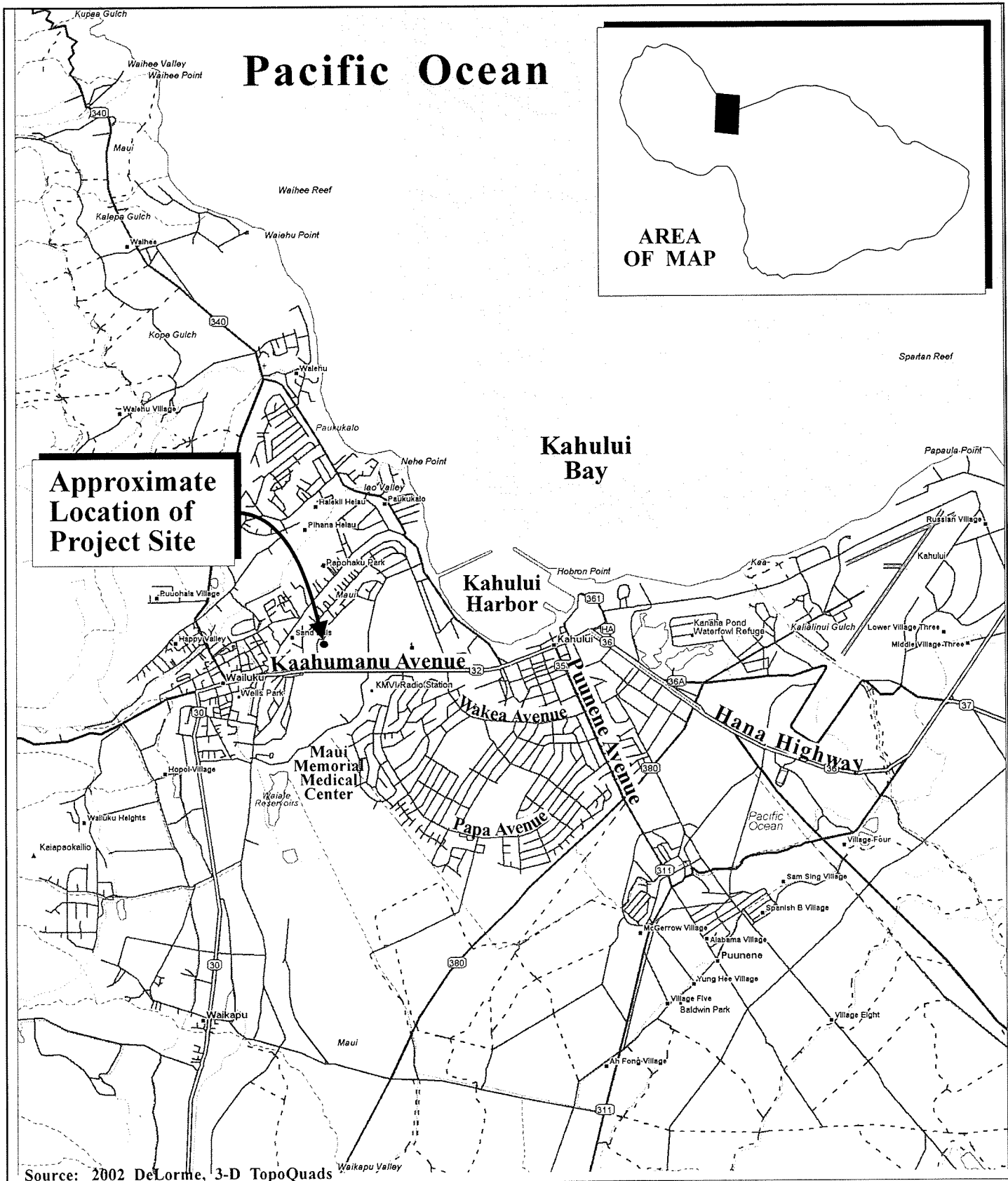
The applicant for the proposed action is the DOE.

## B. PROJECT BACKGROUND

The proposed softball field and related improvements were initiated in school year 2002-2003. During that time, the State legislature appropriated monies to address gender equity concerns with respect to athletic facilities. The Department of Education’s Civil Rights Compliance Specialist and the four (4) Educational Specialists for athletics compiled a list of schools that had available land to construct softball fields for females. Baldwin High School was one of the schools initially placed on the list, and the construction of the field was projected to begin in 2010.

## C. EXISTING CONDITIONS

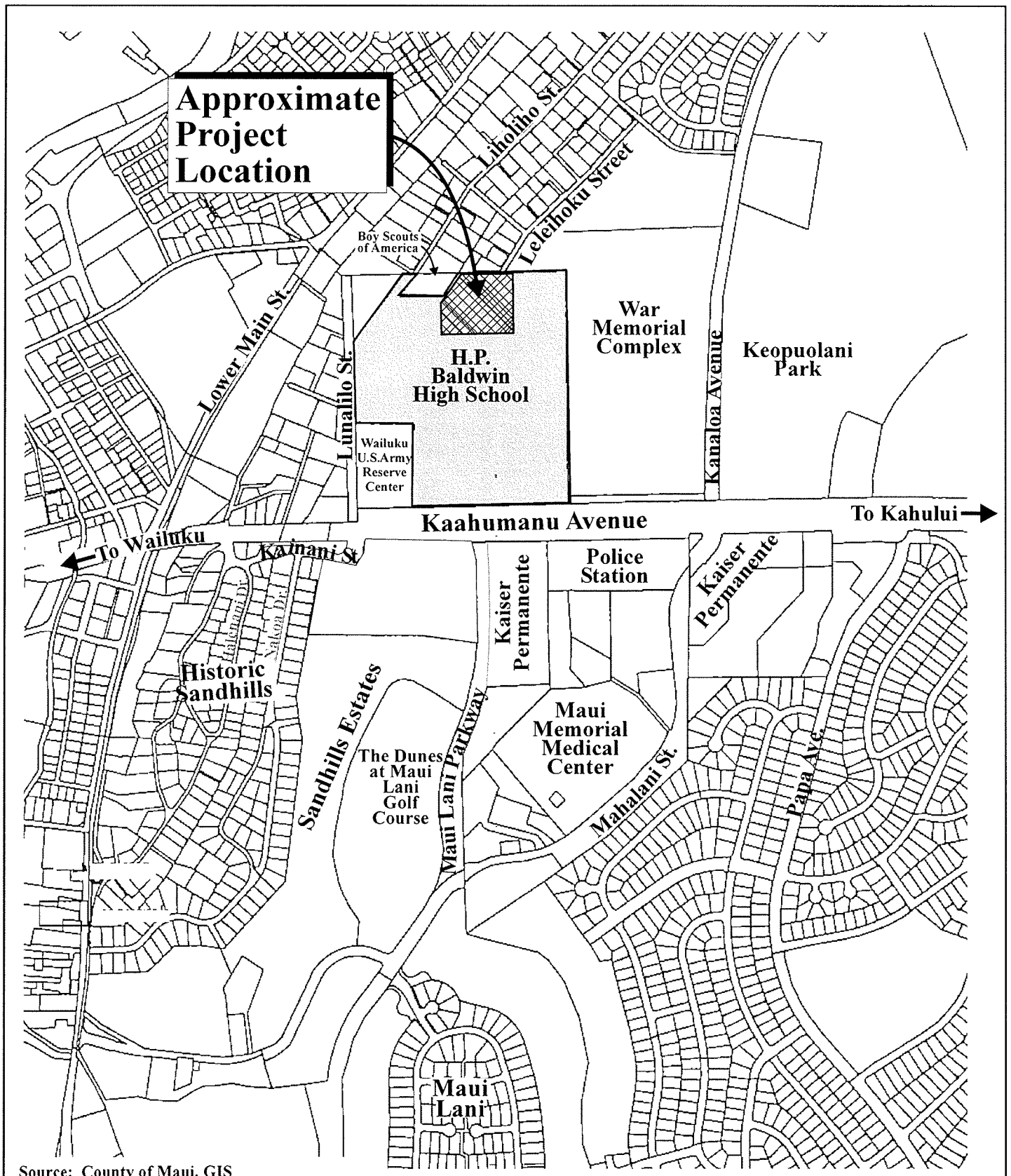
The softball field will utilize approximately 3.1 acres (hereafter referred to as the “project site”) of the school campus at the northwest end of the subject property adjacent to the Boy



Source: 2002 DeLorme, 3-D TopoQuads

**Figure 1 Proposed H.P. Baldwin High School Softball Field and Related Improvements** NOT TO SCALE  
**Regional Location Map**





Source: County of Maui, GIS

**Figure 2 Proposed H.P. Baldwin High School Softball Field and Related Improvements** NOT TO SCALE  
**Site Location Map**





Scouts of America property. The site is currently vacant undisturbed land overgrown with kiawe and scrub vegetation.

**D. PROPOSED ACTIONS**

The proposed softball field will include a grassed outfield, skinned infield, backstop, two (2) dugouts, fencing, an unpaved emergency vehicle field access from the campus and a maintenance access from Leleihoku Street. Other related improvements include site grading, a new access road, pitcher's warm up area, a batting cage, one (1) unisex restroom, storage container, Americans with Disabilities Act (ADA) compliant pedestrian access route and parking stall, installation of a pipe gate, and drinking fountain. Infrastructure improvements include electrical, sewer line and water line connections to existing lines and construction of a new drainline and onsite retention basin. If additional funding is available, an irrigation system will also be installed. No outdoor sport lighting is proposed. See **Figure 3** and **Appendix "A"**.

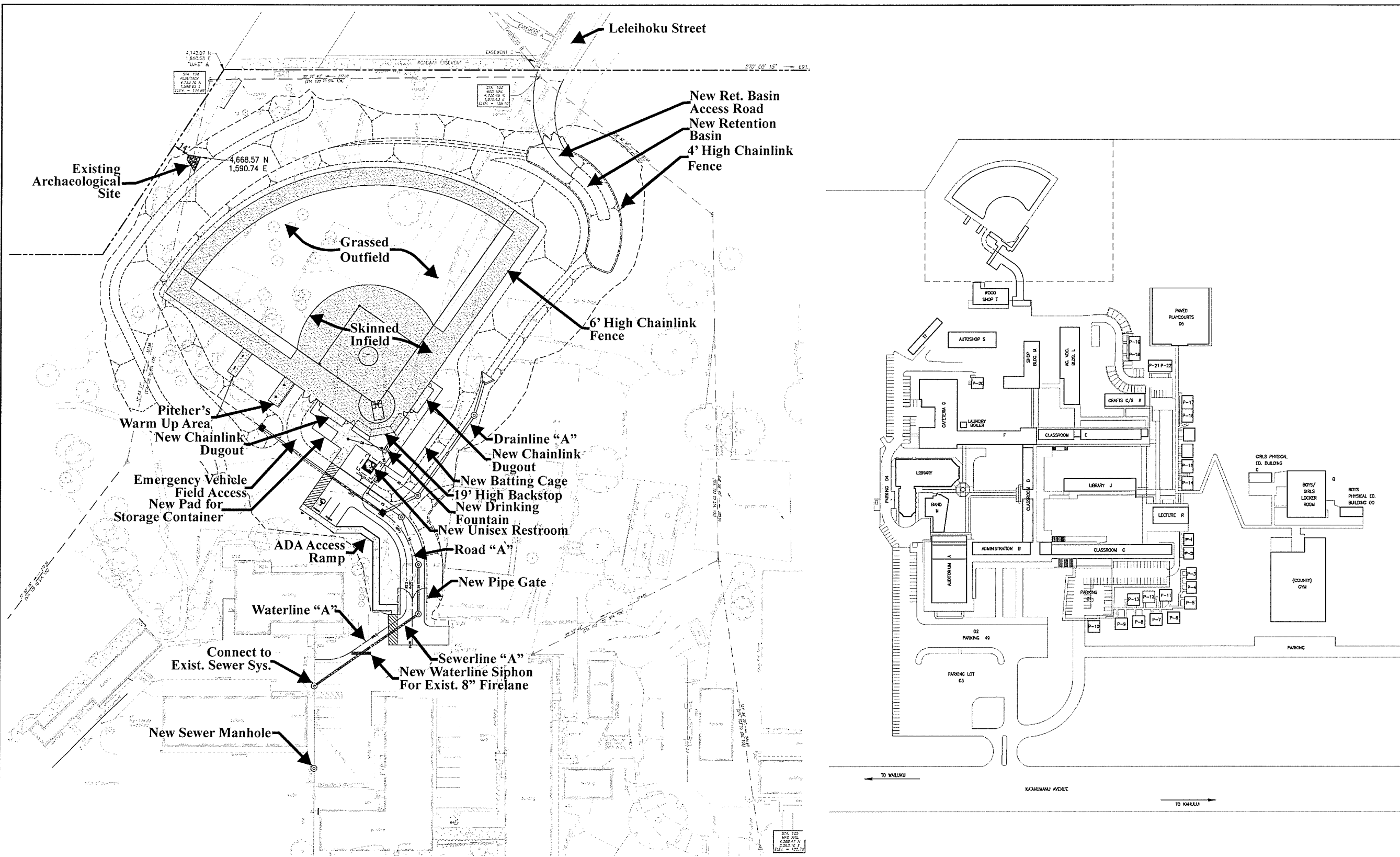
**E. CHAPTER 343, HAWAII REVISED STATUTES**

As previously noted, the proposed project will involve the use of County land and State funds. As such, an EA is being prepared pursuant to Chapter 343, HRS and Chapter 200 of Title 11, Department of Health Administrative Rules, Environmental Impact Statement Rules. Accordingly, this document addresses the project's technical characteristics, environmental impacts and alternatives, and advances findings and conclusions relative to the significance of the proposed action.

The approving agency for the EA is the DOE.

**F. PROJECT COSTS AND SCHEDULE**

The estimated construction cost for the proposed improvements is approximately \$750,000.00. Construction of the proposed improvements will commence immediately upon receipt of all necessary regulatory permits and approvals in order to meet the settlement requirements. It is anticipated that construction will commence in the summer of 2011 and be completed within six (6) to eight (8) months.



Source: Austin Tsutsumi & Associates, Inc.

Figure 3

Proposed H.P. Baldwin High School Softball Field  
and Related Improvements  
General Site Plan

NOT TO SCALE



Prepared for: State of Hawaii, Department of Education



**II. DESCRIPTION OF THE  
EXISTING  
ENVIRONMENT,  
POTENTIAL IMPACTS  
AND MITIGATION  
MEASURES**

## **II. DESCRIPTION OF THE EXISTING ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES**

### **A. PHYSICAL SETTING**

#### **1. Surrounding Land Uses**

##### **a. Existing Conditions**

The subject property is located north of Kaahumanu Avenue directly across the intersection of Maui Lani Parkway and Kaahumanu Avenue within the Wailuku-Kahului urban area. Kahului is the island of Maui's center of commerce. Kahului is home to Kahului Harbor, the island's only deep water port, and the Kahului Airport, the second busiest airport in the State. With its proximity to the harbor and airport, the Kahului region has emerged as the focal point for heavy industrial, light industrial and commercial activities and services such as warehousing, baseyard operations, automotive sales and maintenance, and retailing for equipment and materials for suppliers. Kahului is considered Central Maui's commercial retailing center with the Queen Kaahumanu Center, Maui Mall, Maui Marketplace and Kahului Shopping Center located within the region. Wailuku, on the other hand, serves as the seat of County and State governments, with several agencies headquartered in the civic center area between Kaohu Street and Main Street. Wailuku also serves as a center for professional services including, medical, dental, legal and design professions.

Land uses surrounding the H.P. Baldwin High School campus include existing residential areas of Kahului and Wailuku, as well as recreational and public/quasi-public uses found in the vicinity of the Wailuku U.S. Army Reserve Center, War Memorial Complex, Maui Police Department, and Maui Memorial Medical Center.

The 41.961-acre H.P. Baldwin High School campus is surrounded by the War Memorial Complex to the east, portions of the War Memorial Complex,

Liholiho Street, Leleihoku Street and Puuone Tract residential properties to the north, Lunalilo Street, the Wailuku U.S. Army Reserve Center, and Boy Scouts of America offices to the west and the Kaiser Permanente Maui Lani Clinic, business offices and Liberty Dialysis Center and proposed site for a Maui Lani shopping center to the south. To the southwest is the Historic Sandhills residential community, which consists entirely of single-family homes.

**b. Potential Impacts and Proposed Mitigation Measures**

The proposed expansion of facilities at the H. P. Baldwin High School campus is compatible with the surrounding recreational and public/quasi-public uses in the area. Land use patterns are not expected to be adversely impacted by the proposed expansion.

**2. Climate**

**a. Existing Conditions**

Like most areas of Hawaii, Maui's climate is relatively uniform year round. Characteristic of Hawaii's climate, the project site experiences mild and uniform temperatures year round, moderate humidity and a relatively consistent northeasterly tradewind. Variation in climate on the island is largely left to local terrain.

Average temperatures at the project site (based on temperatures recorded at Kahului Airport) range from lows in the 60's to highs in the 80's. September is historically the warmest month, while January and February are the coolest. Average annual rainfall in Wailuku is approximately 31 inches per year. Winds in the Wailuku region are predominantly out of the north-northeast and northeast (Maui Data Book, 2010).

**b. Potential Impacts and Mitigation Measures**

The proposed project involves limited use of impervious areas (such as asphalt paving, etc.) and is not anticipated to adversely affect climatic conditions in the area.

### 3. Topography and Soils

#### a. Existing Conditions

The project site is located on Maui's central isthmus. The project site generally slopes from west to east with an average slope of approximately 11 percent. Onsite elevations range from 170 to 128 feet mean sea level (msl) (Austin, Tsutsumi & Associates, Inc.). Underlying the project site and surrounding lands is soil belonging to the Pulehu-Ewa-Jaucas association which is characterized as having deep, nearly level to moderate slopes, with well drained soils that have moderately fine to coarse texture. See **Figure 4**. The soil types specific to the project site is Puuone Sand (PZUE). See **Figure 5**. PZUE soils predominate in the Kahului region and are typified by a sandy surface layer underlain by cemented sand (Soil Conservation Service, 1972). Permeability is rapid in the sandy surface layer, runoff slow, and wind erosion is moderate. The project site is currently vacant and vegetated with various grasses and kiawe trees.

#### b. Potential Impacts and Mitigation Measures

The project will require excavation and embankment work to prepare a level site for the softball field. The majority of the project site will be in a "cut" condition with embankment with a maximum 2:1 slope graded downward from west to east. The field will be graded to direct runoff away from the infield and towards the fences surrounding the softball field. The proposed project is not anticipated to adversely impact existing topography and soil characteristics of the project site. See **Appendix "B"**, Preliminary Engineering and Drainage Report.

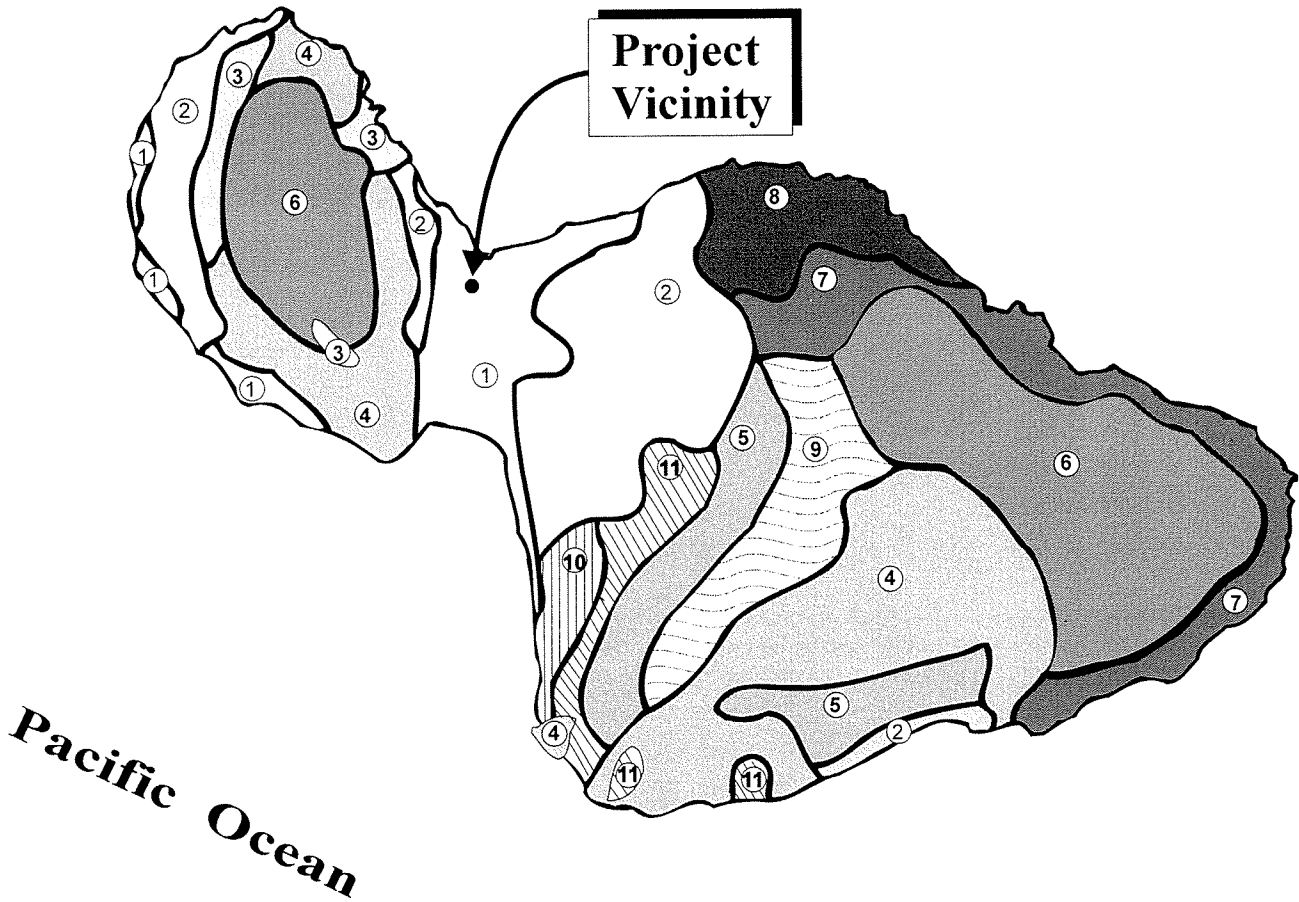
### 4. Flood and Tsunami Hazard

#### a. Existing Conditions

The Flood Insurance Rate Map (FIRM) for this region indicates that the project site is located in Zone X (unshaded), areas determined to be outside the 0.2 percent annual chance floodplain. See **Figure 6**. In addition, the subject property is located beyond the reaches of the tsunami inundation zone.

# LEGEND

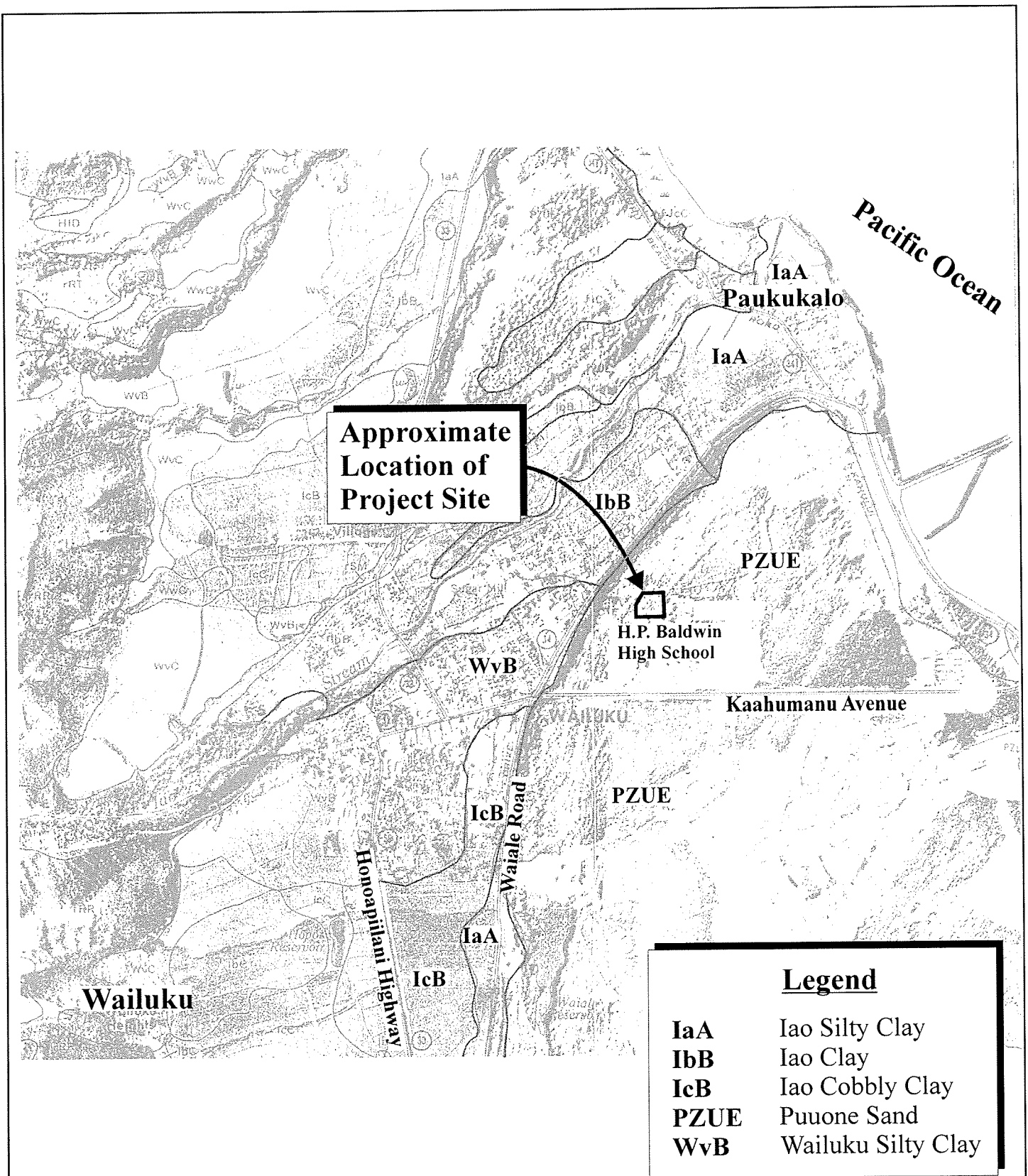
- |  |                                     |
|--|-------------------------------------|
| ① Pulehu-Ewa-Jaucas association                | ⑦ Hana-Makaalae-Kailua association  |
| ② Waiakoa-Keahua-Molokai association           | ⑧ Pauwela-Haiku association         |
| ③ Honolua-Olelo association                    | ⑨ Laumaia-Kaipoi-Olinda association |
| ④ Rock land-Rough mountainous land association | ⑩ Keawakapu-Makena association      |
| ⑤ Puu Pa-Kula-Pane association                 | ⑪ Kamaole-Oanapuka association      |
| ⑥ Hydrandepts-Tropaquods association           |                                     |



Source: USDA Soil Conservation Service

Figure 4 Proposed H.P. Baldwin High School NOT TO SCALE  
Softball Field and Related Improvements  
Soil Association Map



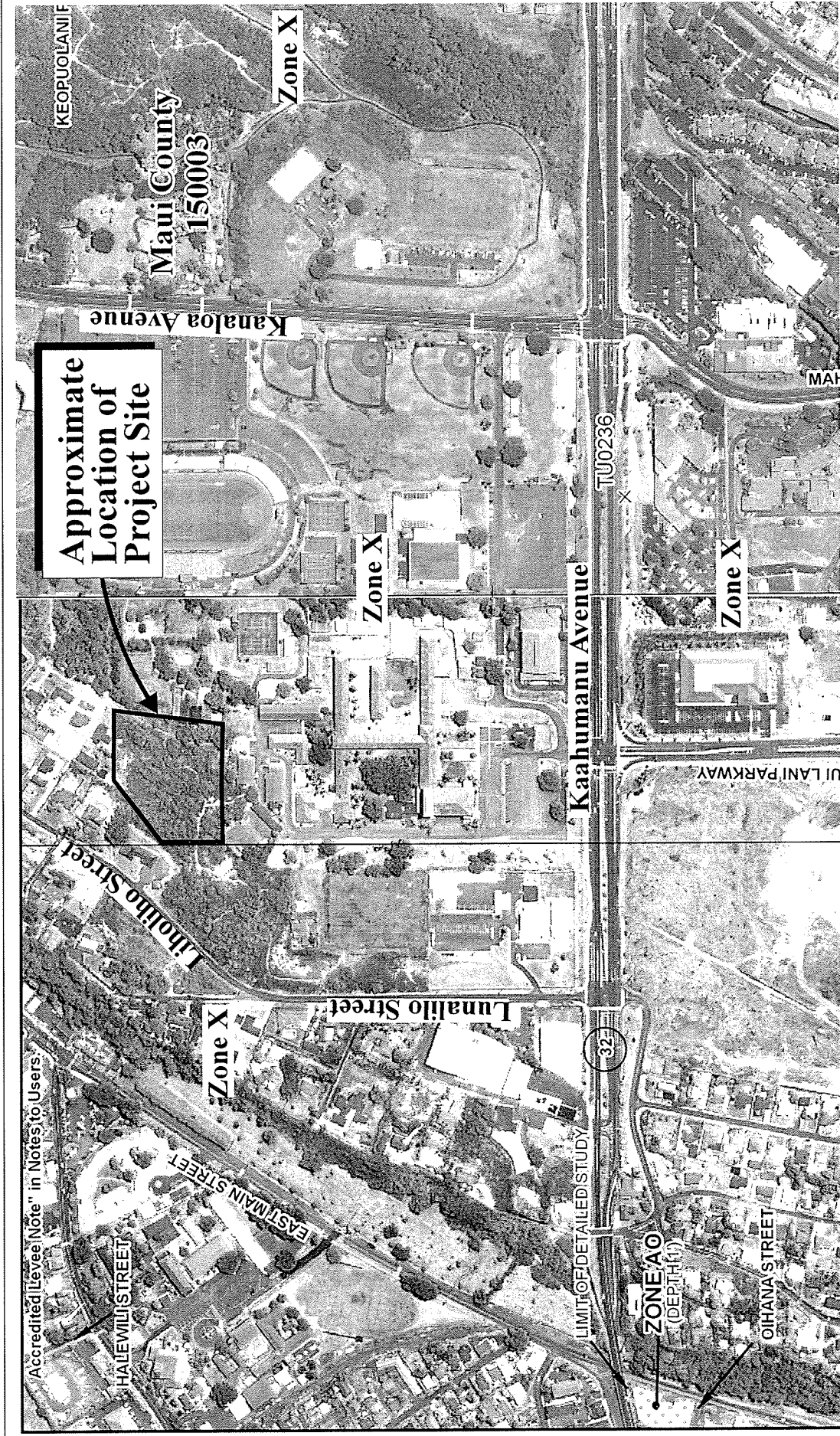


Source: USDA Soil Conservation Service

**Figure 5** Proposed H.P. Baldwin High School NOT TO SCALE  
 Softball Field and Related Improvements  
 Soil Classification Map







Source: Federal Emergency Management Agency  
 (Flood Insurance Rate Map #1500030391E and #1500030392E)

Figure 6



Proposed H.P. Baldwin High School  
 Softball Field and Related Improvements  
 Flood Insurance Rate Map

NOT TO SCALE

Prepared for: State of Hawaii, Department of Education

b. **Potential Impacts and Mitigation Measures**

The project site is not located on a shoreline property, nor is it situated near streams, wetland areas or other areas which may pose flooding concerns. The subject property is located within Zone X (unshaded), an area determined to be outside the 0.2 percent annual chance floodplain and located beyond the reaches of the tsunami inundation zone. A more detailed discussion of drainage impacts associated with the project is presented in Section D.4 of this chapter. The project site is located outside of the tsunami evacuation zone. See **Figure 7**.

5. **Flora, Fauna and Avifauna**

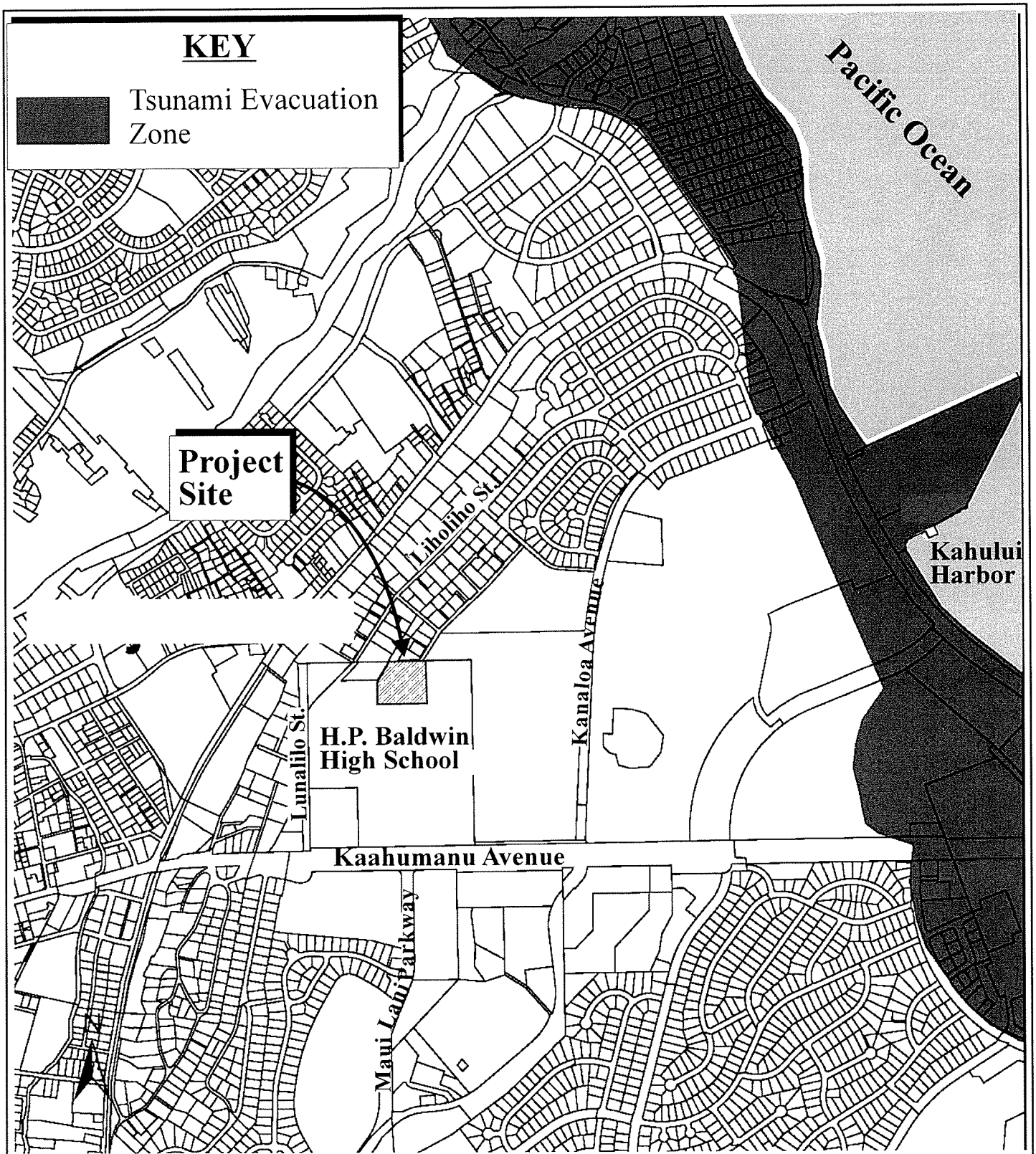
a. **Existing Conditions**

A biological resources survey was completed for the project in November 2010 by Robert Hobdy Environmental Consultant. See **Appendix "C"**.

The project site is currently vacant, forested with kiawe trees with a number of brush and grass species including Guinea grass (*Megathyrsus maximus*), Koa haole (*Leucaena leucocephala*), and Chinese violet (*Asystasia gangetica*). One (1) indigenous native species was found during the survey, 'Uhaloa (*Waltheria indica*). The remaining 37 plant species identified were all non-native weeds and a few ornamentals. There are no known rare threatened or endangered species of plants within the project site.

Fauna and avifauna are also characteristic of urban areas. Fauna typically found in the vicinity include mongoose, mice, rats, dogs and cats. A special effort was made to look for the endangered native Hawaiian hoary bat. No bats were detected during the survey. Avifauna identified included five (5) non-native species; the Common Mynah, Spotted Dove, Zebra Dove, Japanese White-Eye Cardinal, and chicken.

A variety of insects were observed consisting of four (4) non-native species and one (1) indigenous dragonfly known as the Globe skimmer (*Pantala falvescens*). The indigenous Globe skimmer is widespread in Hawaii and the Pacific islands. No endangered Blackburn's sphinx moths (*Manduca*



Source: Pacific Disaster Center

**Figure 7** Proposed H.P. Baldwin High School NOT TO SCALE  
 Softball Field and Related Improvements  
 Tsunami Evacuation Zone Map



*blackburni*), their larvae or their host plants were observed on or near the project site. Refer to **Appendix “C”**.

**b. Potential Impacts and Mitigation Measures**

Although the Hawaiian hoary bat was not observed in the area, it is noted that these solitary bats use a wide variety of trees for roosting and rearing their young during the late spring and summer breeding season. As recommended by the biological resources survey, as much as may be practicable, tree removal would be avoided during this time of year. Should tree removal be necessary during late spring or summer, mitigation measures will be coordinated with the U.S. Fish and Wildlife Service.

The habitat in the project area might be utilized by a few other non-native species but it is not suitable for Endangered Species such as the nene goose (*Branta sandvicensis*). It is also too low in elevation for Hawaii’s native forest birds.

Seabirds, including the endangered ua’u and the threatened ‘a’o, were not identified on the property during the survey and are highly unlikely to utilize such an area. Yet these birds are known to fly over lowland areas in the evenings to get to their burrows high in the mountains. Young birds which are fledgling during the fall months are particularly vulnerable to being confused by bright lights, upon which they are prone to crash and be injured or killed. No sports field or exterior lights are planned for the proposed softball field.

There are no known significant habitats or rare, endangered or threatened species of flora, fauna, and avifauna located within the project site. There are no streams or wetlands located within or in the vicinity of the project site. The proposed action is not anticipated to have a significant adverse impact upon these types of biological resources.

6. **Archaeological Resources**

a. **Existing Conditions**

An archaeological assessment survey was conducted by Xamanek Researches, LLC. See **Appendix “D”**. As noted in the report, fieldwork of both surface and subsurface investigations of the project site were completed. It was noted that portions of the site were previously altered through mechanical grubbing and grading activities, however, a large portion of the site was undisturbed. Based on other archaeological studies completed in the surrounding area, the potential for the discovery of subsurface deposits was thought feasible. In addition to a pedestrian survey of the site, both hand testing and backhoe trench testing were completed.

b. **Potential Impacts and Mitigation Measures**

As previously noted, a pedestrian survey of the site, hand testing, and backhoe trench tests were completed on the project site. Two (2) locations were selected for hand test sites, while 17 backhoe test trenches were prepared. Scattered fragmented animal skeletal remains, modern refuse, such as plastic, aluminum, and broken metal were also found during the study. No significant surface or subsurface cultural remains were identified during the assessment. However, due to the previous archaeological work in the area and because of the existing Aeolian sand dune within the project site, archaeological monitoring during ground-altering activity was recommended. Refer to **Appendix “D”**. An Archaeological Monitoring Plan will be prepared for the project of which will be reviewed and approved by the State Historic Preservation Division (SHPD) prior to construction. Should human or other cultural remains be uncovered during construction activities, work shall cease in vicinity of the find and applicable procedures to ensure compliance with Chapter 6E, Hawaii Revised Statutes (HRS), will be followed in coordination with SHPD and the Office of Hawaiian Affairs. A monitoring report will be submitted to the SHPD upon completion of all phases of archaeological monitoring.

## 7. Cultural Resources

### a. Cultural Context

#### Pre-Contact Period

The project site is located in the *ahupuaa* of Wailuku. The *ahupuaa* of Wailuku is a large land unit that encompasses land near Kahului Bay from Paukukalo to Kapukaulua. The *ahupuaa* includes Iao Valley and the northern half of the Kahului isthmus. This *ahupuaa* is located in, and encompasses approximately half the land area of the Wailuku District. Wailuku is noted as being the place where chiefs were buried and wars were fought. The environmental conditions in the lower Iao Valley were ideal for agricultural practices vital to support a large population. Combined with access to Kahului Harbor, these conditions made Wailuku a key location for a political and religious center.

The core area of Wailuku was comprised by Iao Valley and the two (2) related dune formations to the north and south of the river. This was the central place of religious and political power on Maui, which culminated during the time of High Chief Piilani (c. 1600 AD). During the late pre-contact period, warfare intensified as the chiefs from Maui, Oahu and Hawaii competed for political and military supremacy.

During the reign of King Kahekili (1765 -1790), Wailuku once more became the place of intense warfare. In the mid-1770's, Kalanilahewa, the royal residence of Kahekili, was marched upon by a Big Island chief named Kalaniopuu and his *alapa* (warriors). News of his coming preceded him, and Kahekili hid his warriors in the sand dunes above Halekii *heiau* to surprise the invading troops. A battle (Battle of Kakanilua) followed whereby the army of Kalaniopuu was pushed to the sea and defeated.

By 1786, Kahekili controlled the islands of Maui, Molokai, Lanai, and Oahu. However, in 1790, Kahekili's control over the islands came to a close with the battle of Kepaniwai when King Kamehameha I defeated the ruler (Xamanek Researches, 1997).

### **Early Post-Contact Period**

Significant changes to the landscape of Hawaii ensued after the arrival of missionaries and other foreigners in the late 1700s and early 1800s.

Further, the establishment of the sugar industry in the 19<sup>th</sup> century catalyzed a dramatic transition in Wailuku. The first sugar cane crops grown in the *ahupuaa* were harvested and processed in 1828. Kamehameha III, with the assistance of two Chinese technicians, established a water-powered mill in Wailuku: Hungtai Sugar Works. The Wailuku Sugar Mill was established later in 1862.

Raising cattle also became an established commercial activity on the southern and eastern side of the Iao Valley dunes (Xamanek Researches, 1997).

### **Post-1850s Period**

According to the Archaeological Inventory Survey Report, following the Great Mahele of 1848, much of the *ahupuaa* of Wailuku was designated as Crown Land, to be used in support of the royal “state and dignity”.

The boost of the sugar industry came in 1876 with the introduction of The Reciprocity Treaty that increased the price of sugar. The construction of ditches in the 1880s by Claus Spreckels tapped into the water resources from the mountains to irrigate fields for sugar cane production. These endeavors contributed to the foundation of the Hawaiian Commercial and Sugar Company (HC&S) in 1882.

The construction of the railroad in the late 1870s and its continuation for approximately two (2) decades facilitated mobility across towns, as well as contributed to the growth of various commercial activities and residential areas.

The introduction of the automobile in the 1950s greatly increased the ease of travel across the island. Residents residing in Wailuku were able to make daily commutes to other areas of the island, especially into nearby Kahului, an expanding town offering two (2) major ports of entry, the Kahului Harbor and

Kahului Airport, as well as newly completed shopping centers and other social facilities (Xamanek Researches, 1997).

**b. Potential Impacts and Mitigation Measures**

To assess cultural impacts associated with the proposed project, interviews with local residents knowledgeable regarding H.P. Baldwin High School and its surrounding areas were conducted. See **Appendix “E”**. The results of the interviews indicated that there are no known cultural practices taking place onsite. Summaries of the cultural interviews with Wallace Fujii and Ted Kesaji are presented below:

**Interview with Wallace Fujii**

Mr. Fujii began his teaching career in Hana, Maui in 1959. He and his wife moved to the east side of the island and lived there for a period of three (3) years, a time he describes as being like a honeymoon. Soon, his wife became pregnant with their first child and in 1962 moved back to town where he started teaching at H.P. Baldwin High School in Wailuku.

When he first started at Baldwin High School in 1962, Mr. Fujii was a teacher offering business courses to the students. By 1966 Mr. Fujii was the school’s Registrar, in charge of the intake and outtake of students’ records. He was not only responsible for taking care of students’ transcripts but also responsible for setting the school’s schedule, and establishing classes and periods, a seemingly daunting task. In 1971, Mr. Fujii left Baldwin High School for training and then returned to Hana High School as Vice Principal. In one or two years, between 1972 to 1974, Mr. Fujii became Principal of the school. He later became Principal of Kula Elementary School from 1974 to 1979, and eventually made his way back to Baldwin High School in 1979 to serve as Principal. He remained at Baldwin High School until 2001, when he retired. Although Mr. Fujii is now retired, he still remains involved with the school’s athletics program. He enjoys being around students, “they keep me young” he said.

In speaking of the project site, Mr. Fujii explained that before Baldwin High School occupied the area, the site was undeveloped and filled with kiawe. He



does not recall the project site being used for crops, “if anything,” he explained, “maybe cattle.” He pointed out that the area is full of sand and that it is not good for growing crops, except for maybe corn and beans if watered heavily. He explained that the school had an agricultural program which conducted its classes nearby to the project site. Mr. Fujii also pointed out that the school’s rifle team practices near the project site. He explained though, that the team learns safety procedures and that he believed the location of the softball field should be okay.

When asked if he knew of any cultural practices being carried out on or near the property, he said he did not know of any. Mr. Fujii pointed out though, that there may be burials, as Sandhills has always been known for burials.

Mr. Fujii explained he was happy he could be of some help. He believed having the field on campus would be beneficial to the students as they would be able to practice year-round.

### **Interview with Ted Kesaji**

Ted Kesaji was born in Honolulu some 59 years ago. Ted is part Native Hawaiian and attended Kamehameha School (Kapalama Campus).

After high school, Ted attended Maui Community College for a couple of years then attended the University of Hawaii for three and a half years. Right after his last exam at the University, Ted flew back home to Maui.

For some 30 years, Ted has owned a house on Liholiho Street, near the site of the proposed Baldwin High School softball field. Recently, within the last year, Ted moved to Wailuku, near Wailuku Elementary School.

Recalling his familiarity with the project site, Ted remembers he once took a summer school math class at Baldwin High School after his freshman year. He recollects the campus being a bit smaller than its current size. He remembers that there was a walking path through the project site where students would walk to get to school, leave school (when they were allowed or when they were not allowed) and where they would escape to smoke. The path would lead to the adjacent neighborhood along Liholiho Street, a

subdivision that Ted recalls being built in the 1950's or so – around the same time as the Sandhills neighborhood across Kaahumanu Avenue from Baldwin High School. He remembers that the project site was undeveloped and that there were kiawe trees growing about. When asked if he knew if the trail was used for mountain or beach access, he clarified that he believed the trail was only used by students passing through to get to or leave school. Ted does not know of any cultural practices that have been or are being carried out on or near the site as well.

Ted said it is about time the girls get their own practice field. He explains that he was once involved with softball when his daughter played the sport in grade school and he was a softball coach. He then became president of Maui's softball association. He recalls the girls' teams having to fight with the men's teams for playing fields at the time.

He asked that perhaps the school should think about opening up the field for games, but understands that if parking becomes a problem the field should be used for practice only. Ted also asked that the project team meet with the adjacent neighbors along Liholiho Street. He explained that a few years ago a project to construct a school in a nearby vacant lot was met with neighborhood concern and opposition mostly due to traffic impacts. Ted said he felt that if access through the neighborhood is opened up, the community may have some concerns. He asked that the project team consider meeting with the community at the neighboring Boy Scouts of America office.

## 8. Air Quality

### a. Existing Conditions

The Wailuku-Kahului region is not exposed to adverse air quality conditions. Point sources, such as the Maui Electric Power Plant and HC&S Company's Puunene Mill and non-point sources such as automobile emissions and sugar cane burning, are not significant to generate high concentrations of pollutants.

### b. Potential Impacts and Mitigation Measures

Localized air quality impacts from construction equipment and vehicles may occur during construction of the proposed project. As such, potential air

quality impacts during construction will be mitigated by complying with the provisions of the State Department of Health Administrative Rules, Title 11, Chapter 60, Air Pollution. Measures which may be taken to reduce air quality impacts include water spraying and sprinkling of loose or exposed soil, erecting dust screens, and re-vegetating or paving exposed areas as soon as practical. Exhaust emissions from construction vehicles are anticipated to have a negligible impact on regional air quality as the emissions would be relatively small and readily dissipated.

No significant long-term air quality impacts are anticipated as a result of the proposed project.

**9. Noise**

**a. Existing Conditions**

Existing background noise levels are primarily attributable to traffic noise along Kaahumanu Avenue. Intermittent noise in the vicinity of the project site may be generated by school activities as well as recreational activity originating from the War Memorial Complex and the H.P. Baldwin High School Gymnasium.

**b. Potential Impacts and Mitigation Measures**

During construction of the proposed project, construction noise will be unavoidable. Operation of construction equipment, such as backhoes, trucks, and generators, will raise ambient noise levels in the vicinity of the project site. Construction noise impacts will be mitigated through compliance with the provisions of the State of Hawaii DOH Administrative Rules, Title 11, Chapter 46, "Community Noise Control." These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels set forth in the Chapter 46 rules. In complying with Chapter 46, the contractor will be responsible for minimizing noise by properly maintaining noise mufflers and other noise-attenuating equipment. Construction will be limited to normal daylight hours.

Upon completion, noise from the softball field will be limited to team practice sessions after school hours and will not disrupt classes. There will be no

formal games played at the field or nighttime games, and as such use of the field will not significantly affect neighboring residences.

**10. Visual Resources**

**a. Existing Conditions**

Scenic resources to the west of the project site include the Iao Valley and the West Maui Mountains. Looking east, Haleakala is visible. To the north, lies Kahului Harbor and the Pacific Ocean.

**b. Potential Impacts and Mitigation Measures**

The project site is not part of a designated scenic corridor and, therefore, implementation of the proposed action will not affect views from inland vantage points. Accordingly, the proposed project is not anticipated to have a significant adverse impact upon the visual character of the surrounding Wailuku area.

**B. SOCIO-ECONOMIC ENVIRONMENT**

**1. Population**

**a. Existing Conditions**

The population in the County of Maui has exhibited relatively steady growth over the last decade. The resident population of Maui County in 1990 was estimated at 100,504. The year 2000 population was estimated at 128,241, which is a 28 percent increase over 1990 figures (DBEDT, Hawaii Census 2000). The resident population for the years 2010 and 2020 are projected to be 146,452 and 169,066, respectively (State of Hawaii Data Book, 2009). The estimated 1990 population of the Wailuku-Kahului region was 32,816. The region's population shows an increase to 41,503 in the year 2000 (Maui County Planning Department, June 2006). By the years 2010 and 2020, population is anticipated to increase to 46,718 and 51,734, respectively (Maui County Planning Department, June 2006).

**b. Potential Impacts and Mitigation Measures**

The proposed project is not considered a population generator and will not have an adverse impact on population parameters.

**2. Economy**

**a. Existing Conditions**

The Wailuku-Kahului region encompasses a broad range of commercial, service, and governmental activities. In addition, the region is surrounded by significant agricultural acreages primarily in sugar cane cultivation. The vast expanse of agricultural land, managed by HC&S, is considered a key component of the local economy.

Future commercial opportunities in the vicinity of the project site include the Maui Lani Shopping Center directly across the school, Maui Lani Commercial Village on Kuikahi Drive and Kehalani Village neighborhood center, bordered by Waiale Road, Kuikahi Drive and Honoapiilani Highway.

Additionally, areas in the Central Maui region which are planned for new commercial growth include A&B Properties, Inc.'s Maui Business Park Phase II project in Kahului, in the vicinity of the Maui Marketplace.

According to the Hawaii Workforce Informer of the State of Hawaii, Department of Labor and Industrial Relations, the seasonally unadjusted unemployment rate for the County of Maui and Maui Island in March 2011 was 7.8 percent and 7.8 percent, respectively, a decrease of 1.0 and 0.9 percent from the March 2010 unemployment rates (Department of Labor and Industrial Relations, May 2011).

**b. Potential Impacts and Mitigation Measures**

On a short-term basis, the proposed project is anticipated to have a positive effect during the construction phase of development as expenditures for construction and related support services are made through local suppliers and through the employment of local labor.

There are no significant adverse economic impacts associated with the proposed project.

## **C. PUBLIC SERVICES**

### **1. Recreational Facilities**

#### **a. Existing Conditions**

The Wailuku-Kahului region encompasses a full range of recreational opportunities, including shoreline and boating activities at the Kahului Harbor and adjoining beach parks, and individual and organized athletic activities offered at numerous County parks. The War Memorial Complex, for example, located along Kaahumanu Avenue, includes a gymnasium, swimming pool, tennis courts, youth baseball fields, football and soccer practice areas, the War Memorial Stadium and baseball stadium. Also found in the Wailuku-Kahului area are the Velma Santos Wailuku Community Center, Kahului Community Center, Kanaha Beach Park, and Keopuolani Park. Within the Maui Lani Project District is the Dunes at Maui Lani, a golf course and driving range that are both open to the public on a daily basis.

#### **b. Potential Impacts and Mitigation Measures**

The proposed project is not a population generator. As such, the proposed project will not place any new demands on recreational activities in the project area. The softball field will enhance the existing recreational facilities in the area by providing a new practice field for the H. P. Baldwin High School Girls' Softball team and relieve the use of a County park facility for student athletic sports.

### **2. Police and Fire Protection**

#### **a. Existing Conditions**

Police protection for the Wailuku region is provided by the County Police Department headquartered at the Wailuku Station, located southeast of the subject property at the intersection of Kaahumanu Avenue and Mahalani Street. The region is served by the Department's Central Maui patrol.

Fire prevention, suppression, and protection services for the Wailuku region is provided by the County Department of Fire and Public Safety's Wailuku Station which is located approximately less than a mile southwest of the subject site.

**b. Potential Impacts and Mitigation Measures**

The location of the proposed softball field within the H. P. Baldwin High School campus and within the existing Wailuku-Kahului urban core, does not extend service area limits for emergency services. Police and fire protection services are not expected to be adversely impacted by the proposed project. The proposed project will not adversely affect the service capabilities for emergency services.

**3. Solid Waste**

**a. Existing Conditions**

Single-family residential solid waste collection service is provided by the County of Maui on a weekly basis. Residential solid waste collected by County crews are disposed at the County's Central Maui Landfill, located four (4) miles southeast of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies. Solid waste from the H.P. Baldwin High School is currently collected by a private refuse collection company.

**b. Potential Impacts and Mitigation Measures**

Solid waste from the proposed project is limited to green waste and excavated soil from grubbing and grading activity. Green waste will be disposed of at a green waste facility while excess excavated soils will be properly disposed of by the project contractor offsite.

Upon project completion, solid waste collection for the school facility will continue to be provided by a private refuse collection company and disposed of at the Central Maui Landfill. The anticipated solid waste generated by the project will be minimal and is not expected to adversely impact the County solid waste capacity of the Central Maui Landfill.

4. **Health Care**

a. **Existing Conditions**

Maui Memorial Medical Center, the only major medical facility on the island, services the Wailuku-Kahului region. Acute, general and emergency care services are provided by the approximately 231-bed facility. The Kaiser Permanente Medical Care facility and Liberty Dialysis Center, located within the Maui Lani Project District to the southeast of the project site, and Maui Medical Group provide additional private health care services in the Central Maui area. In addition, numerous privately operated medical/dental clinics and offices are located in the area to serve the region's residents.

b. **Potential Impacts and Mitigation Measures**

The proposed project is not anticipated to increase the service demands placed upon health care services.

5. **Education**

a. **Existing Conditions**

The Wailuku-Kahului region is served by the State Department of Education's public school system, as well as several privately operated schools accommodating elementary, intermediate and high school students. Department of Education facilities in the Kahului area include Pomaikai, Lihikai and Kahului Schools (Grades K to 5), Maui Waena Intermediate School (Grades 6 to 8), and Maui High School (Grades 9 to 12). Existing facilities in the Wailuku area include Wailuku Elementary School (Grades K to 5), Iao Intermediate School (Grades 6 to 8), and H. P. Baldwin High School (Grades 9 to 12). University of Hawaii - Maui College serves as the island's principal institution of higher education. In addition, there are several private schools in the Wailuku-Kahului area.

b. **Potential Impacts and Mitigation Measures**

The proposed project is to improve existing facilities at the H.P. Baldwin High School and is not considered a student population generator. As such, the



proposed project will not adversely affect enrollments or future locations of educational facilities.

## **D. INFRASTRUCTURE**

### **1. Roadways**

#### **a. Existing Conditions**

**Roadway Network:** The Wailuku-Kahului region is served by a roadway network which includes arterial, collector and local roads. Existing roadways in the vicinity of the project site include Kaahumanu Avenue, Maui Lani Parkway and Kainani Street to the south, Lunalilo Street to the west, Kanaloa Avenue to the east and Liholiho and Leleihoku Streets to the north.

Kaahumanu Avenue is the principal linkage between Wailuku and Kahului. Kaahumanu Avenue is a four-lane, divided roadway with a raised median. Exclusive left turn lanes are provided in the median of Kaahumanu Avenue and right turn acceleration lanes are provided at selected access locations. The posted speed limit within the project vicinity is 45 mph.

Maui Lani Parkway is a four-lane, divided roadway completed between Kaahumanu Avenue and Waiinu Road. This existing segment is an initial phase of a roadway that will, in the future, extend to Kuihelani Highway providing an alternative route to Kaahumanu Avenue. The existing configuration provides an alternative path to the High Street/Main Street route through Wailuku Town for vehicles traveling between areas located south of Wailuku and areas to the east of Wailuku. Maui Lani Parkway also serves as an alternative access to Mahalani Street. It is anticipated that Maui Lani Parkway will be dedicated to the County of Maui in the future.

Kainani Street is a two-lane, undivided county collector roadway providing access to Kaahumanu Avenue from the existing Historic Sandhills neighborhood, located south of Kaahumanu Avenue and east of Waiale Road. Kainani Street intersects Kaahumanu Avenue opposite Lunalilo Street.

Lunalilo Street is a two-lane, undivided county collector roadway providing access to Kaahumanu Avenue for the Puuone Tract subdivisions located north of H.P. Baldwin High School. Lunalilo Street dead ends near Liholiho Street.

Kanaloa Avenue is a County collector roadway located east of the high school campus. It begins at its intersection with Kaahumanu Avenue directly across Mahalani Street and terminates to the north at its intersection with Kahului Beach Road. Kanaloa Avenue is a two-way, four lane, undivided roadway from Kaahumanu Avenue to Mikohu Loop, reducing to a two lane road to Kahului Beach Road.

A portion of Liholiho Street crosses the H. P. Baldwin High School property at the northwest corner. Liholiho Street is a two-lane, undivided county collector roadway which connects to Lunalilo Street and Kanaloa Avenue.

Leleihoku Street is an internal subdivision roadway within the Puuone Tract subdivision that connects to Liholiho Street by way of Kalama and Kapiolani Streets. Leleihoku Street dead ends at the northern property boundary of H. P. Baldwin High School.

The H.P. Baldwin High School campus is located on the north side of Kaahumanu Avenue between Kanaloa Avenue and Lunalilo Street. The primary driveway to the campus is on Kaahumanu Avenue directly across Maui Lani Parkway forming a four-legged signalized intersection. A secondary driveway connects to the end of Halia Nakoa Street on the eastern border of the campus that connects to Kanaloa Avenue through the War Memorial Complex. See **Appendix “F”**.

**b. Potential Impacts and Mitigation Measures**

A traffic analysis of the project’s impacts was conducted by Austin, Tsutsumi & Associates, Inc. (ATA). Refer to **Appendix “F”**. The project involves the relocation of the Baldwin High School Girls Softball Team from its current practice field at Keopuolani Park to the school campus. The project will not increase enrollment or the number of faculty members which are generally the primary contributing factors to the trips generated by schools. Further, the project eliminates travel from the school to the Keopuolani Park field. There

will not be any increase in existing traffic conditions as the facility will be used by existing students who will already be in school attending classes. The overall net impact will be the redistribution of existing trips as participants will leave practice from the new softball field instead of departing from Keopuolani Park. The overall magnitude of the diversion will be relatively minor as there are generally two (2) coaches and approximately 15 to 20 players that attend practice.

The project will not create or alter access to the school and traffic associated with the use of the practice field will likely utilize the most direct access which is the existing primary driveway on Kaahumanu Avenue and the existing internal road on the western side of the campus to enter and exit the project site. Further, the heaviest demand on the internal roadway system on the school campus is heaviest during the morning and afternoon peaks when students and faculty are entering and exiting the campus while school is in session (PB Americas, 2009). Students will no longer travel offsite during peak afternoon traffic to attend practices, slightly reducing traffic during the afternoon peak. The proposed project will not adversely impact traffic in the area.

As recommended by the Police Department (Police), adequate traffic control devices and personnel will be coordinated with the Police and implemented during construction.

## **2. Wastewater**

### **a. Existing Conditions**

Domestic wastewater generated in the Wailuku-Kahului region is conveyed to the County's Wailuku-Kahului Wastewater Reclamation Facility located one-half mile south of Kahului Harbor. The design capacity of the facility is 7.9 million gallons per day (MGD). The facility serves the Kahului, Wailuku, Paia, Kuau and Spreckelsville areas.

There are existing 8-inch wastewater lines on Kaahumanu Avenue and Kanaloa Drive, which discharges into the County's pump station at Paukukalo. Wastewater is then pumped through a 24-inch force main to the Wailuku-

Kahului Wastewater Reclamation Facility. Refer to **Appendix “B”**, Preliminary Engineering and Drainage Report by Austin, Tsutsumi & Associates, Inc. (ATA).

**b. Potential Impacts and Mitigation Measures**

The project site currently generates no wastewater flow. An existing 4-inch sewerline servicing the nearby wood shop building is the nearest sewer utility to the project site. Another 6-inch sewerline located to the south of the project site is approximately 350 feet away. Sewage from the school eventually travels east via underground sewerlines and enters the County sewer system. The proposed unisex restroom that will be constructed as part of the project is estimated to generate approximately 110 gallons per day (gpd) of wastewater and will have minimal impact on the total wastewater flows from the school.

An onsite sewer system will be installed to provide wastewater collection service to the single proposed building. The proposed sewerline will begin as a reinforced concrete jacketed 6-inch PVC pipe for approximately 93 feet transitioning to a 4-inch PVC pipe at the restroom building connection. The new sewerline will connect to the existing 4-inch sewerline servicing the wood shop.

**3. Water**

**a. Existing Conditions**

Domestic water for the Wailuku-Kahului region is provided by the Department of Water Supply’s (DWS) Central Maui System. The Central Maui System water sources are located on the windward slope of the West Maui Mountains. The major source of water for this system is the designated Iao Aquifer, Waihee Aquifer, the Iao Tunnel, and the Iao/Waikapu Ditch.

The main sources of water for this system are the Iao tunnel and Kepaniwai Well, supplemented by treatment of surface water from Wailuku Water Company’s Iao/Waikapu Ditch. Water is also being drawn from the Iao Aquifer by way of Shaft 33 in Kehalani, owned by Stanford Carr Development. Storage is provided by the 3.0 MG storage tank near the

junction of Iao Valley and Alu Roads. A series of 18-, 16-, and 12-inch lines extend from the tank site down Main Street, and along Kaahumanu Avenue. Refer to **Appendix “B”**.

The H.P. Baldwin High School facility is connected to the County water system through 12-inch and 9-inch connections running from the intersection of Kaahumanu Avenue and Maui Lani Parkway onto the project site. The high school is serviced by 1-inch and 4-inch meters. There are private fire hydrants located onsite throughout the subject property.

**b. Potential Impacts and Mitigation Measures**

The proposed softball field will be connected to the County water system. Refer to **Appendix “B”**. It is estimated by the DWS that the average daily water demand for the project site is expected to be approximately 3,400 gallons per day (gpd). Calculations by ATA were approximately 110 gpd of water for domestic use and 4,709 gpd for irrigation.

Onsite water system improvements will include a domestic water system and an irrigation system. A new 2.5-inch copper waterline will be installed to service the new restroom and nearby drinking fountain. This new waterline will connect to an existing 2-inch waterline servicing the nearby wood shop.

It is noted that the restroom facility will be equipped with low-flow fixtures and the use of the irrigation system installed for the grass in the practice field will be minimized as water conservation measures for the project.

The proposed project is not anticipated to adversely impact existing water systems. However, the DWS has indicated there is currently no additional sources available which may delay issuance of meters until new sources are online. Although served by existing meters, meter adequacy will be determined during the construction plan approval and building permit review process.

#### 4. Drainage

##### a. Existing Conditions

Based on a 50 year, 1-hour storm recurrence interval, pre-development runoff within the project site is estimated to be approximately 8.1 cubic feet per second (cfs). The existing onsite stormwater runoff generally flows from a west to east direction, through the project site and is eventually taken offsite through the nearby War Memorial Complex. Refer to **Appendix “B”**.

##### b. Potential Impacts and Mitigation Measures

A Preliminary Engineering and Drainage Report was prepared for the project by ATA. Refer to **Appendix “B”**. The project will require both excavation and embankment for the entire project site. Proposed grading will generally slope downward from west to east in order to provide a relatively flat area for the field. The field will be graded to direct runoff away from the infield and towards the fences of the field.

Post-development onsite runoff is calculated at 10.5 cfs, which is an increase of 2.4 cfs over existing conditions. The increase in runoff will be retained in a proposed onsite retention basin located on the northeast side of the project site. Refer to **Figure 3**. The proposed drainage system improvement will include grated drain inlets, area drains, manholes, and underground drain lines. Runoff on the softball field will be collected by drain inlets, area drains, and swales and will be conveyed to the onsite retention basin. A portion of existing offsite runoff from the west will enter the project site and be allowed to continue to pass through the site.

Onsite drainage and soil erosion control measures and conformance with “Rules for the Design of Storm Drainage Facilities in the County of Maui” will reduce potential of sediments contained in the runoff from entering the adjacent properties. It is noted that the proposed improvements involve minimal hardscape and will allow runoff to continue to percolate into the ground. The soils underlying the project site exhibit rapid permeability and slow runoff.

Temporary erosion control measures, such as Best Management Practices (BMPs), will be implemented during construction to minimize soil loss and erosion hazards. Measures will include temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, inlet protection, slope protection, stabilized construction entrances and truck wash-down areas. Periodic water spraying of loose soils will be implemented to minimize air-borne dirt particles. An application for a National Pollution Discharge Elimination System (NPDES) permit will be submitted to the State Department of Health for review and approval. With the proposed drainage system and implementation of the above-noted mitigation measures, the project is not anticipated to result in significant drainage impacts on adjacent and downstream properties.

**5. Electrical, Telephone and Cable Television Systems**

**a. Existing Conditions**

Electrical, telephone and Cable Television (CATV) service is provided via overhead lines along Kaahumanu Avenue, to the south of the project site. Services are provided by Maui Electric Company, Ltd. (MECO), Hawaiian Telcom and Oceanic Time Warner Cable.

**b. Potential Impacts and Mitigation Measures**

The project site will connect to existing electrical lines at the wood shop building. An underground line from the wood shop building to the restroom building will provide electricity for interior lights and an electrical outlet. Electrical plans will be submitted to MECO for review and approval. The proposed softball field will not require telephone and CATV services.

No adverse impacts to electrical, telephone and CATV systems are anticipated as a result of project implementation.

**E. CUMULATIVE AND SECONDARY IMPACTS**

Cumulative impacts are defined as the impact on the environment which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions.

The proposed project is not part of a larger action, nor would it occur within the context of such actions. It is noted, however, that the Maui Lani Shopping Center is proposed to be constructed across from H.P. Baldwin High School which will result in increased usage of the Kaahumanu Avenue/Maui Lani Parkway intersection. The development of the shopping center will occur after the construction of the proposed softball field which is scheduled for completion in 2011. Appropriate measures to mitigate the potential impacts from the shopping center are currently being formulated as part of the ongoing permitting process for that project. Further, the construction of the softball field will not generate additional students or faculty members but will essentially provide an onsite facility at the high school which will eliminate the need for students to travel offsite for practice sessions.

Secondary impacts are those which have the potential to occur later in time or farther in distance, but are still reasonably foreseeable. They can be viewed as actions of others that are taken because of the presence of a project. Secondary impacts from highway projects, for example, can occur because they can induce development by removing one of the impediments to growth. The project will allow the County of Maui to utilize the team's current practice field for other sports recreational users.

With the proposed mitigation measures in place, the project is not anticipated to have a significant adverse impact on the physical environment. The project site has ready access to necessary infrastructure, such that extension of infrastructure systems will not be required. Furthermore, existing service limits will not be affected by project implementation.

In summary, the proposed action is not anticipated to result in significant adverse cumulative or secondary impacts.



**III. RELATIONSHIP TO  
GOVERNMENTAL PLANS,  
POLICIES AND  
CONTROLS**

### **III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS**

#### **A. STATE LAND USE DISTRICTS**

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission, establishes the four (4) major land use districts in which all lands in the State are placed. These districts are designated “Urban”, “Rural”, “Agricultural”, and “Conservation”. The subject property is located within the “Urban” district. See **Figure 8**. The proposed use of the property is consistent with "Urban" district provisions.

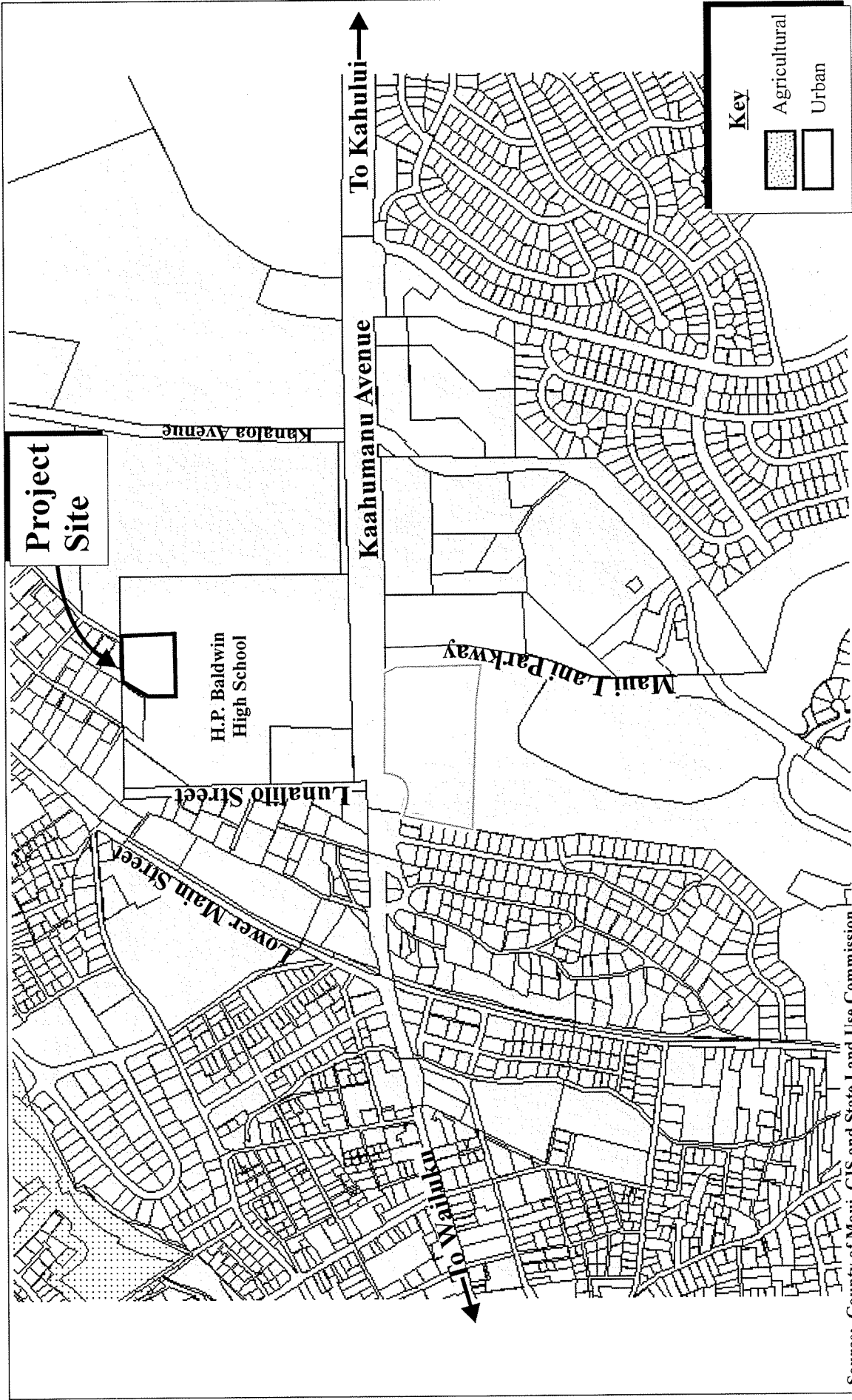
#### **B. MAUI COUNTY GENERAL PLAN**

As indicated by the Maui County Charter, the purpose of the general plan shall be to:

*... indicate desired population and physical development patterns for each island and region within the county; shall address the unique problems and needs of each island and region; shall explain opportunities and the social, economic, and environmental consequences related to potential developments; and shall set forth the desired sequence, patterns and characteristics of future developments. The general plan shall identify objectives to be achieved, and priorities, policies, and implementing actions to be pursued with respect to population density; land use maps, land use regulations, transportation systems, public and community facility locations, water and sewage systems, visitor destinations, urban design, and other matters related to development.*

Chapter 2.80B of the Maui County Code, relating to the General Plan and Community Plans, implements the foregoing Charter provision through enabling legislation which calls for a Countywide Policy Plan and a Maui Island Plan. The Countywide Policy Plan was adopted as Ordinance No. 3732 on March 24, 2010. The Maui Island Plan is currently in the process of review and formulation by the Maui County Council.

With regard to the Countywide Policy Plan, Section 2.80B.030 of the Maui County Code states the following.



Source: County of Maui, GIS and State Land Use Commission

Figure 8



Proposed H.P. Baldwin High School  
Softball Field and Related Improvements  
State Land Use District Designations

NOT TO SCALE

*The countywide policy plan shall provide broad policies and objectives which portray the desired direction of the County's future. The countywide policy plan shall include:*

- 1. A vision for the County;*
- 2. A statement of core themes or principles for the County; and*
- 3. A list of countywide objectives and policies for population, land use, the environment, the economy, and housing.*

Core principles set forth in the Countywide Policy Plan are listed as follows:

1. Excellence in the stewardship of the natural environment and cultural resources;
2. Compassion for and understanding of others;
3. Respect for diversity;
4. Engagement and empowerment of Maui County residents;
5. Honor for all cultural traditions and histories;
6. Consideration of the contributions of past generations as well as the needs of future generations;
7. Commitment to self-sufficiency;
8. Wisdom and balance in decision making;
9. Thoughtful, island appropriate innovation; and
10. Nurturance of the health and well-being of our families and our communities.

Congruent with these core principles, the Countywide Policy Plan identifies goals objectives, policies and implementing actions for pertinent functional planning categories, which are identified as follows:

1. Natural environment
2. Local cultures and traditions
3. Education

4. Social and healthcare services
5. Housing opportunities for residents
6. Local economy
7. Parks and public facilities
8. Transportation options
9. Physical infrastructure
10. Sustainable land use and growth management
11. Good governance

With respect to the proposed H.P. Baldwin High School Softball Field and related improvements project, the following goals, objectives, policies and implementing actions are illustrative of the project's compliance with the Countywide Policy Plan.

#### **IMPROVE EDUCATION**

**Goal:** Residents will have access to lifelong formal and informal educational options enabling them to realize their ambitions.

**Objective:**

Provide nurturing learning environments that build skills for the 21st century.

**Policy:**

Encourage the upgrade and ongoing maintenance of public-school facilities.

#### **IMPROVE PARKS AND PUBLIC FACILITIES**

**Goal:** A full range of island-appropriate public facilities and recreational opportunities will be provided to improve the quality of life for residents and visitors.

**Objective:**

Expand access to recreational opportunities and community facilities to meet the present and future needs of residents of all ages and physical abilities.

In summary, the development of the proposed project will provide upgraded school facilities that enhance the educational environment of the H.P. Baldwin High School. It will also relieve the use of the nearby County Keopuolani Park facilities for other recreational users. The proposed improvements are consistent with the themes and principles of the Countywide Policy Plan.

**C. WAILUKU-KAHULUI COMMUNITY PLAN**

The subject parcel is located in the Wailuku-Kahului Community Plan region which is one (1) of nine (9) Community Plan regions established in the County of Maui. Planning for each region is guided by the respective Community Plans, which are designed to implement the Maui County General Plan. Each Community Plan contains recommendations and standards which guide the sequencing, patterns and characteristics of future development in the region.

The Wailuku-Kahului Community Plan was adopted by the County of Maui through Ordinance No. 3061 which took effect on June 5, 2002. The Wailuku-Kahului Community Plan identified the increased demands on existing recreational and other community facilities in the region as a major problem. As such, there is a need for more active recreational playfields such as the proposed softball field.

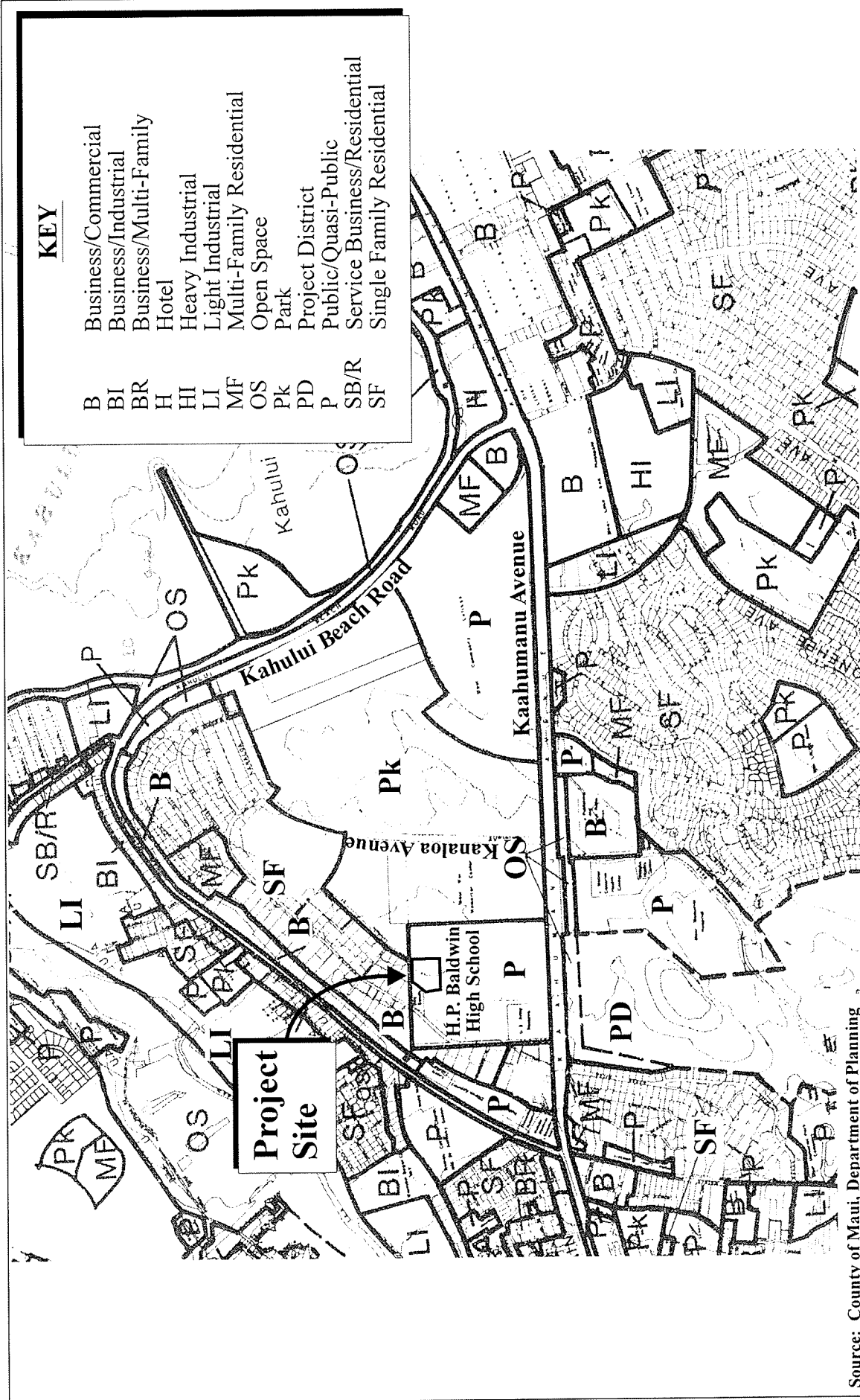
Land use guidelines are set forth by the Wailuku-Kahului Community Plan Land Use Map. As shown in **Figure 9**, the subject property is designated as "Public/Quasi-Public" on the community plan Land Use Map.

The proposed project is in conformance with the following goals, objectives, and policies of the Wailuku-Kahului Community Plan:

**EDUCATION**

**Objectives and Policies**

Encourage the Department of Education to provide recreation facilities for schools, thus expanding opportunities for public use of presently shared facilities.



Source: County of Maui, Department of Planning

Figure 9

Proposed H.P. Baldwin High School  
 Softball Field and Related Improvements  
 Wailuku-Kahului Community Plan Designation



NOT TO SCALE

**KEY**

- B Business/Commercial
- BI Business/Industrial
- BR Business/Multi-Family
- H Hotel
- HI Heavy Industrial
- LI Light Industrial
- MF Multi-Family Residential
- OS Open Space
- PK Park
- PD Project District
- P Public/Quasi-Public
- SB/R Service Business/Residential
- SF Single Family Residential



Support the improvement and maintenance of existing school facilities.

**D. COUNTY ZONING**

The subject property is designated “R-3, Residential” by Maui County zoning. Pursuant to Chapter 19.08 Residential Districts, Maui County Code, 1980 as amended, “schools, elementary, intermediate, high and colleges” are identified as a permitted use.

The proposed use of the property for a softball field represents part of the athletic program for H. P. Baldwin High School and as such, is in accordance with the permitted uses.

**E. COASTAL ZONE MANAGEMENT OBJECTIVES AND POLICIES**

Pursuant to Chapter 205A, Hawaii Revised Statutes, projects are evaluated with respect to Coastal Zone Management (CZM) objectives, policies and guidelines. It is noted that while the subject property is not located within the County of Maui's Special Management Area, the project's relationship to applicable coastal zone management considerations have been reviewed and assessed.

**(1) Recreational Resources**

**Objective:**

Provide coastal recreational opportunities accessible to the public.

**Policies:**

- (A) Improve coordination and funding of coastal recreational planning and management; and
- (B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:
  - (i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;
  - (ii) Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;



- (iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;
- (iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;
- (v) Ensuring public recreational use of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;
- (vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;
- (vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and
- (viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county planning commissions; and crediting such dedication against the requirements of Section 46-6, HRS.

**Response:** The proposed project is not located near the shoreline and is not anticipated to adversely impact existing coastal or inland recreational resources.

(2) **Historic Resources**

**Objective:**

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

**Policies:**

- (A) Identify and analyze significant archeological resources;
- (B) Maximize information retention through preservation of remains and artifacts or salvage operations; and

- (C) Support state goals for protection, restoration, interpretation, and display of historic resources.

**Response:** As stated previously, an archaeological inventory assessment report by Xamanek Researches, LLC was prepared for the project site and cultural interviews conducted. No historic or cultural resources will be affected by the proposed improvements. Refer to **Appendix “D”** and **Appendix “E”**, respectively. An archaeological monitoring plan will be prepared for the project prior to initiation of construction activities. However, should human or cultural remains be inadvertently discovered during land-based, ground-altering activities, work will promptly cease in the immediate area of the find, and the find will be further protected from damage. The State Historic Preservation Division and the Office of Hawaiian Affairs will be notified immediately and procedures for the treatment of inadvertently discovered human remains will be followed pursuant to Chapter 6E, HRS.

(3) **Scenic and Open Space Resources**

**Objective:**

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

**Policies:**

- (A) Identify valued scenic resources in the coastal zone management area;
- (B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;
- (C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and
- (D) Encourage those developments which are not coastal dependent to locate in inland areas.

**Response:** The subject property is located within Maui’s central isthmus. The property ranges in elevations from approximately 128 feet above mean sea level (amsl) at its eastern boundary to approximately 170 feet amsl at its western boundary.

There are no designated view corridors which will be affected by the proposed softball field and related improvements.

**(4) Coastal Ecosystems**

**Objective:**

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

**Policies:**

- (A) Improve the technical basis for natural resource management;
- (B) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;
- (C) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and
- (D) Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards.

**Response:** Best Management Practices (BMPs) will be implemented during construction to prevent the release of silt from the project site. Given the distance from the nearest area of shoreline, the completion of the proposed project is not expected to adversely impact coastal ecosystems. The project will comply with applicable County drainage provisions.

**(5) Economic Uses**

**Objective:**

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

**Policies:**

- (A) Concentrate coastal dependent development in appropriate areas;
- (B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and
- (C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:
  - (i) Use of presently designated locations is not feasible;
  - (ii) Adverse environmental effects are minimized; and
  - (iii) The development is important to the State's economy.

**Response:** The proposed project will provide short-term construction related economic benefits. Long term, the proposed development will enhance the existing H.P. Baldwin High School facility.

(6) **Coastal Hazards**

**Objective:**

Reduce hazard to life and property from tsunamis, storm waves, stream flooding, erosion, subsidence and pollution.

**Policies:**

- (A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;
- (B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint pollution hazards;
- (C) Ensure that developments comply with requirements of the Federal Flood Insurance Program;

- (D) Prevent coastal flooding from inland projects; and
- (E) Develop a coastal point and nonpoint source pollution control program.

**Response:** According to the Flood Insurance Rate Map for the area, the project site is located within Zone X (unshaded), an area determined to be outside of the 0.2 percent annual floodplain and outside of the tsunami evacuation zone. No significant adverse drainage impacts to downstream properties are anticipated as a result from project implementation.

(7) **Managing Development**

**Objective:**

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

**Policies:**

- (A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;
- (B) Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and
- (C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

**Response:** In compliance with the requirements of Chapter 343, Hawaii Revised Statutes (HRS), this Environmental Assessment (EA) has been prepared to facilitate public understanding and involvement with the proposed project. All aspects of the development will be conducted in accordance with applicable Federal, State, and County standards. Opportunities for review of the proposed action are offered through the regulatory review process of Chapter 343, HRS.

(8) **Public Participation**

**Objective:**

Stimulate public awareness, education, and participation in coastal management.

**Policies:**

- (A) Maintain a public advisory body to identify coastal management problems and to provide policy advice and assistance to the coastal zone management program;
- (B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal-related issues, developments, and government activities; and
- (C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

**Response:** Opportunities for agency and public review of the proposed action are provided through the notification, review and comment processes of the Chapter 343, HRS EA process. Additionally, a public information meeting on the project was held on February 24, 2011 with DOE and school officials. A summary of comments from the meeting are included as **Appendix “G”**.

(9) **Beach Protection**

**Objective:**

Protect beaches for public use and recreation.

**Policies:**

- (A) Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;
- (B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering

solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

- (C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

**Response:** The proposed project will not involve construction in the vicinity of shoreline areas. It is noted that during grading activities associated with the proposed project, appropriate BMPs will be utilized to ensure that the downstream coastal environment is not adversely impacted. The proposed project is not anticipated to have an adverse effect on local beach environments.

**(10) Marine Resources**

**Objective:**

Implement the State's ocean resources management plan.

**Policies:**

- (A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;
- (B) Assure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;
- (C) Coordinate the management of marine and coastal resources and activities management to improve effectiveness and efficiency;
- (D) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;
- (E) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and
- (F) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

**Response:** The proposed project is not located adjacent or in close proximity to any beach or shoreline. The proposed project, therefore, is not anticipated to have adverse effects upon marine and coastal resources.

In addition to the foregoing objectives and policies, HRS Section 205A-30.5 Prohibitions, provides specifications for the limitation of lighting in coastal shoreline areas in relation to the granting of SMA permits:

No special management area use permit or special management area minor permit shall be granted for structures that allow artificial light from floodlights, uplights, or spotlights used for decorative or aesthetic purposes when the light:

- (1) Directly illuminates the shoreline and ocean waters; or
- (2) Is directed to travel across property boundaries toward the shoreline and ocean waters.
  - (b) Subsection (a) shall not apply to special management area use permits for structures with:
    - (2) Artificial lighting provided by a government agency or its authorized users for government operations, security, public safety, or navigational needs; provided that a government agency or its authorized users shall make reasonable efforts to properly position or shield lights to minimize adverse impacts.

**Response:** The proposed project is not located within the Special Management Area and the use of the softball field will be limited to daylight hours. The installation and use of outdoor sports field and exterior lighting are not planned for the proposed softball field or restroom building.



**IV. SUMMARY OF  
ADVERSE  
ENVIRONMENTAL  
EFFECTS WHICH  
CANNOT BE AVOIDED**

## **IV. SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED**

The proposed H. P. Baldwin High School Softball Field project and related improvements will result in some construction-related impacts as described in Chapter II, Description of the Existing Conditions, Potential Impacts and Mitigation Measures. Potential effects include noise generated impacts occurring from site preparation and construction activities. In addition, there may be temporary air quality impacts associated with dust generated from construction activities, and exhaust emissions discharged by construction equipment. However, these impacts are anticipated to be temporary and will be mitigated through the use of appropriate BMPs. Implementation of the proposed project is not anticipated to create significant long-term adverse environmental effects.

## **V. ALTERNATIVES TO THE PROPOSED ACTION**

## **V. ALTERNATIVES TO THE PROPOSED ACTION**

### **A. PREFERRED ALTERNATIVE**

As previously noted, the preferred alternative is being pursued to meet Title IX gender equity requirements for the DOE. The State legislature has appropriated monies to address gender equity concerns with respect to athletic facilities. The Department of Education's Civil Rights Compliance Specialist and the four (4) Educational Specialists for athletics compiled a list of schools that had available land to construct softball fields for females. Baldwin High School was one (1) of the schools initially placed on the list, and the construction of the field was projected to begin in 2010. In addition to fulfilling the terms of the gender equity requirements, the preferred alternative will enhance the facilities of the school and relieve the use of county park facilities for other recreational users.

### **B. SITE PLAN ALTERNATIVES**

The northwest corner of the Baldwin High School property, which is undeveloped land, was selected as the site for the softball field as being the least disruptive to school operations. A number of site plan alternatives were developed for the project site to reflect the following considerations:

- Circulation within the School Campus
- Impact on Agriculture Classes and School Operations
- Impact on Historic Structure (Quonset Hut)
- Permitting requirements
- Physical and Environmental Constraints
- Field Orientation

- Requirements of the Softball Program
- Topography and Grading Requirements

The preferred site plan was selected from various site plan alternatives studied by the design team as it most fully addressed the foregoing considerations.

**C. DEFERRED OR NO ACTION ALTERNATIVES**

The “deferred” or “no action” alternatives calls for retaining the project site in its current condition and not providing a softball field for the H. P. Baldwin High School girls’ softball team. These alternatives will be contrary to the DOE’s requirements to meet the gender equity requirements and would place DOE in a “non-compliance” status.

# **VI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES**

## **VI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES**

The proposed action is anticipated to result in the irreversible and irretrievable commitment of certain natural and fiscal resources, including fuel, labor, funding, and material resources. Funding for the proposed H. P. Baldwin High School Softball Field and related improvements is being provided from the State's Capital Improvement Program. Development of the proposed project will also involve the commitment of County-owned land for use as a school facility which would preclude use of the land for County purposes. Use of these lands for this purpose is considered appropriate as it is (1) consistent with the existing educational use present on the property; (2) meets the requirements of the aforementioned settlement agreement; and (3) offsets usage of similar County-owned facility by H.P. Baldwin High School teams, thereby allowing more use and enjoyment by members of the general public.

# **VII. SIGNIFICANCE CRITERIA ASSESSMENT**



## VII. SIGNIFICANCE CRITERIA ASSESSMENT

The "Significance Criteria", Section 12 of the Administrative Rules, Title 11, Chapter 200, "Environmental Impact Statement Rules", were reviewed and analyzed to determine whether the proposed project will have significant impacts to the environment. The following criteria and preliminary analysis are provided:

1. **Involves an irrevocable commitment to loss or destruction of any natural or cultural resource.**

There are no known rare, threatened, or endangered species of flora, fauna or avifauna located within or in vicinity of the project site. As mentioned in Chapter II of this document, cultural interviews conducted for the project site concluded that no significant impacts to cultural practices are anticipated. The archaeological assessment survey report notes the potential for encountering cultural remains on the property, given the previous archaeology work completed in the surrounding area. An archaeological monitoring plan will be prepared prior to initiation of construction activities. It is noted that should human or other cultural remains be encountered during construction activities, applicable procedures to ensure compliance with Chapter 6E, Hawaii Revised Statutes (HRS), will be followed. Appropriate mitigation measures will be undertaken in coordination with the State Historic Preservation Division and the Office of Hawaiian Affairs.

2. **Curtails the range of beneficial uses of the environment.**

The proposed project and the commitment of land resources is not anticipated to curtail the range of beneficial uses of the environment. The proposed project should not result in adverse effects on beneficial uses of the environment.

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

The State's Environmental Policy and Guidelines are set forth in Chapter 344, Hawaii Revised Statutes (HRS). The proposed action does not contravene provisions of Chapter 344, HRS.

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

The proposed project will directly benefit the local economy by providing construction and construction-related employment. In the long term, the project will enhance the existing H.P. Baldwin High School facility and relieve the use of County park facilities for other recreational users.

5. **Substantially affects public health.**

With proposed mitigation measures, no adverse impacts to the public's health and welfare are anticipated.

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

Because the project is not considered a significant direct population generator, adverse changes to population levels are not anticipated as a result of the proposed project.

From a land use standpoint, the proposed project is in keeping with the objectives, policies, and implementing actions of the Wailuku-Kahului Community Plan.

Adverse impacts to water and wastewater capacities and facilities are not anticipated as a result of project implementation.

7. **Involves a substantial degradation of environmental quality.**

During construction of the project, appropriate BMPs will be utilized to ensure that potential adverse environmental effects are mitigated. No substantial degradation of environmental quality resulting from the project is anticipated.

8. **Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.**

The proposed action does not represent a commitment to larger actions. In addition, the proposed action is not expected to result in cumulative impacts that would adversely affect the environment.

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

There are no known or identified habitats of rare, threatened, or endangered species of flora, fauna or avifauna, or their habitats within or in vicinity of the project site. Refer to **Appendix “C”**.

10. **Detrimentially affects air or water quality or ambient noise levels.**

Construction activities will result in short-term air quality and noise impacts. Dust control measures, such as regular watering and sprinkling, and installation of dust screens will be implemented to minimize windblown emissions. Noise impact will occur primarily from construction equipment. Equipment mufflers or other noise attenuating equipment, as well as proper equipment and vehicle maintenance, will be used during construction activities. Construction noise impact will be mitigated through compliance with the provisions of the State of Hawaii, Department of Health Administrative Rules Title 11, Chapter 46, “Community Noise Control”. These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels set forth in Chapter 46 rules.

With proposed mitigation measures, the project is not anticipated to have adverse significant impacts on air quality or noise levels.

Water quality is not expected to be affected in either short term or long term.

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

The project is not located within and would not affect environmentally sensitive areas. The project site is not subject to flooding or tsunami inundation according to the Flood Insurance Rate Maps and Tsunami Evacuation Maps. Soils underlying the project site are not considered to be erosion-prone. There are no geologically hazardous lands, estuaries, or coastal waters within or in proximity to the project site.

**12. Substantially affects scenic vistas and viewplanes identified in county or state plans or studies.**

The project site is not identified as a scenic vista or viewplane. Given the low-level nature of the improvements, the proposed project will not affect scenic corridors and coastal scenic and open space resources.

**13. Requires substantial energy consumption.**

The proposed project will involve the short-term commitment of fuel for equipment, vehicles, and machinery during construction activities. However, this use is not anticipated to result in a substantial consumption of energy resources. In the long term, the project is not expected to involve substantial energy consumption.

In summary, the proposed softball field and related improvements represent an enhancement of the existing H.P. Baldwin High School campus. Necessary infrastructure and services are available to serve the subject property. The development of a separate softball field will relieve use of County park facilities for other sports recreational users. Further, the proposed project is not anticipated to have a significant adverse impact on the physical environment.

Based on the foregoing findings, the proposed H.P. Baldwin High School Softball Field and Related Improvements are not anticipated to result in any significant adverse impacts. Accordingly, this Final Environmental Assessment is being processed with a Finding of No Significant Impact (FONSI) determination by the DOE.

# **VIII. LIST OF PERMITS AND APPROVALS**

## **VIII. LIST OF PERMITS AND APPROVALS**

The following permits and approvals will be required prior to the implementation of the project.

### **State of Hawaii**

1. Chapter 343, Hawaii Revised Statutes, Environmental Assessment
2. Community Noise Permit (as applicable)
3. National Pollutant Discharge Elimination System (NPDES) (as applicable)

### **County of Maui**

1. Construction Permits (as applicable)

**IX. PARTIES  
CONSULTED DURING THE  
PREPARATION OF THE  
DRAFT ENVIRONMENTAL  
ASSESSMENT; LETTERS  
RECEIVED AND  
RESPONSES TO  
SUBSTANTIVE  
COMMENTS**

# IX. PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

1. Ranae Ganske-Cerizo, Soil Conservationist  
**Natural Resources Conservation Service**  
**U.S. Department of Agriculture**  
77 Hookele Street, Suite 202  
Kahului, Hawaii 96732
2. George Young  
Chief, Regulatory Branch  
**U.S. Department of the Army**  
U.S. Army Engineer District, Honolulu  
Regulatory Branch  
Building 230  
Fort Shafter, Hawaii 96858-5440
3. Loyal Mehrhoff, Field Supervisor  
**U. S. Fish and Wildlife Service**  
300 Ala Moana Blvd., Rm. 3-122  
Box 50088  
Honolulu, Hawaii 96813
4. Russ K. Saito, State Comptroller  
**Department of Accounting and General Services**  
1151 Punchbowl Street, #426  
Honolulu, Hawaii 96813
5. Kaulana Park, Chairman  
**Department of Hawaiian Home Lands**  
P. O. Box 1879  
Honolulu, Hawaii 96805
6. Chiyome Fukino, M.D., Director  
State of Hawaii  
**Department of Health**  
919 Ala Moana Blvd., Room 300  
Honolulu, Hawaii 96814
7. Alec Wong, P.E., Chief  
**Clean Water Branch**  
State of Hawaii  
**Department of Health**  
919 Ala Moana Blvd., Room 300  
Honolulu, Hawaii 96814
8. Patti Kitkowski  
Acting District Environmental Health  
Program Chief  
State of Hawaii  
**Department of Health**  
54 High Street  
Wailuku, Hawaii 96793
9. Lene Ichinotsubo  
Environmental Management Division  
State of Hawaii  
**Department of Health**  
919 Ala Moana Blvd., Room 212  
Honolulu, Hawaii 96814
10. Laura H. Thielen, Chairperson  
State of Hawaii  
**Department of Land and Natural Resources**  
P. O. Box 621  
Honolulu, Hawaii 96809
11. Dr. Puaalaokalani Aiu, Administrator  
State of Hawaii  
**Department of Land and Natural Resources**  
**State Historic Preservation Division**  
601 Kamokila Blvd., Room 555  
Kapolei, Hawaii 96707



12. Morgan Davis  
**Department of Land and Natural Resources**  
**State Historic Preservation Division**  
 130 Mahalani Street  
 Wailuku, Hawaii 96793
13. Michael Formby, Interim Director  
 State of Hawaii  
**Department of Transportation**  
 869 Punchbowl Street  
 Honolulu, Hawaii 96813
- cc: Ferdinand Cajigal
14. Major General Robert G.S. Lee, Director  
**Hawaii State Civil Defense**  
 3949 Diamond Head Road  
 Honolulu, Hawaii 96816-4495
15. Clyde Nāmu`o, Administrator  
**Office of Hawaiian Affairs**  
 711 Kapiolani Boulevard, Suite 500  
 Honolulu, Hawaii 96813
16. Abbey Seth Mayer, Director  
 State of Hawaii  
**Office of Planning**  
 P.O. Box 2359  
 Honolulu, Hawaii 96804
17. Jeffrey A. Murray, Fire Chief  
 County of Maui  
**Department of Fire and Public Safety**  
 200 Dairy Road  
 Kahului, Hawaii 96732
18. Lori Tsuhako, Director  
 County of Maui  
**Department of Housing and Human Concerns**  
 One Main Plaza  
 2200 Main Street, Suite 546  
 Wailuku, Hawaii 96793
19. Tamara Horcajo, Director  
 County of Maui  
**Department of Parks and Recreation**  
 700 Halia Nakoa Street, Unit 2  
 Wailuku, Hawaii 96793
20. Kathleen Aoki, Director  
 County of Maui  
**Department of Planning**  
 250 South High Street  
 Wailuku, Hawaii 96793
21. Gary Yabuta, Chief  
 County of Maui  
**Police Department**  
 55 Mahalani Street  
 Wailuku, Hawaii 96793
22. Milton Arakawa, Director  
 County of Maui  
**Department of Public Works**  
 200 South High Street  
 Wailuku, Hawaii 96793
23. Cheryl Okuma, Director  
 County of Maui  
**Department of Environmental Management**  
 One Main Plaza  
 2200 Main Street, Suite 100  
 Wailuku, Hawaii 96793
24. Donald Medeiros, Director  
 County of Maui  
**Department of Transportation**  
 200 South High Street  
 Wailuku, Hawaii 96793
25. Jeffrey Eng, Director  
 County of Maui  
**Department of Water Supply**  
 200 South High Street  
 Wailuku, Hawaii 96793
26. Honorable Mike Victorino  
**Maui County Council**  
 200 South High Street  
 Wailuku, Hawaii 96793
27. Greg Kauhi, Manager - Customer Operations  
**Maui Electric Company, Ltd.**  
 P.O. Box 398  
 Kahului, Hawaii 96733
28. **Hawaiian Telcom**  
 60 South Church Street  
 Wailuku, Hawaii 96793



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

SEP 30 2010

REPLY TO  
ATTENTION OF:

September 28, 2010

Regulatory Branch

File Number POH-2010-00275

Munekiyo & Hiraga, Inc.  
Attention: Erin Mukai  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Mukai:

We have received your request dated September 23, 2010 for the Department of the Army to review and comment on the Early Consultation for the Preparation of a Draft Environmental Assessment (dEA) in Relation to the Proposed H.P. Baldwin High School Softball Field and Related Improvements at TMK (2) 3-8-007: 004, Wailuku, Island of Maui, Hawaii. We have assigned the project the reference number **POH-2010-00275**. Please cite the reference number in any future correspondence concerning this project. We completed our review of the submitted document pursuant to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) and Section 404 of the Clean Water Act (Section 404).

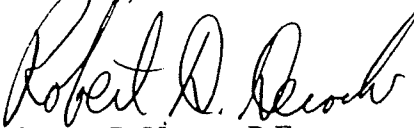
Section 10 requires that a Department of the Army (DA) permit be obtained from the U.S. Army Corps of Engineers (Corps) prior to undertaking any construction, dredging and other activities occurring in, over, or under navigable waters of the U.S. The line of jurisdiction extends to the Mean High Water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

Based on the information you submitted, it appears the review area consists entirely of uplands and is absent of waters of the U.S., including adjacent wetlands, subject to Corps jurisdiction. We anticipate any proposed development activities will not involve the placement or discharge of dredged and/or fill material into waters of the U.S.; therefore, it appears a **DA permit will not be required**. This determination does not relieve you of the responsibility to obtain any other permits, licenses, or approvals that may be required under County, State, or Federal law for your proposed work.

This letter contains an approved Jurisdictional Determination (JD) for the project location and is valid for a period of five (5) years unless new information warrants revision of the determination before the expiration date. If you object to this determination, you may request an Administrative Appeal under Corps regulations at 33 Code of Federal Regulations (CFR) Part 331. Should you wish to appeal this jurisdiction, contact this office for a copy of the approved JD, the appropriate form to submit, and further instructions on the appeal process.

Thank you for contacting us regarding this project and providing us with the opportunity to comment. Should you have any questions, please contact Mr. Lance Sewake at 808.438.9258 or via email at [Lance.M.Sewake@usace.army.mil](mailto:Lance.M.Sewake@usace.army.mil). Please be advised you can provide comments on your experience with the Honolulu District Regulatory Branch by accessing our web-based customer survey form at <http://per2.nwp.usace.army.mil/survey.html>

Sincerely,



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



**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 28 Sep 2010**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CEPOH-EC-R, H.P. Baldwin High School Softball Field and Related Improvements, POH-2010-0275**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: Hawaii County/parish/borough: Maui County City: Wailuku  
Center coordinates of site (lat/long in degree decimal format): Lat. 20.8929° N, Long. -156.4901° W.  
Universal Transverse Mercator: UTM Zone 4 North NAD 83  
Name of nearest waterbody: Pacific Ocean

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Pacific Ocean

Name of watershed or Hydrologic Unit Code (HUC):

- Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.  
 Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

- Office (Desk) Determination. Date: 28 Sep 2010  
 Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

- Waters subject to the ebb and flow of the tide.  
 Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain:

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

- TNWs, including territorial seas  
 Wetlands adjacent to TNWs  
 Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs  
 Non-RPWs that flow directly or indirectly into TNWs  
 Wetlands directly abutting RPWs that flow directly or indirectly into TNWs  
 Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs  
 Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs  
 Impoundments of jurisdictional waters  
 Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: width (ft) and/or acres.  
Wetlands: acres.

**c. Limits (boundaries) of jurisdiction based on: Not Applicable.**

Elevation of established OHWM (if known):

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain:

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

##### 1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

##### 2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": .

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

##### 1. Characteristics of non-TNWs that flow directly or indirectly into TNW

###### (i) General Area Conditions:

Watershed size: **Pick List**

Drainage area: **Pick List**

Average annual rainfall: inches

Average annual snowfall: inches

###### (ii) Physical Characteristics:

###### (a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>:

Tributary stream order, if known:

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

- Tributary is:  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

- Average width:       feet  
Average depth:       feet  
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

- |  |  |                                   |
|--|--|-----------------------------------|
| <input type="checkbox"/> Silts           | <input type="checkbox"/> Sands                     | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles         | <input type="checkbox"/> Gravel                    | <input type="checkbox"/> Muck     |
| <input type="checkbox"/> Bedrock         | <input type="checkbox"/> Vegetation. Type/% cover: |                                   |
| <input type="checkbox"/> Other. Explain: |  |                                   |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope):       %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime:

Other information on duration and volume:

Surface flow is: **Pick List**. Characteristics:

Subsurface flow: **Pick List**. Explain findings:

- Dye (or other) test performed:

Tributary has (check all that apply):

- |   |   |
|---|---|
| <input type="checkbox"/> Bed and banks  |   |
| <input type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply): |   |
| <input type="checkbox"/> clear, natural line impressed on the bank            | <input type="checkbox"/> the presence of litter and debris          |
| <input type="checkbox"/> changes in the character of soil                     | <input type="checkbox"/> destruction of terrestrial vegetation      |
| <input type="checkbox"/> shelving   | <input type="checkbox"/> the presence of wrack line                 |
| <input type="checkbox"/> vegetation matted down, bent, or absent              | <input type="checkbox"/> sediment sorting                           |
| <input type="checkbox"/> leaf litter disturbed or washed away                 | <input type="checkbox"/> scour                                      |
| <input type="checkbox"/> sediment deposition                                  | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining                                       | <input type="checkbox"/> abrupt change in plant community           |
| <input type="checkbox"/> other (list):  |   |
| <input type="checkbox"/> Discontinuous OHWM. <sup>7</sup> Explain:            |   |

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- |  |  |
|--|--|
| <input type="checkbox"/> High Tide Line indicated by:              | <input type="checkbox"/> Mean High Water Mark indicated by:            |
| <input type="checkbox"/> oil or scum line along shore objects      | <input type="checkbox"/> survey to available datum:                    |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings:                            |
| <input type="checkbox"/> physical markings/characteristics         | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges                              |  |
| <input type="checkbox"/> other (list):                             |  |

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:        acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (        ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft). Or, acres.
- Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:



Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2. above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2. above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: .  
 Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.  
Identify type(s) of waters: .
- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above): **Appears review site consists entirely of uplands.**

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Early consultation rcv'd 28 Sep 2010.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24000 (ORM website, retv'd 28 Sep 2010).
- USDA Natural Resources Conservation Service Soil Survey. Citation: NRCS Web Soil Survey conducted 31 Dec 2006.
- National wetlands inventory map(s). Cite name: US Fish & Wildlife Service Online Wetland Mapper, retv'd 28 Sep 2010.
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Aerial Satellite Image (ORM website, retv'd 28 Sep 2010).  
or  Other (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** No WOUS within review area. Referenced data located in physical file POH-2010-275.



MICHAEL T. MURPHY  
GLEN BRADY HARRIS  
MELINDA "MIMI" HIRANI  
KARLYN FLEISS  
MARK ALEXANDER PHD

March 15, 2011

Mr. George P. Young, P. E.  
Chief, Regulatory Branch  
Department of the Army  
U.S. Army Engineer District, Honolulu  
Fort Shafter, Hawaii 96858-5440

SUBJECT: Chapter 343, Hawaii Revised Statutes, Environmental Assessment  
Early Consultation Comments for the Proposed H.P. Baldwin High  
School Softball Field and Related Improvements at TMK (2) 3-8-  
007:004 (por.), Wailuku, Maui, Hawaii (POH-2010-00275)

Dear Mr. Young:

On behalf of the applicant, the Department of Education, we thank you for your letter dated September 30, 2010 determining that a Department of Army permit will not be required for the project. A copy of your letter will be included in the Draft Environmental Assessment.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:tn

cc: Cheng-Hsin Chang, Department of Education  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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## United States Department of the Interior



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

In Reply Refer To:  
2010-TA-0523

OCT 15 2010

Ms. Erin Mukai  
Project Planner  
Munekiyō & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Subject: Technical Assistance for the Preparation of a Draft Environmental Assessment for Proposed H.P. Baldwin High School Softball Field and Related Improvements, Maui

Dear Ms. Makai:

The U.S. Fish and Wildlife Service received your September 27, 2010, letter requesting our comments for your use in preparation of a draft Environmental Assessment (DEA) addressing the proposed development of an H.P. Baldwin High School softball field and related improvements on the island of Maui. The proposed project will be located on approximately two acres of vegetated, undeveloped land owned by the County of Maui [TMK (2) 3-8-007:004]. The proposed project includes the construction of a softball field, restroom facility, backstop, two dugouts, fencing, batting cage, storage container, and vehicle access infrastructure.

We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Program and the Hawaii GAP Program. Our data indicates that no proposed or designated critical habitat occurs within the project footprint. However, the federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*), the endangered Hawaiian petrel (*Pterodroma phaeopygia sandwichensis*), and the threatened Newell's shearwater (*Puffinus auricularis newelli*) may be impacted by the proposed project.

Hawaiian hoary bats roost in both exotic and native woody vegetation and leave their young unattended in "nursery" trees and shrubs when they forage. If trees or shrubs suitable for bat roosting are cleared during the bat breeding season (April to August), there is a risk that young bats could inadvertently be harmed or killed. To minimize impacts to the endangered Hawaiian hoary bat, woody plants greater than 15-feet (4.6-meters) tall should not be removed or trimmed during the bat birthing and pup rearing season (May 15 through August 15). If vegetation clearing is proposed during the bat breeding season, we recommend that surveys be conducted by a knowledgeable biologist to determine the status of this species within the proposed project footprint. Survey information should be provided to our office with your determination of effects of the project to the bat. The DEA should specify the timing of vegetation clearing and

construction and it should address avoidance measures to reduce the disturbance to possible nesting Hawaiian hoary bats in areas where they could occur.

Outdoor lighting, such as street lights and sports field lights, can adversely impact listed and migratory seabird species protected under the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*), as amended, and the Migratory Bird Treaty Act [16 U.S.C. 703-712]. Night lighting poses a significant threat to fledgling federally protected seabirds such as the Hawaiian petrel and the Newell's shearwater. Seabirds fly at night and are attracted to artificially-lighted areas. The artificial lights can result in disorientation and subsequent fallout due to exhaustion or collision with objects such as utility lines, guy wires, and towers that protrude above the vegetation layer near the lights. Any increase in the use of night-time lighting, particularly during each year's peak fallout period (September 15 through December 15), could result in seabird injury or mortality. Once grounded, seabirds are vulnerable to predators or are often struck by vehicles along roadways. Potential impacts to seabirds could be minimized by minimizing the use of lights, shielding outdoor lights associated with the project to the maximum extent possible, minimizing night-time construction, and providing all project and school staff with information about seabird fallout. All lights should be shielded so the bulb can only be seen from below and use the lowest wattage bulbs possible. The DEA should address all potential impacts to listed seabirds and outline conservation measures to minimize these impacts.

We hope this information assists you in developing a comprehensive and thorough DEA. We appreciate your efforts to conserve endangered species. If you have questions regarding our comments, please contact Michelle Bogardus, Consultation and Habitat Conservation Planning Program (phone: 808-792-9400, fax: 808-792-9400).

Sincerely,

*Christa Russell*

*for*

Loyal Mehrhoff  
Field Supervisor



MICHAEL T. MINEY  
GLEN CHASE FROST  
MITSURU "MICH" HIRANO  
KARLYNN FROST

MARK ALEXANDER BOY

March 15, 2011

Loyal Mehrhoff, Field Supervisor  
U.S. Fish and Wildlife Service  
Pacific Islands Fish and Wildlife Office  
Box 50088  
Honolulu, Hawaii 96850

SUBJECT: Chapter 343, Hawaii Revised Statutes, Environmental Assessment  
Early Consultation Comments for the Proposed H.P. Baldwin High  
School Softball Field and Related Improvements at TMK (2) 3-8-  
007:004 (por.), Wailuku, Maui, Hawaii (2010-TA-0523)

Dear Mr. Mehroff:

On behalf of the applicant, the Department of Education (DOE), we thank you for your Department's letter of October 15, 2010 responding to our request for early consultation comments. A biological study has been prepared for the project and will be included in the Draft Environmental Assessment (EA). Special effort was made to determine the presence of the endangered Hawaiian hoary bat. No bat activity was observed during the survey. It is anticipated that construction will commence in the summer of 2011. The DOE will coordinate with your office on appropriate mitigation measures that can be implemented for tree removal.

Further, for your information, the softball field will not be used for games and as such, no sports field lights or exterior lights for the restroom building will be installed.

A copy of your letter will be included in the Draft EA.

Loyal Mehrhoff, Field Supervisor  
March 15, 2011  
Page 2

If additional clarification is required, please contact me at (808) 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

cc: Duane Kashiwai, Administrator, Department of Education, Facilities Development  
Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.  
Robert Hobdy, Robert Hobdy Environmental Consultant

F:\DATA\ATA\BHS Softball\USFWS response.ltr.doc

LINDA LINGLE  
GOVERNOR



OCT 07 2010

RUSS K. SAITO  
COMPTROLLER

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

OCT - 5 2010

(P)1250.0

Ms. Erin Mukai Planner  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawai'i 96793

Dear Ms. Mukai:

Subject: Early Consultation Request for the Preparation of a Draft Environmental Assessment in Relation to the Proposed H.P. Baldwin High School Softball Field and Related Improvements  
Wailuku, Maui, Hawai'i, TMK (2) 3-8-007:004(por.)

Thank you for the opportunity to provide comments on the Early Consultation Request for the Proposed H.P. Baldwin High School Softball Field and Related Improvements, Wailuku, Maui, Hawai'i, TMK (2) 3-8-007:004(por.). The project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

If you have any questions, please call me at 586-0400 or have your staff call Mr. Clarence Kubo of the Public Works Division at 586-0488.

Sincerely,

A handwritten signature in cursive script that reads "Russ K. Saito".

RUSS K. SAITO  
State Comptroller





MICHAEL T. MONTGOMERY  
GIVEN CHABRI HIRAGA  
MITSURU HIRAGA  
KARLENN FUSUMI  
MARK ALEXANDER IRIGUIRRE

March 15, 2011

Bruce A. Coppa, State Comptroller  
Department of Accounting and General Services  
P.O. Box 119  
Honolulu, Hawaii 96810-0119

SUBJECT: Chapter 343, Hawaii Revised Statutes, Environmental Assessment  
Early Consultation Comments for the Proposed H.P. Baldwin High  
School Softball Field and Related Improvements at TMK (2) 3-8-  
007:004 (por.), Wailuku, Maui, Hawaii (2010-TA-0523)

Dear Mr. Coppa:

On behalf of the applicant, the Department of Education, we thank you for your letter dated October 5, 2010 and your assessment that the project does not impact any of your projects. A copy of your letter will be included in the Draft Environmental Assessment.

If additional clarification is required, please contact me at (808) 244-2015.

Very truly yours,

Colleen Suyama  
Senior Associate

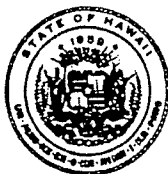
CS:tn

cc: Duane Kashiwai, Administrator, Department of Education, Facilities Development  
Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

K:\DATA\ATA\BHS Softball\DAGS response.ltr.doc

OCT 13 2010

LINDA LINGLE  
GOVERNOR OF HAWAII



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

LORRIN W. PANG, M. D., M. P. H.  
DISTRICT HEALTH OFFICER

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
MAUI DISTRICT HEALTH OFFICE  
54 HIGH STREET  
WAILUKU, MAUI, HAWAII 96793-2102

October 12, 2010

Ms. Erin Mukai  
Planner  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Mukai:

**Subject: Early Consultation Request for the Preparation of a Draft Environmental Assessment in Relation to the Proposed H.P. Baldwin High Softball Field & Related Improvements, Wailuku, Maui, Hawaii TMK: (2) 3-8-007:004 (por.)**

Thank you for the opportunity to comment on this project. We have the following comments:

1. National Pollutant Discharge Elimination System (NPDES) permit coverage maybe required for this project. The Clean Water Branch should be contacted at 808 586-4309.
2. The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules (HAR), Chapter 11-46, "Community Noise Control." A noise permit may be required and should be obtained before the commencement of work.

It is strongly recommended that the Standard Comments found at the Department's website: <http://hawaii.gov/health/environmental/env-planning/landuse/landuse.html> be reviewed, and any comments specifically applicable to this project should be adhered to.

Should you have any questions, please call me at 808 984-8230 or E-mail me at [patricia.kitkowski@doh.hawaii.gov](mailto:patricia.kitkowski@doh.hawaii.gov).

Sincerely,

A handwritten signature in cursive script that reads "Patti Kitkowski".

Patti Kitkowski  
Acting District Environmental Health Program Chief



MICHAEL E. MURPHY  
GWYN GRADY HIRAGA  
MITCHELL "MIKE" HIRAGA  
KARLYNN HIRAGA

MADE IN HAWAII

March 15, 2011

Ms. Patti Kitkowski  
District Environmental Health Program Chief  
Department of Health  
Maui District Health Office  
54 High Street  
Wailuku, Hawaii 96793-2102

SUBJECT: Chapter 343, Hawaii Revised Statutes, Environmental Assessment  
Early Consultation Comments for the Proposed H.P. Baldwin High  
School Softball Field and Related Improvements at TMK (2) 3-8-  
007:004 (por.), Wailuku, Maui, Hawaii

Dear Ms. Kitkowski:

On behalf of the applicant, the Department of Education, we thank you for your Department's letter of October 12, 2010 providing early consultation comments for the subject project. In response to your comments, we are providing the following information:

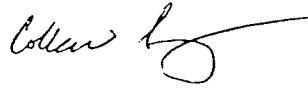
1. As may be applicable, a National Pollutant Discharge Elimination System (NPDES) permit shall be obtained from the Department of Health (DOH), Clean Water Branch.
2. As may be applicable, a noise permit shall be obtained from the DOH in accordance with Chapter 11-46, Community Noise Control, Hawaii Administrative Rules (HAR).

A copy of your comment letter will be included in the Draft Environmental Assessment.

Ms. Patti Kitkowski  
March 15, 2011  
Page 2

If additional clarification is required, please contact me at 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

cc: Duane Kashiwai, Administrator, Department of Education, Facilities Development  
Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

F:\DATA\ATA\BHS Softball\DOH Maui response.ltr.doc

OCT 15 2010

LINDA LINGLE  
GOVERNOR

MAJOR GENERAL ROBERT G. F. LEE  
DIRECTOR OF CIVIL DEFENSE

EDWARD T. TEIXEIRA  
VICE DIRECTOR OF CIVIL DEFENSE



PHONE (808) 733-4300  
FAX (808) 733-4287

**STATE OF HAWAII**  
**DEPARTMENT OF DEFENSE**  
**OFFICE OF THE DIRECTOR OF CIVIL DEFENSE**  
3949 DIAMOND HEAD ROAD  
HONOLULU, HAWAII 96816-4495

October 13, 2010

Ms. Erin Mukai  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Mukai:

Early Consultation Request for the Preparation of a Draft Environmental Assessment  
in Relation to the Proposed H. P. Baldwin High School Softball Field and  
Related Improvements, Wailuku, Maui, Hawaii (TMK (2) 3-8-007:004 (por.))

Thank you for the opportunity to comment on this project. We have no recommendations to make at this time. We anticipate reviewing the Draft Environmental Assessment when it is completed and will make any appropriate comments at that time.

If you have any questions, please call Mr. David H. Smith, State Civil Defense Population Protection Planner, at (808) 733-4300, ext. 576.

Sincerely,

A handwritten signature in cursive script, appearing to read "Edward T. Teixeira".

EDWARD T. TEIXEIRA  
Vice Director of Civil Defense

OCT 18 2010

PHONE (808) 594-1888

FAX (808) 594-1865



STATE OF HAWAII P,  
OFFICE OF HAWAIIAN AFFAIRS Ag  
711 KAPI'OLANI BOULEVARD, SUITE 500  
HONOLULU, HAWAII 96813

HRD10/5275

October 13, 2010

Erin Mukai, Planner  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawai'i 96793

**RE: Pre-draft Environmental Assessment Consultation  
H.P. Baldwin High School (BHS) Softball Field and Related Improvements  
Wailuku. Island of O'ahu  
Tax Map Key: (2) 3-8-007:004**

Aloha e Erin Mukai,

The Office of Hawaiian Affairs (OHA) is in receipt of a September 23, 2010 letter initiating consultation ahead of a draft environmental assessment (DEA) for the proposed H.P. Baldwin High School project (project). It is our understanding the project will provide BHS students with access to high standard athletic facility. The proposed project will construct a softball practice field, backstop, two dugouts, fencing, batting cage, unisex bathroom, storage container, ADA access route and parking stall. OHA applauds your efforts to improve the athletic conditions that will provide a quality facility for practices, games, and recreation. New facilities and improvements to existing facilities on the BHS campus are proposed.

We have no specific comments at this time. We look forward to the opportunity to review the DEA. Should you have any questions, please contact Kathryn Keala at 594-0272 or [Kathyk@oha.org](mailto:Kathyk@oha.org).

'O wau iho nō me ka 'oia'i'o,

A handwritten signature in black ink, appearing to read "Clyde W. Nāmu'o".

Clyde W. Nāmu'o  
Chief Executive Officer

OCT 19 2010

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 14, 2010

Munekiyo & Hiraga, Inc.  
305 High Street Suite 104  
Wailuku, Hawaii 96793

Attention: Ms. Erin Mukai

Ladies and Gentlemen:

Subject: Early Consultation Request for the Preparation of a Draft Environmental Assessment in Relation to the Proposed H.P. Baldwin High School Softball field and Related Improvements

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 Commission on Water Resource Management, Division of forestry & Wildlife, Division of Aquatic Resources, Engineering Division, 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,

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

Russell Y. Tsuji  
Administrator

LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
P.O. BOX 621  
HONOLULU, HAWAII 96809

October 5, 2010

RECEIVED  
LAND DIVISION  
2010 OCT -6 11:59  
LAURA H. THIELEN  
CHAIRPERSON  
D. L. BALFOUR, JR.  
CLARENCE M. BISHOP  
NEAL S. FUJIWARA  
CHIYOME L. FUKINO, M.D.  
DONNA FAY K. KIYOSAKI, P.E.  
LAWRENCE H. MIKE, M.A., J.D.  
LENORE N. OHYE  
ACTING DEPUTY DIRECTOR

DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

TO: Russell Y. Tsuji, Administrator  
Land Division

FROM: Lenore N. Ohye, Acting Deputy Director  
Commission on Water Resource Management *Lenore N. Ohye*

SUBJECT: Baldwin High School Sports Complex Improvements Early Consult

FILE NO.: N/A  
TMK NO.: (2) 3-8-007:004

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore, all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at <http://www.hawaii.gov/dlnr/cwrn>.

Our comments related to water resources are checked off below.

1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.
2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.
4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at <http://www.usgbc.org/leed>. A listing of fixtures certified by the EPA as having high water efficiency can be found at <http://www.epa.gov/watersense/pp/index.htm>.
5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at <http://hawaii.gov/dbedt/czm/initiative/lid.php>.

DRF-IA 06/19/2008



6. We recommend the use of alternative water sources, wherever practicable.
7. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

Permits required by CWRM:

Additional information and forms are available at [http://hawaii.gov/dlnr/cwrm/resources\\_permits.htm](http://hawaii.gov/dlnr/cwrm/resources_permits.htm).

8. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water.
9. A Well Construction Permit(s) is (are) required any well construction work begins.
10. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.
11. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.
12. Ground water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
13. A Stream Channel Alteration Permit(s) is (are) required before any alteration(s) can be made to the bed and/or banks of a stream channel.
14. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is (are) constructed or altered.
15. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.
16. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.
- OTHER:

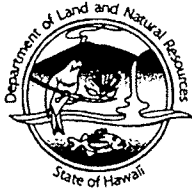
The sports complex has its own irrigation system from brackish wells in the caprock aquifer, but uses County water supply for potable requirements. With water supply at a premium in the central urban area, some attention should be devoted to best possible conservation standards and practices and wastewater reuse.

If there are any questions, please contact Charley Ice at 587-0218.

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

September 28, 2010

DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

2010 OCT -7 A 11:44

RECEIVED  
LAND DIVISION

10 SEP 29 AM 07:04 ENGINEERING

MEMORANDUM

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

*Charlene*

FROM: Charlene Unoki, Assistant Administrator  
SUBJECT: Early Consultation for Draft Environmental Assessment for the proposed H.P. Baldwin High School Softball Field and Related Improvements  
LOCATION: Island of Maui  
APPLICANT: Munekiyo & Hiraga, Inc. on behalf of Department of Education

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 13, 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: *Unoki*  
Date: 10/7/10

DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION

**LD/CharleneUnoki**  
**RE:EarlyConsultDEABaldwinHighSchool**  
**Maui.517**

**COMMENTS**

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

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

- ( ) Mr. Robert Sumitomo at (808) 768-8097 or Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.
- ( ) Mr. Carter Romero at (808) 961-8943 of the County of Hawaii, Department of Public Works.
- ( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.
- ( ) Ms. Wynne Ushigome at (808) 241-4890 of the County of Kauai, Department of Public Works.

- ( ) The applicant should include water demands and infrastructure required to meet project needs. Please note that projects within State lands requiring water service from the Honolulu Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.

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

( ) Additional Comments: \_\_\_\_\_

( ) Other: \_\_\_\_\_

Should you have any questions, please call Ms. Suzie S. Agraan of the Planning Branch at 587-0258.

Signed:                     *Carty S. Chang*                      
*for* CARTY S. CHANG, CHIEF ENGINEER

Date:                     10/7/10

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

September 28, 2010

*DLR 3377*

MEMORANDUM

TO:

DLNR Agencies:

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



RECEIVED  
LAND DIVISION  
2010 OCT 14 P 1:40  
DEPT. OF LAND & NATURAL RESOURCES  
STATE OF HAWAII

*Charlene*

FROM: Charlene Unoki, Assistant Administrator

SUBJECT: Early Consultation for Draft Environmental Assessment for the proposed H.P. Baldwin High School Softball Field and Related Improvements

LOCATION: Island of Maui

APPLICANT: Munekiyo & Hiraga, Inc. on behalf of Department of Education

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 13, 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

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

Signed:

Date: 10/12/10

*[Signature]* *Sh*

LINDA LINGLE  
GOVERNOR OF HAWAII

RECEIVED  
LAND DIVISION



-4 P 3:28

DEPARTMENT OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

September 28, 2010

Scott coordinate w/  
John C. ✓ done

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

↓  
copy to  
John C.

↓  
process to

Acting Administr.  
for sign.

↓

RECEIVED  
LAND DIVISION

DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

2010 OCT -4 P 3:27

MEMORANDUM

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

*Charlene*

FROM: Charlene Unoki, Assistant Administrator  
SUBJECT: Early Consultation for Draft Environmental Assessment for the proposed H.P. Baldwin High School Softball Field and Related Improvements  
LOCATION: Island of Maui  
APPLICANT: Munekiyo & Hiraga, Inc. on behalf of Department of Education

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 13, 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.
- Comments are attached.

Signed: *Randall W. Konny*  
Date: 10-4-2010

---

DOFAW recommends that surveys be conducted to evaluate potential impacts to any endangered, threatened, or candidate plant and animal species prior to the start of construction. Any lighting used during construction or operation of the facilities should be designed to minimize or eliminate impacts to endangered seabirds, such as by using seabird-friendly lighting solutions or by avoiding the use of bright lights from September 15 – December 15. For any unavoidable impacts for which incidental take of listed species is likely, DOFAW recommends that the applicant obtain an incidental take license from the department. Questions please contact Scott Fretz, Wildlife Program Manager, 808 587-4187.



MICHAEL T. MURPHY  
GAVIN ORRIDGE HIRAGA  
MITSURU "MICK" HIRAGA  
KARLENN FURUKI  
MAE ALEXANDER RUI

March 15, 2011

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

SUBJECT: Chapter 343, Hawaii Revised Statutes, Environmental Assessment  
Early Consultation Comments for the Proposed H.P. Baldwin High  
School Softball Field and Related Improvements at TMK (2) 3-8-  
007:004 (por.), Wailuku, Maui, Hawaii

Dear Mr. Tsuji:

On behalf of the applicant, the Department of Education, we thank you for your Department's letter of October 14, 2010 providing early consultation comments for the subject project. In response to your comments from the divisions identified in your letter we are providing the following information:

**COMMISSION ON WATER RESOURCE MANAGEMENT**

**Response to Comment No. 1**

The Maui County Council adopted the Central Maui Water Use and Development Plan (WUDP) in December 2010. It is noted that the WUDP does not include a specific list of projects accounted for in the updated plan, however, consultation with the County of Maui, Department of Water Supply (DWS) regarding the project's water needs is ongoing.

**Response to Comment No. 4**

As practicable, water efficient fixtures will be installed in the restroom facility.

**Response to Comment No. 6**

At present the school site does not have an alternative source of nonpotable water for irrigation. However, it should be noted that irrigation will be primarily used for watering the grass field of the softball field. Minor landscaping is proposed for areas surrounding the field.

**Response to "Other" Comment**

We note your comment that attention should be made to best possible conservation standards and practices.

**ENGINEERING DIVISION**

**Response to Comment Regarding Flood Zone**

We acknowledge the project site is located within Flood Zone X, an area of minimal flood hazard. The Draft Environmental Assessment (EA) will reflect the aforementioned flood zone information.

**Response to Comment Regarding Water Calculations**

Water calculations for the project have been prepared by the engineering consultant and will be included in the Draft Environmental Assessment (EA).

**DIVISION OF AQUATIC RESOURCES**

We acknowledge the Division of Aquatic Resources has no objections to the project.

**DIVISION OF FORESTRY & WILDLIFE**

**Response to Comment Regarding Biological Study**

As recommended, a biological study has been prepared to assess potential impacts to any endangered, threatened or candidate plant and animal species within the project area and will be included in the Draft EA.



Russell Y. Tsuji, Administrator  
March 15, 2011  
Page 3

**Response to Comment Regarding Lighting**

The softball field will be used as a practice field and no night games requiring sports lighting or exterior lights for the restroom building are planned.

A copy of the Department's comment letters will be included in the Draft EA.

If additional clarification is required, please contact me at (808) 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

cc: Duane Kashiwai, Administrator, Department of Education, Facilities Development  
Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.  
Robert Hobdy, Robert Hobdy Environmental Consultant

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LINDA LINGLE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

OCT 27 2010

MICHAEL D. FORMBY  
INTERIM DIRECTOR

Deputy Directors  
FRANCIS PAUL KEENO  
JIRO A. SUMADA

IN REPLY REFER TO:  
STP 8.0263

October 20, 2010

Mr. Erin Mukai  
Planner  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Mr. Mukai:

Subject: H.P. Baldwin High School Softball Field and Related Improvements  
Pre-Consultation for Draft Environmental Assessment (DEA)

Thank you for requesting the State Department of Transportation's (DOT) review of the subject project. DOT understands that the Department of Education (DOE) proposes the construction of a softball practice field, restroom and related improvements on two acres of land at H.P. Baldwin High School. Access to the project will be from the State highway facility, Kaahumanu Avenue.

Given that the subject project is a practice field and that softball games will not be played at this location, it is not anticipated that State highway facilities will be impacted.

DOT appreciates the opportunity to provide comments and requests four copies of the DEA when it is available. If there are any questions, please contact Mr. David Shimokawa of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Very truly yours,

*Francis Paul Keeno*

for MICHAEL D. FORMBY  
Interim Director of Transportation



MARSHALL UNIVERSITY  
GLENN DEACON HIRAGA  
MITSUBISHI FINANCIAL BANK  
KAROLINA, N.C.  
MARCH 15, 2011

March 15, 2011

Glenn Okimoto, Director  
Department of Transportation  
869 Punchbowl Street  
Honolulu, Hawaii 96813

**SUBJECT:** Chapter 343, Hawaii Revised Statutes, Environmental Assessment  
Early Consultation Comments for the Proposed H.P. Baldwin High  
School Softball Field and Related Improvements at TMK (2) 3-8-  
007:004 (por.), Wailuku, Maui, Hawaii, STP 8.0263

Dear Mr. Okimoto:

On behalf of the applicant, the Department of Education, we thank you for your letter dated October 20, 2010 and your assessment that the project will not impact State highway facilities. A copy of your letter will be included in the Draft Environmental Assessment.

If additional clarification is required, please contact me at (808) 244-2015.

Very truly yours,

A handwritten signature in black ink, appearing to read "Colleen S.", with a long, sweeping horizontal line extending to the right.

Colleen Suyama  
Senior Associate

CS:me

cc: Duane Kashiwai, Administrator, Department of Education, Facilities Development  
Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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OCT 28 2010

LINDA LINGLE  
GOVERNOR  
STATE OF HAWAII



KAULANA H. R. PARK  
CHAIRMAN  
HAWAIIAN HOMES COMMISSION

ANITA S. WONG  
DEPUTY TO THE CHAIRMAN

ROBERT J. HALL  
EXECUTIVE ASSISTANT

STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOME LANDS

P.O. BOX 1879  
HONOLULU, HAWAII 96805

October 25, 2010

Munekiyo & Hiraga, Inc.  
Attn: Erin Mukai, Planner  
Suite 104  
305 High Street  
Wailuku, Hawaii 96793

Dear Erin Mukai:

Subject: Early Consultation Request for the Preparation of  
of a Draft Environmental Assessment in Relation to  
the Proposed H.P. Baldwin High School Softball  
Field and Related Improvements, Wailuku, Maui,  
Hawaii (TMK(2) 3-8-007:004 (por.))

Thank you for the opportunity to review the subject proposal.

The Department of Hawaiian Home Lands has no comment to offer at  
this time. If you have any questions, please contact our  
Planning Office at (808) 620-9480.

Aloha and mahalo,

*Kaulana H.R. Park*  
for

Kaulana H.R. Park, Chairman  
Hawaiian Homes Commission

NOV 08 2010

LINDA LINGLE  
GOVERNOR OF HAWAII



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

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

In reply, please refer to:  
EMD / CWB

11017PJF.10

November 5, 2010

Mr. Erin Mukai  
Planner  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Mr. Erin Mukai:

**SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment (DEA) in Relation to the Proposed H.P. Baldwin High School Softball Field and Related Improvements  
Wailuku, Island of Maui, Hawaii  
TMK: (2) 3-8-007:004**

The Department of Health, Clean Water Branch (CWB), has reviewed the subject document and offers these comments on your project.

Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at:  
<http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf>.

1. Any project and its potential impacts to State waters must meet the following criteria:
  - a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
  - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
  - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for an NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

- a. Storm water associated with construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the start of the construction activities.
- b. Construction dewatering effluent.

You must submit a separate NOI form for each type of discharge at least 30 calendar days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 calendar days before to the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at:  
<http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html>.

3. For types of wastewater not listed in Item No. 2 above or wastewater discharging into Class 1 or Class AA waters, you may need an NPDES individual permit. An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. The NPDES application forms may be picked up at our office or downloaded from our website at:  
<http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html>.

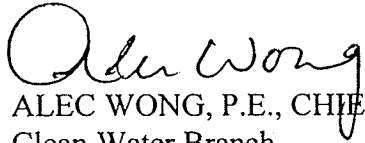
4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 Water Quality Certification are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained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

Mr. Erin Mukai  
November 5, 2010  
Page 3

11017PJF.10

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

Sincerely,

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

JF:ml

c: DOH-EPO #I-3353 [via email only]

March 15, 2011

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

SUBJECT: Chapter 343, Hawaii Revised Statutes, Environmental Assessment  
Early Consultation Comments for the Proposed H.P. Baldwin High  
School Softball Field and Related Improvements at TMK (2) 3-8-  
007:004 (por.), Wailuku, Maui, Hawaii, 11017PJF.10

Dear Mr. Wong:

On behalf of the applicant, The Department of Education, we thank you for your letter of November 5, 2010 responding to our request for early consultation comments. In response to your comments, we are providing the following information:

- We acknowledge the proposed development is required to comply with Hawaii Administrative Rules, Chapters 11-54 Water Quality Standards and 11-55 Water Pollution Controls with regards to project runoff. Increased runoff from the project will be retained through an onsite retention basin.
- As may be required, a National Pollutant Discharge Elimination System (NPDES) will be obtained from the Department of Health (DOH).
- The project will be coordinated with the DOH to ensure compliance with the State's Water Quality Standards.
- We have reviewed the Branch's standard comments provided at the DOH website and the project will comply with the standard comments, as applicable.

A copy of your letter will be included in the Draft Environmental Assessment.



Alec Wong, P.E., Chief  
March 15, 2011  
Page 2

If additional clarification is required, please contact me at (808) 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

cc: Duane Kashiwai, Administrator, Department of Education, Facilities Development  
Branch

Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

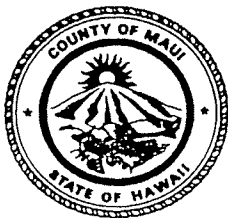
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OCT 19 2010

CHARMAINE TAVARES  
Mayor

CHERYL K. OKUMA, Esq.  
Director

GREGG KRESGE  
Deputy Director



TRACY TAKAMINE, P.E.  
Solid Waste Division

DAVID TAYLOR, P.E.  
Wastewater Reclamation  
Division

**COUNTY OF MAUI  
DEPARTMENT OF  
ENVIRONMENTAL MANAGEMENT**

2200 MAIN STREET, SUITE 100  
WAILUKU, MAUI, HAWAII 96793

October 15, 2010

Ms. Erin Mukai  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Mukai:

**SUBJECT: H.P. BALDWIN HIGH SCHOOL  
SOFTBALL FIELD AND RELATED IMPROVEMENTS  
EARLY CONSULTATION  
TMK (2) 3-8-007:POR. OF 004, WAILUKU**

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:
  - a. None.
2. Wastewater Reclamation Division (WWRD) comments:
  - a. None.

If you have any questions regarding this memorandum, please contact Gregg Kresge at 270-8230.

Sincerely,

A handwritten signature in black ink, appearing to read "Cheryl K. Okuma", is written over the typed name and title.

CHERYL K. OKUMA  
Director of Environmental Management

OCT 19 2010



DEPARTMENT OF  
**HOUSING AND HUMAN CONCERNS**  
HOUSING DIVISION  
COUNTY OF MAUI

CHARMAINE TAVARES  
Mayor

LORI TSUHAKO  
Director

JO-ANN T. RIDAO  
Deputy Director

35 LUNALILO STREET, SUITE 102 • WAILUKU, HAWAII 96793 • PHONE (808) 270-7351 • FAX (808) 270-6284

October 15, 2010

Ms. Erin Mukai  
Planner  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Mukai:

**Subject: Early Consultation Request for the Proposed H.P. Baldwin High School Softball Field and Related Improvements at Wailuku, Maui, Hawaii. TMK (2)3-8-007:004(por.)**

The Department has reviewed the request for Early Consultation for the above subject project. Based on our review, we have determined that the subject project is not subject to Chapter 2.96, Maui County Code. At the present time, the Department has no additional comments to offer.

Please call Mr. Buddy Almeida of our Housing Division at (808) 270-7356 if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Wayde T. Oshiro".

WAYDE T. OSHIRO  
Housing Administrator

cc: Director of Housing and Human Concerns



MICHAEL T. MURPHY  
GWEN DRABBE HIRAGA  
MITSURU "MIGHT" HIRAGA  
KAREN S. FURUKAWA  
MARY ALEXANDER, PH.D.

March 15, 2011

JoAnn Ridao, Director  
Department of Housing and Human Concerns  
One Main Plaza  
2200 Main Street, Suite 546  
Wailuku, Hawaii 96793

SUBJECT: Chapter 343, Hawaii Revised Statutes, Environmental Assessment  
Early Consultation Comments for the Proposed H.P. Baldwin High  
School Softball Field and Related Improvements at TMK (2) 3-8-  
007:004 (por.), Wailuku, Maui, Hawaii

Dear Ms. Ridao:

On behalf of the applicant, the Department of Education, we thank you for your Department's letter dated October 15, 2010 and your determination that the project is not subject to Chapter 2.96, Maui County Code, 1980 as amended. A copy of your letter will be included in the Draft Environmental Assessment.

If additional clarification is required, please contact me at (808) 244-2015.

Very truly yours,

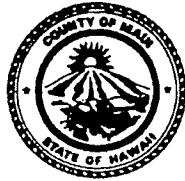
Colleen Suyama  
Senior Associate

CS:tn

cc: Duane Kashiwai, Administrator, Department of Education, Facilities Development  
Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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CHARMAINE TAVARES  
Mayor



OCT 19 2010

TAMARA HORCAJO  
Director

ZACHARY Z. HELM  
Deputy Director

(808) 270-7230  
Fax (808) 270-7934

**DEPARTMENT OF PARKS & RECREATION**

700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawaii 96793

October 13, 2010

Ms. Erin Mukai  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Mukai:

SUBJECT: H.P. BALDWIN HIGH SCHOOL SOFTBALL FIELD AND RELATED  
IMPROVEMENTS, TMK: (2) 3-8-007:004 (por.)  
Early Consultation for Draft Environmental Assessment

Thank you for the opportunity to review and comment on the subject project. We would like to reserve the right for future comments on the project's site plans as they become available.

Please feel free to contact me or Karla Peters, Parks Project Manager, at (808) 270-7981 if there are any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Tamara Horcajo".

TAMARA HORCAJO  
Director

TH:PTM:kp

c: Patrick Matsui, Chief of Parks Planning and Development



MICHAEL T. MURPHY  
SARAH QUAYNE HARRIS  
MELISSA "MIDGE" HARRIS  
KAREN S. FURUKAWA  
MADE WITH CONFIDENCE

March 15, 2011

Glenn Correa, Director  
Department of Parks and Recreation  
County of Maui  
700 Halia Nakoa Street, Unit 2  
Wailuku, Hawaii 96793

SUBJECT: Chapter 343, Hawaii Revised Statutes, Environmental Assessment  
Early Consultation Comments for the Proposed H.P. Baldwin High  
School Softball Field and Related Improvements at TMK (2) 3-8-  
007:004 (por.), Wailuku, Maui, Hawaii

Dear Mr. Correa:

On behalf of the applicant, the Department of Education, we thank you for your Department's letter of October 13, 2010. A copy of the preliminary site plan will be included in the Draft Environmental Assessment (EA), as well as the department's comment letter.

A copy of the Draft EA will be submitted to the Department of Parks and Recreation for review and comment.

If additional clarification is required, please contact me at 244-2015.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:lh

cc: Duane Kashiwai, Administrator, Department of Education, Facilities Development  
Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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**CHARMAINE TAVARES**  
MAYOR

OUR REFERENCE  
YOUR REFERENCE

**POLICE DEPARTMENT**  
COUNTY OF MAUI

55 MAHALANI STREET  
WAILUKU, HAWAII 96793  
(808) 244-6400  
FAX (808) 244-6411

October 1, 2010



**GARY A. YABUTA**  
CHIEF OF POLICE

**CLAYTON N.Y.W. TOM**  
DEPUTY CHIEF OF POLICE

Ms. Erin Mukai  
Planner  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, HI 96793

Dear Ms. Mukai:

**SUBJECT:** Early Consultation Request for the Preparation of a Draft Environmental Assessment in Relation to the Proposed H.P. Baldwin High School Softball Field and Related Improvements, Wailuku, Maui at TMK (2) 3-8-007:004 (por.)

This is in response to the request for comments on the above subject.

We have reviewed the information submitted for this project and have enclosed a copy of our comments. Thank you for giving us the opportunity to comment on this project.

Very truly yours,

Assistant Chief Danny Matsuura  
for: Gary A. Yabuta  
Chief of Police

c: Kathleen Ross Aoki, Planning Department

# COPY

TO : GARY YABUTA, CHIEF OF POLICE, COUNTY OF MAUI  
VIA : CHANNELS *AC D Matsuda*  
FROM : DARRELL RAMOS, ADMINISTRATIVE SERGEANT, *9/30/10*  
WAILUKU PATROL DIVISION  
SUBJECT : RESPONSE TO AN EARLY CONSULTATION REQUEST FOR  
PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT IN  
RELATION TO THE PROPOSED H.P. BALDWIN HIGH SCHOLL  
SOFTBALL FIELD AND RELATED IMPROVEMENTS

This communication is submitted as a response to a request for comments and recommendations by Munekiyo & Hiraga, Inc. Planner, Erin Mukai, regarding the below subject:

SUBJECT : Baldwin High School Softball Field & Related Improvements  
TMK : (2) 3-8-007:004 (POR.)

## RESPONSE:

In review of the submitted documents, concerns from the police perspective would be upon the safety of pedestrian and vehicular movement.

Being that the structure and improvements planned for this project will be occurring well off the roadway. This project should not have any adverse impact upon existing pedestrian movement or vehicular traffic in the immediate area.

The ingress and egress location appears to be reasonable as to not impact the existing normal vehicular movement on Kaahumanu Avenue as well as Halia Nokoa Street.

There are residences and businesses located across the street from the project site. It is recommended that during the construction phases, efforts should be made to minimize noise, dust & debris so not to inhibit those whose health and well being may be affected. Adequate traffic control devices and personnel should also be utilized to minimize the impact of heavy equipment and vehicles traveling in and out of the area.

## CONCLUSION:

There are no immediate objections to the applications and project at this time. Although, it is of the utmost importance to be cognizant of any health and safety impacts, directly and indirectly which may arise from this project.



Therefore I Respectfully submitted this communication for your review and approval.



Darrell RAMOS E#1123  
Administrative Sergeant/Wailuku Patrol Division  
09/27/10 @ 1500 Hours

*Concun. no major issues  
noted -*

*Capt. J. Briggs - 8467  
9/29/10 1545 HU*



Michael J. ...  
Gwen ...  
Mitsuru ...  
Karlyn ...  
Mahe ...

March 15, 2011

Gary Yabuta, Chief  
Police Department  
55 Mahalani Street  
Wailuku, Hawaii 96793

SUBJECT: Chapter 343, Hawaii Revised Statutes, Environmental Assessment Early Consultation Comments for the Proposed H.P. Baldwin High School Softball Field and Related Improvements at TMK (2) 3-8-007:004 (por.), Wailuku, Maui, Hawaii

Dear Chief Yabuta:

On behalf of the applicant, the Department of Education, we thank you for your Department's letter of October 1, 2010 responding to our request for early consultation comments. As recommended, we will implement adequate traffic control devices and personnel to minimize impact of any heavy equipment and vehicles traveling in and out of the area. Your recommendation will be included in the Draft Environmental Assessment (EA). Also, appropriate Best Management Practices (BMPs) will be implemented to minimize impacts from noise, dust and debris during construction.

A copy of the department's comment letter will be included in the Draft EA.

If additional clarification is required, please contact me at 244-2015.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:tn

cc: Duane Kashiwai, Administrator, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.  
Keith Niiya, Austin Tsutsumi & Associates, Inc.

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OCT 20 2010

RALPH NAGAMINE, L.S., P.E.  
Development Services Administration

CARY YAMASHITA, P.E.  
Engineering Division

BRIAN HASHIRO, P.E.  
Highways Division



CHARMAINE TAVARES  
Mayor

MILTON M. ARAKAWA, A.I.C.P.  
Director

MICHAEL M. MIYAMOTO  
Deputy Director

Telephone: (808) 270-7845  
Fax: (808) 270-7955

COUNTY OF MAUI  
**DEPARTMENT OF PUBLIC WORKS**  
200 SOUTH HIGH STREET, ROOM NO. 434  
WAILUKU, MAUI, HAWAII 96793

October 14, 2010

Ms. Erin Mukai, Planner  
MUNEKIYO & HIRAGA, INC.  
305 High Street, Suite 104  
Wailuku, Maui, Hawaii 96793

Dear Ms. Mukai:

**SUBJECT: EARLY CONSULTATION REQUEST FOR THE  
PREPARATION OF A DRAFT ENVIRONMENTAL  
ASSESSMENT FOR THE PROPOSED H. P. BALDWIN  
HIGH SCHOOL SOFTBALL FIELD AND RELATED  
IMPROVEMENTS; TMK: (2) 3-8-007:004 (POR.)**

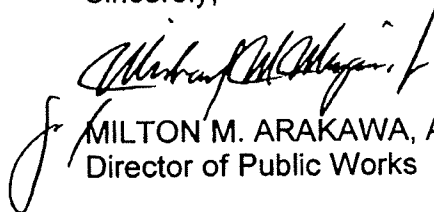
We reviewed your early consultation request and offer the following comments:

1. Please clarify whether the project will access Leleihoku Street, which is in the vicinity of the proposed project site. We would recommend against the use of this street, given its substandard conditions and would only suggest its use for emergencies.
2. As indicated, the property is owned by the County of Maui. As the owner, the County had proposed alternative uses for portions of the property, such as the triangular piece of property identified as TMK: (2) 3-8-007:047. In addition, portion of the football practice field was once reserved for use by the Army Reserve and a portion of the property adjacent to the Boy Scout Office was offered for use to the Boy Scouts. Please identify these alternative uses, the locations and the current status of these proposals.
3. Building Permit Nos. B20090609 for security screens and B20041870 for Building R have had no inspections. Building Permit No. B20040698 for portable Building P-23 is missing a final inspection.

Ms. Erin Mukai, Planner  
October 14, 2010  
Page 2

Please call Michael Miyamoto at 270-7845 if you have any questions regarding this letter.

Sincerely,

  
MILTON M. ARAKAWA, A.I.C.P.  
Director of Public Works

MMA:MMM:ls

xc: Highways Division  
Engineering Division

S:\LUCA\CZM\prop\_bhs\_softball\_field\_ec\_38007004\_por\_ls.wpd



MICHAEL T. MITCHELL  
GWYN DRASH, HIRAGA  
MITSURU "MICH" HIRAGA  
KARLYN HIRAGA

MARK ALEXANDER HIRAGA

March 15, 2011

David Goode, Director  
Department of Public Works  
County of Maui  
200 South High Street  
Wailuku, Hawaii 96793

SUBJECT: Chapter 343, Hawaii Revised Statutes, Environmental Assessment  
Early Consultation Comments for the Proposed H.P. Baldwin High  
School Softball Field and Related Improvements at TMK (2) 3-8-  
007:004 (por.), Wailuku, Maui, Hawaii

---

Dear Mr. Goode:

On behalf of the applicant, the Department of Education, we thank you for your Department's letter of October 14, 2010 responding to our request for early consultation comments. In response to your comments we are providing the following information:

**Response to Comment No. 1**

Access to the proposed softball field will be through the Baldwin High School's main entrance at Kaahumanu Avenue and internal campus roadways. Use of Leleihoku Street will be limited to maintenance access to the proposed onsite detention basin. Access is anticipated to be utilized up to two (2) times a year.

**Response to Comment No. 2**

The triangular parcel identified as TMK: (2) 3-8-007:047 is separated from the project site by Liholiho Street. However, the project site is located adjacent to TMK (2) 3-8-007:080 (Parcel 80), which is leased by the Boy Scouts of America. The portion of the property offered for use to the Boy Scouts is located on Parcel 80. The proposed softball field is not located on the football practice field and is not anticipated to impact any future use of lands in the area by the Army Reserve.

David Goode, Director  
March 15, 2011  
Page 2

**Response to Comment No. 3**

The Department of Education has been notified of the outstanding building permit issues for appropriate resolution. This matter will be addressed separately from the proposed softball field improvements.

A copy of the department's comment letter will be included in the Draft Environmental Assessment.

If additional clarification is required, please contact me at 244-2015.

Very truly yours,



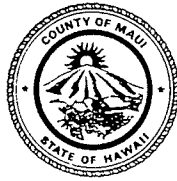
Colleen Suyama  
Senior Associate

CS:tn

cc: Duane Kashiwai, Administrator, Department of Education, Facilities Development  
Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

F:\DATA\ATA\BHS Softball\DPW response ltr.doc

CHARMAINE TAVARES  
MAYOR



OCT 08 2010

DON A. MEDEIROS  
Director  
WAYNE A. BOTEILHO  
Deputy Director  
Telephone (808) 270-7511  
Facsimile (808) 270-7505

DEPARTMENT OF TRANSPORTATION

COUNTY OF MAUI  
200 South High Street  
Wailuku, Hawaii, USA 96793-2155

September 29, 2010

Ms. Erin Mukai  
Munekiyo & Hiraga Inc.  
305 High Street, Suite 104  
Wailuku, Maui, Hawaii 96793

Subject: DEA Baldwin High School Baseball Field Improvements

Dear Ms. Mukai,

Thank you for the opportunity to comment on this project. We have no comments to make at this time.

Please feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Don Medeiros".

Don Medeiros  
Director

OCT 15 2010

CHARMAINE TAVARES  
Mayor



JEFFREY K. ENG  
Director

**DEPARTMENT OF WATER SUPPLY**  
**COUNTY OF MAUI**  
200 SOUTH HIGH STREET  
WAILUKU, MAUI, HAWAII 96793-2155  
www.mauiwater.org

October 11, 2010

Erin Mukai  
Munekiyo and Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Re: Project Name: H.P. Baldwin High School Softball Field and Related Improvements  
TMK: (2) 3-8-007: 004 (por.)  
Project ID: Early Consultation for a Draft Environmental Assessment (DEA)

Dear Ms. Mukai:

Thank you for the opportunity for the County of Maui Department of Water Supply (DWS) to comment on this DEA.

**Source Availability and Consumption**

The project area is served by the Central Maui System. The main sources of water for this system are the designated Iao Aquifer, Waihee Aquifer, the Iao Tunnel and the Iao Waikapu Ditch. New source development projects include Waikapu South Well and upgrades to the Iao Water Treatment Facility. The average daily water demand for the project site is expected to be approximately 3,400 gpd. The High School is presently serviced by a one-inch and four-inch meters. Meter adequacy will be determined in the building permit process. There is currently no additional source available according to system standards on the Central Maui System. The Department may delay issuance of meters until new sources are on line. The DWS does not issue temporary construction meters for Central Maui projects.

**System Infrastructure**

The project parcel is presently served by 12-inch and 9-inch connections running from the intersection of Kaahumanu Avenue and Maui Lani Parkway onto the project parcel. There are private hydrants located onsite throughout the parcel. System improvements will be determined in the building permit process.

**Conservation**

To alleviate demand on the Central Maui system, we recommend implementation of applicable BMPs provided in Attachment 1: "A Checklist of Water Conservation Ideas for Industrial and Large Landscapes," as well as the following conservation measures:

*"By Water All Things Find Life"*

The Department of Water Supply is an Equal Opportunity provider and employer. To file a complaint of discrimination, write: USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington DC 20250-9410. Or call (202) 720-5964 (voice or TDD)

Printed on recycled paper





1. Utilize Low-Flow Fixtures and Devices: Maui County Code Subsection 16.20A.680 requires the use of low-flow water fixtures and devices in faucets, showerheads, urinals, water closets, and hose bibs. models that use 0.5 gallons per flush or less. Bathroom sink faucets with fixtures should not exceed 1 gpm at 60 psi. Toilets should be high-efficiency models that use 1.28 gallons per flush or less. Urinals should be high-efficiency models that use 0.5 gallons per flush or less.
2. Maintain Fixtures to Prevent Leaks: A simple, regular program of repair and maintenance can prevent the loss of hundreds or even thousands of gallons a day.
3. Use Brackish or Reclaimed Water: for irrigation and dust control during construction where available. Reclaimed water is available at the Kahului Sewage Treatment Plant.
4. Select drought tolerant turf species
5. Selecting a drought tolerant species such as bermuda (manienie), or zoysia will help to minimize water quality concerns as well as conserving water.
6. Use climate-adapted native plants where applicable
7. Please consider the use of native Hawaiian plants adapted to the natural rainfall of the area. Native plants adapted to the natural rainfall of the area conserve water and protect the watershed from degradation due to the spread of invasive alien species. The subject project is located in Plant Zone 3. We have attached a native plant brochure to assist with appropriate plant selection (Attachment 2).
8. Prevent Over Watering:
  1. Equip all irrigated areas with smart controllers capable of self-adjusting to account for weather and/or moisture conditions.
  2. Arrange irrigation valves and circuits such that plants with different water requirements are watered separately and appropriately. (hydro zones).
  3. Provide rain sensors and shut-offs on all automated irrigation controllers.

### **Pollution Prevention**

The project overlies the Iao Aquifer. The DWS strives to protect water resources by encouraging adoption of Best Management Practices (BMPs) designed to minimize infiltration and runoff. In addition to BMPs required by state and county rules and regulations.

1. Prevent cement products, oil, fuel and other toxic substances from falling or leaching into the water.
2. Properly and promptly dispose of all loosened and excavated soil and debris material from drainage structure work.
3. Retain ground cover until the last possible date.
4. Stabilize denuded areas by sodding or planting as soon as possible. Replanting should include soil amendments and temporary irrigation. Use high seeding rates to ensure rapid stand establishment.
5. Avoid fertilizers and biocides, or apply only during periods of low rainfall to minimize chemical run-off.

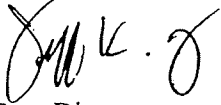
Erin Mukai  
H.P. Baldwin High School Softball Field and Related Improvements  
Page 3

**Pollution Prevention—continued**

6. Keep run-off on site.

Again, thank you for the opportunity to provide input. For questions on system improvements, contact DWS Engineering at 270-7835. Should you have any other questions, please contact our Water Resources and Planning Division at 244-8550.

Sincerely,



Jeffrey K. Eng, Director  
bab

cc: Engineering Division

**Attachments:**

Attachment 1: "A Checklist of Water Conservation Ideas for Industrial and Large Landscapes"  
Attachment 2: Plant Brochure, "Saving Water in the Yard"

# A Checklist of Water Conservation Ideas For

## Industrial & Large Landscapes

*This checklist provides water conservation tips successfully implemented by industrial and commercial users. This list has been revised from the original copy first published and distributed by the Los Angeles Department of Water and Power and the Water Efficiency Manual by the North Carolina Department of Environment and Natural Resources.*

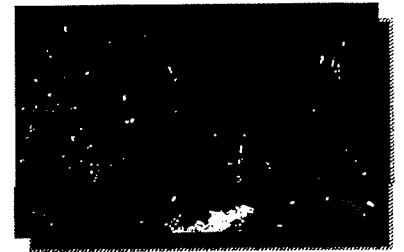
### ➔ START A WATER CONSERVATION PROGRAM

- Increase employee awareness of water conservation.
- Install signs encouraging water conservation in employee and customer restrooms.
- When cleaning with water is necessary, use budgeted amounts.
- Read water meter weekly to monitor success of water conservation efforts.
- Assign an employee to monitor water use and waste.
- Seek employee suggestions on water conservation; put suggestion boxes in prominent areas.
- Determine the quantity and purpose of water being used.
- Determine other methods of water conservation.
- Conduct contests for employees (e.g., posters, slogans, or conservation ideas).

### ➔ PLANNING AND DESIGN

- Consider the following:
  - Physical conditions (drainage, soil type, sun/shade, etc.) and the use of the site (foot traffic, recreation, viewing, etc.)

- Creating shade areas, which can be 20 degrees cooler than non-shaded areas, decreasing evaporation.
- Grass areas only where needed; avoid small areas under 10 feet wide.
- Permeable materials such as porous concrete or permeable paving methods.
- Grading and directing surface run-off and rainfall gutters to landscaped areas as opposed to drainageways that exit the property.



- Incorporate high water demanding plants at the bottom of slopes, and maintain the use of existing trees, plants, and wildlife in the area during planning.
- Minimize the use of impermeable surfaces to lessen runoff and resulting stormwater pollution.
- Identify water source points.
- Develop a schematic of all water entry points (know where your faucets, time clocks, solenoids, booster pumps, sprinklers and bubblers are located).

- Identify capacity of each water-carrying unit and frequency of use.
- Determine specific use for each entry source.

### ➔ ANALYZE AND IMPROVE SOIL CONDITIONS

- Test the soil quality, nutrients and absorptive capacity, and then select plants based on findings. Adjust the pH level if necessary.
- Use organic matter (compost, mulch or manure) to increase the soil's water holding capacity. This helps improve water distribution and lowers levels of evaporation.
- When improving the soil of a given area, remember to treat a larger area around the planting to allow ample space for root systems.
- Prevent heavy construction equipment from compacting soil in areas around trees or other sensitive habitats.

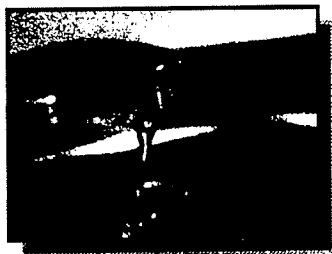
### ➔ PLANT SELECTION

- Choose native, climate-appropriate species.
- Consider plants' water demand, pest tolerance, soil nutrient and drainage requirements.

### ➔ INTERIOR AREAS

- Discontinue continuous flow.
- Use ponded water where available.
- Adjust flows to reduce discharge of water.

- Install water-saving devices to decrease water consumption – restrooms (toilet dams and flappers), faucets (aerators), cooling systems.



- Retrofit toilets with high efficiency models that use 1.28 gallons per flush or less.

- Retrofit urinals with high efficiency models that use 0.5 gallons per flush.
- Install showerheads with a flow rate of 1.5 gpm at 60 psi or less in all units.
- Retrofit bathroom sink faucets with fixtures that do not exceed 1 gpm at 60 psi.

- Use recycling systems for chillers and cooling towers.
- Consider installing energy-and-water-efficient air conditioning equipment.

### ➔ MAINTENANCE PROCEDURES

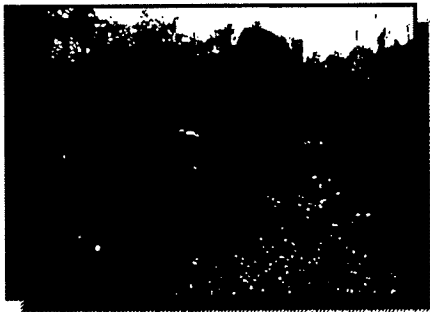
- Sweep materials from floor instead of washing down whenever possible.
- Instruct clean-up crews to use less water where appropriate.
- Check water supply system for leaks.
- Repair dripping faucets and continuously-running or leaking toilets.

### ➔ DESIGN CRITERIA FOR TURF AND LANDSCAPE AREAS

- Contact the Department of Water Resources or your local water supplier about possible landscape water auditor classes for managers.
- Hire a landscape architect with water conservation and xeriscape experience.
- Use turf only where actually necessary: Immediate picnic areas/outside lunch areas and golf course target areas (greens, tees, landing areas).
- Turfgrass should be cut to the maximum recommended height for its type (generally a minimum of two inches to a maximum of four inches) for most efficient water use.
- Use only low-water use plant material in non-turf areas.

- Drip irrigation and microsprays place water at the base of the plant. This reduces evaporation and saves water by not soaking the entire ground surface. This works for trees, shrubs, and groundcovers.

- Use automatic irrigation systems monitored by moisture probes (i.e. tensiometer s), and rain shut-off devices to cut power off during rain.

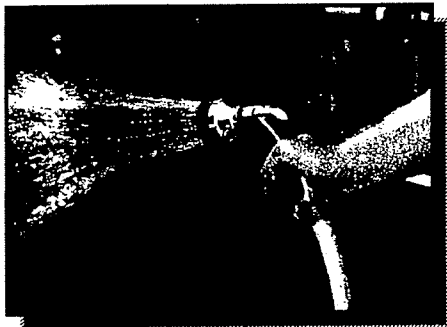


- Design dual watering systems with sprinklers for turf and low-volume irrigation for plants, trees, and shrubs. Operate sprinkler system before sunrise and after sunset. Amount of irrigation can be determined by the evapotranspiration rate, which DWR can help you determine.
- Use properly-treated waste water for irrigation where available.

## ➔ EXTERIOR AREAS

- Regular aeration of clay soils will improve water holding capabilities and prevent runoff.
- Discontinue using water to clean sidewalks, tennis courts, pool decks, driveways, and parking lots.
- Make sure irrigation water does not run onto streets or into alleys. Adjust sprinklers to water only plants and not sidewalks or roads.
- Use the same size nozzle when replacement is needed. Sprinklers should be replaced with the same brand of sprinklers. Spray heads are aligned with grade.

- Replace worn spray nozzles.
- Regulate pressure properly for system demands.



- Make sure rotors or spray heads are mounted correctly. Replace with proper unit for the job.
- Post a current controller schedule inside the door of the controller.
- Check for leaking valves.
- Adjust the operating time (runtimes) of the sprinklers to meet appropriate seasonal or monthly requirements.
- Check plant leaves and take soil samples to confirm proper system functioning.
- Look into alternative sources for irrigation water (i.e. the use of wells as opposed to city water, water reuse operations from air conditioning condensate, storm water retention ponds, or cisterns, non-contact cooling water).
- Use dedicated water meters to monitor landscaping water use.
- Have a catchment/distribution uniformity test performed on-site to determine how evenly water is applied when sprinklers are in use.

*For more information, contact:*

**Maui County Department of Water Supply  
Water Resources and Planning Division**

59 Kanoa Street Wailuku, HI 96793

Telephone: (808) 244-8550

FAX: (808) 244-6701



MICHAEL T. MILLER  
GWYN O'HABRI HIRAGA  
MIFURU "MIGHT" HIRANO  
KAROLYN FLEET

MARIE ANN MULLER

March 15, 2011

Dave Taylor, Director  
Department of Water Supply  
200 South High Street  
Wailuku, Hawaii 96793

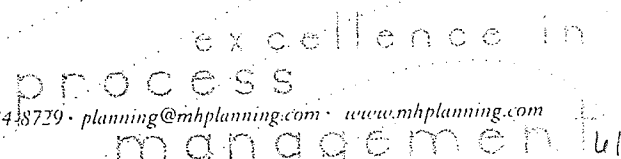
SUBJECT: Chapter 343, Hawaii Revised Statutes, Environmental Assessment Early Consultation Comments for the Proposed H.P. Baldwin High School Softball Field and Related Improvements at TMK (2) 3-8-007:004 (por.), Wailuku, Maui, Hawaii

Dear Mr. Taylor:

On behalf of the applicant, the Department of Education, we thank you for your Department's letter of October 11, 2010 responding to our request for early consultation comments. In response to your comments we are providing the following information:

1. The preliminary water calculations prepared by Austin, Tsutsumi & Associates, Inc. estimated the project will need approximately 110 gallons per day (gpd) of domestic water and 1,547 gpd of water for irrigation. At the time of building permit application, water calculations will be submitted to determine meter adequacy for the project. We acknowledge that there are no additional sources available on the Central Maui System which may result in a delay in the Department's issuance of water meters for new projects.
2. The water conservation measures recommended in your Department's letter will be reviewed and evaluated for implementation, where feasible.
3. The Best Management Practices (BMPs) suggested in your Department's letter will be reviewed and evaluated for inclusion in the overall BMP program for the project. Construction activities for the project will be conducted to minimize infiltration and runoff into the underlying Iao Aquifer.

A copy of the department's comment letter will be included in the Draft Environmental Assessment.



Dave Taylor, Director  
March 15, 2011  
Page 2

If additional clarification is required, please contact me at 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

cc: Duane Kashiwai, Administrator, Department of Education, Facilities Development  
Branch

Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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October 4, 2010

Ms. Erin Mukai - Planner  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Subject: H.P. Baldwin High School Softball Field and Related Improvements – Early  
Consultation  
Wailuku, Maui, Hawaii  
Tax Map Key: (2) 3-8-007: 004 (por.)

Dear Ms. Mukai,

Thank you for allowing us to comment on the Early Consultation for the subject project.

In reviewing our records and the information received, Maui Electric Company may be requiring access and electrical easements for our facilities to serve the subject project site. We highly encourage the customer to submit an electrical service request and electrical plans so that service can be provided on a timely basis.

Should you have any questions or concerns, please call me at 871-2341.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kyle Tamori', with a long horizontal line extending to the right.

Kyle Tamori  
Staff Engineer





MICHAEL F. MURPHY  
GWEN OHASHI MURPHY  
MITSURU "MIGHTY" HIRAGA  
KARLEEN FLETCHER

MARK ALLAN BROWN

March 15, 2011

Kyle Tamori, Staff Engineer  
Maui Electric Company, Ltd.  
P.O. Box 398  
Kahului, Hawaii 96733-6898

**SUBJECT:** Chapter 343, Hawaii Revised Statutes, Environmental Assessment  
Early Consultation Comments for the Proposed H.P. Baldwin High  
School Softball Field and Related Improvements at TMK (2) 3-8-  
007:004 (por.), Wailuku, Maui, Hawaii

Dear Mr. Tamori:

On behalf of the applicant, the Department of Education, we thank you for your letter dated October 4, 2010 responding to our request for early consultation comments. The electrical engineering consultant for the project will coordinate the project's power needs with Maui Electric Company. A copy of your comment letter will be included in the Draft Environmental Assessment.

If additional clarification is required, please contact me at 244-2015.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:tn

cc: Duane Kashiwai, Administrator, Department of Education, Facilities Development  
Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.  
Mark Rickard, ECM, Inc.

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**X. LETTERS RECEIVED  
DURING THE DRAFT  
ENVIRONMENTAL  
ASSESSMENT REVIEW  
PERIOD AND RESPONSES  
TO SUBSTANTIVE  
COMMENTS**

# X. LETTERS RECEIVED DURING THE DRAFT ENVIRONMENTAL ASSESSMENT REVIEW PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS

A Draft Environmental Assessment (EA) for the subject project was filed and published in the Office of the Environmental Quality Control's The Environmental Notice on April 8, 2011.

Comments on the Draft EA were received during the 30-day public comment period. Comments, as well as responses to substantive comments, are included in this chapter.

- |    |   |     |   |
|----|---|-----|---|
| 1. | Ranae Ganske-Cerizo, Soil Conservationist<br><b>Natural Resources Conservation Service</b><br><b>U.S. Department of Agriculture</b><br>77 Hookele Street, Suite 202<br>Kahului, Hawaii 96732    | 6.  | Loretta J. Fuddy, Director<br>State of Hawaii<br><b>Department of Health</b><br>919 Ala Moana Blvd., Room 300<br>Honolulu, Hawaii 96814                               |
| 2. | George Young<br>Chief, Regulatory Branch<br><b>U.S. Department of the Army</b><br>U.S. Army Engineer District, Honolulu<br>Regulatory Branch<br>Building 230<br>Fort Shafter, Hawaii 96858-5440 | 7.  | Alec Wong, P.E., Chief<br><b>Clean Water Branch</b><br>State of Hawaii<br><b>Department of Health</b><br>919 Ala Moana Blvd., Room 300<br>Honolulu, Hawaii 96814      |
| 3. | Loyal Mehrhoff, Field Supervisor<br><b>U. S. Fish and Wildlife Service</b><br>300 Ala Moana Blvd., Rm. 3-122<br>Box 50088<br>Honolulu, Hawaii 96813   | 8.  | Patti Kitkowski<br>Acting District Environmental Health<br>Program Chief<br>State of Hawaii<br><b>Department of Health</b><br>54 High Street<br>Wailuku, Hawaii 96793 |
| 4. | Bruce Coppa, Director<br><b>Department of Accounting and General Services</b><br>1151 Punchbowl Street, #426<br>Honolulu, Hawaii 96813  | 9.  | Lene Ichinotsubo<br>Environmental Management Division<br>State of Hawaii<br><b>Department of Health</b><br>919 Ala Moana Blvd., Room 212<br>Honolulu, Hawaii 96814    |
| 5. | Alapaki Nahale-a, Chairman<br><b>Department of Hawaiian Home Lands</b><br>P.O. Box 1879<br>Honolulu, Hawaii 96805   | 10. | William J. Aila, Jr., Chairperson<br>State of Hawaii<br><b>Department of Land and Natural Resources</b><br>P. O. Box 621<br>Honolulu, Hawaii 96809                    |

11. Dr. Puaalaokalani Aiu, Administrator  
State of Hawaii  
**Department of Land and Natural Resources**  
State Historic Preservation Division  
601 Kamokila Blvd., Room 555  
Kapolei, Hawaii 96707
12. Morgan Davis  
**Department of Land and Natural Resources**  
State Historic Preservation Division  
130 Mahalani Street  
Wailuku, Hawaii 96793
13. Glenn Okimoto, Director  
State of Hawaii  
**Department of Transportation**  
869 Punchbowl Street  
Honolulu, Hawaii 96813  
  
cc: Ferdinand Cajigal
14. Major General Darryll Wong, Director  
**Hawaii State Civil Defense**  
3949 Diamond Head Road  
Honolulu, Hawaii 96816-4495
15. Clyde Nāmu`o, Administrator  
**Office of Hawaiian Affairs**  
711 Kapiolani Boulevard, Suite 500  
Honolulu, Hawaii 96813
16. Jesse Souki, Director  
State of Hawaii  
**Office of Planning**  
P.O. Box 2359  
Honolulu, Hawaii 96804
17. Jeffrey A. Murray, Chief  
County of Maui  
**Department of Fire and Public Safety**  
200 Dairy Road  
Kahului, Hawaii 96732
18. Jo-Ann Ridao, Director  
County of Maui  
**Department of Housing and Human Concerns**  
One Main Plaza  
2200 Main Street, Suite 546  
Wailuku, Hawaii 96793
19. Glenn Correa, Director  
County of Maui  
**Department of Parks and Recreation**  
700 Halia Nako Street, Unit 2  
Wailuku, Hawaii 96793
20. William Spence, Director  
County of Maui  
**Department of Planning**  
250 South High Street  
Wailuku, Hawaii 96793
21. Gary Yabuta, Chief  
County of Maui  
**Police Department**  
55 Mahalani Street  
Wailuku, Hawaii 96793
22. David Goode, Director  
County of Maui  
**Department of Public Works**  
200 South High Street  
Wailuku, Hawaii 96793
23. Kyle Ginoza, Director  
County of Maui  
**Department of Environmental Management**  
2200 Main Street, Suite 100  
Wailuku, Hawaii 96793
24. Jo Anne Johnson Winer  
County of Maui  
**Department of Transportation**  
200 South High Street  
Wailuku, Hawaii 96793
25. David Taylor, Director  
County of Maui  
**Department of Water Supply**  
200 South High Street  
Wailuku, Hawaii 96793
26. Honorable Mike Victorino  
**Maui County Council**  
200 South High Street  
Wailuku, Hawaii 96793
27. Dan Takahata, Manager - Engineering  
**Maui Electric Company, Ltd.**  
P.O. Box 398  
Kahului, Hawaii 96733
28. **Hawaiian Telcom**  
60 South Church Street  
Wailuku, Hawaii 96793

APR 28 2011

NEIL ABERCROMBIE  
GOVERNOR



BRUCE A. COPPA  
COMPTROLLER

RYAN T. OKAHARA  
DEPUTY COMPTROLLER

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

(P)1088.1

APR 27 2011

Ms. Colleen Suyama, Senior Associate  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Maui, Hawai'i 96793

Dear Ms. Suyama:

Subject: Draft Environmental Assessment (EA) for  
Proposed H.P. Baldwin High School Softball Field and Related Improvements  
Wailuku, Maui, Hawai'i  
TMK: (2) 3-8-007: 004 (por)

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

If you have any questions, please call me at 586-0400 or have your staff call Ms. Gayle Takasaki of the Public Works Division at 586-0584.

Sincerely,

Handwritten signature of Bruce A. Coppa in black ink.  
BRUCA A. COPPA  
State Comptroller



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

Bruce A. Coppa  
State Comptroller  
Department of Accounting and General Services  
P.O. Box 119  
Honolulu, Hawaii 96810-0119

SUBJECT: Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii

Dear Mr. Coppa:

Thank you for your letter of April 27, 2011 responding to our request for Draft Environmental Assessment comments on the proposed H.P. Baldwin High School Softball Field and Related Improvements Project.

We appreciate your review of the document and your conveying confirmation that the subject project does not impact any of the Department's projects or existing facilities.

Thank you for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Final EA.

Very truly yours,

Colleen Suyama  
Senior Associate

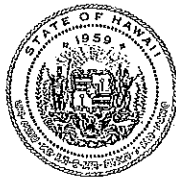
CS:lh

cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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APR 29 2011

NEIL ABERCROMBIE  
GOVERNOR  
STATE OF HAWAII



ALBERT "ALAPAKI" NAHALE-A  
CHAIRMAN  
HAWAIIAN HOMES COMMISSION

ROBERT J. HALL  
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOME LANDS

P.O. BOX 1879  
HONOLULU, HAWAII 96805

April 21, 2011

Ms. Colleen Suyama  
Senior Associate  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:

Subject: DRAFT ENVIRONMENTAL ASSESSMENT FOR PROPOSED  
H.P. BALDWIN HIGH SCHOOL SOFTBALL FIELD AND  
RELATED IMPROVEMENTS, WAILUKU, MAUI, HAWAII  
(TMK (2)3-8-007:004(POR.))

Thank you for the opportunity to review and provide comments  
on the subject matter. The Department of Hawaiian Home Lands  
has no comment to offer.

If you have any questions, please call our Planning Office at  
(808)620-9519.

Me ke aloha,

A handwritten signature in black ink, appearing to read "Albert Nahale-a".

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



MICHAEL T. MUNEKIYO  
GWEN DHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

Albert "Alapaki" Nahale-a, Chairman  
Department of Hawaiian Home Lands  
P.O. Box 1879  
Honolulu, Hawaii 96805

SUBJECT: Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii

Dear Chairman Nahale-a:

Thank you for your letter of April 21, 2011 responding to our request for Draft Environmental Assessment (EA) comments on the proposed H.P. Baldwin High School Softball Field and Related Improvements Project.

We appreciate your review of the document and your conveying confirmation that the Department has no comment at this time.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Final EA.

Very truly yours,

Colleen Suyama  
Senior Associate

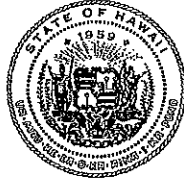
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cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
54 HIGH STREET  
WAILUKU, MAUI, HAWAII 96793-2102

MAY 10 2011

LORETTA J. FUDDY, A.C.S.W., M.P.H.  
DIRECTOR OF HEALTH

LORRIN W. PANG, M.D., M.P.H.  
DISTRICT HEALTH OFFICER

In reply, please refer to:  
File:

May 9, 2011

Ms. Colleen Suyama  
Senior Associate  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:

**Subject: Draft Environmental Assessment for Proposed H.P. Baldwin High School Softball Field and Related Improvements, Wailuku, Maui, Hawaii, [TMK: (2) 3-8-007:004 (por)]**

Thank you for the opportunity to review this project. We have the following comments to offer:

1. National Pollutant Discharge Elimination System (NPDES) permit coverage maybe required for this project. The Clean Water Branch should be contacted at 808 586-4309.
2. The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules (HAR), Chapter 11-46, "Community Noise Control." A noise permit may be required and should be obtained before the commencement of work.

Should you have any questions, please call me at 808 984-8230 or E-mail me at [patricia.kitkowski@doh.hawaii.gov](mailto:patricia.kitkowski@doh.hawaii.gov).

Sincerely,

A handwritten signature in black ink that reads "Patti Kitkowski".

Patti Kitkowski  
District Environmental Health Program Chief



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

Patti Kitkowski  
District Environmental Health Program Chief  
**Department of Health**  
54 High Street  
Wailuku, Hawaii 96793-2102

**SUBJECT:** Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii

---

Dear Ms. Kitkowski:

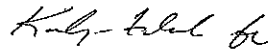
On behalf of the Department of Education (DOE), we thank you for your Department's letter of May 9, 2011 responding to our request for review of the Draft Environmental Assessment (EA). We offer the following information, which addresses your comments in the order listed in your letter.

1. As applicable, a National Pollutant Discharge Elimination System (NPDES) permit will be obtained prior to the initiation of construction.
2. As applicable, a noise permit will be obtained prior to the initiation of construction.

Patti Kitkowski  
June 6, 2011  
Page 2

We appreciate your review of the document. Thank you again for participating in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of your letter will be included in the Final EA.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:lh

cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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APR 07 2011

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



GARY HOOSER  
DIRECTOR

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL  
235 SOUTH BERETANIA STREET, SUITE 702  
HONOLULU, HI 96813

April 8, 2011

Colleen Suyama  
Senior Associate  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, HI 96793

Dear Ms. Suyama:

Subject: Draft Environmental Assessment, Baldwin High School Softball Field and Related Improvement, Wailuku, Maui

Thank you for the opportunity to comment on the subject draft environmental assessment. The Department of Education proposes the development of a softball practice field and related improvements on a 3.1-acre site on the Baldwin High School campus. The Office of Environmental Quality Control has no comments.

If you have any questions, please call Rebecca Alakai at 586-4185.

Sincerely,

Rebecca Alakai  
Rebecca Alakai  
Senior Planner



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

Gary Hooser, Director  
**Office of Environmental Quality Control**  
235 South Beretania Street, Suite 702  
Honolulu, Hawaii 96813

**SUBJECT:** Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii

Dear Mr. Hooser:

Thank you for your letter of April 8, 2011, responding to our request for Draft Environmental Assessment (EA) comments on the proposed H.P. Baldwin High School Softball Field and Related Improvements Project.

We appreciate your review of the document and your conveying confirmation that your office has no comment at this time.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Final EA.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:lh

cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

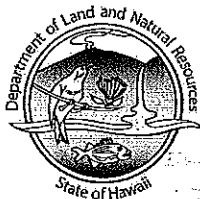
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MAY 10 2011

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



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



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

May 9, 2011

Munekiyo & Hiraga, Inc.  
305 High Street Suite 104  
Wailuku, Hawaii 96793

Attention: Ms. Colleen Suyama, Senior Associate

Ladies and Gentlemen:

Subject: Draft Environmental Assessment for Proposed H.P. Baldwin High School  
Softball Field and Related Improvements

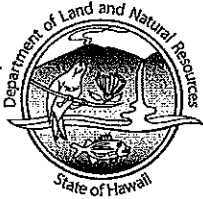
Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR), Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Division of Forestry & Wildlife, Engineering Division, 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,

A handwritten signature in cursive script, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji  
Administrator



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

April 13, 2011

MEMORANDUM

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

RECEIVED  
LAND DIVISION  
2011 APR 18 P 3:07  
DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

FROM: *Charlene Unoki*  
Charlene Unoki, Assistant Administrator  
SUBJECT: Draft Environmental Assessment for H.P. Baldwin High School Softball Field  
and Related Improvements  
LOCATION: Island of Maui  
APPLICANT: Munekiyo & Hiraga, Inc. on behalf of Department of Education

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by May 5, 2011.

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

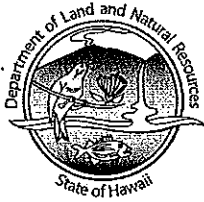
Attachments

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

Signed: *Paul J. Long*  
Date: 4/15/11



11 APR 14 AM 10:52 ENGINEERING



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

April 13, 2011

MEMORANDUM

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

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LAND DIVISION  
2011 MAY -9 A 9:57  
DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

*Charlene Unoki*

FROM: Charlene Unoki, Assistant Administrator  
SUBJECT: Draft Environmental Assessment for H.P. Baldwin High School Softball Field and Related Improvements  
LOCATION: Island of Maui  
APPLICANT: Munekiyo & Hiraga, Inc. on behalf of Department of Education

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by May 5, 2011.

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

Attachments

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

Signed: *[Signature]*  
Date: 5/10/11

RECEIVED  
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2011 MAY -9 A 10:07  
DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII



**DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION**

**LD/ Charlene Unoki**

**Ref.: DEAforH.P.BaldwinHSSsoftballField&RelatedImprovementuis**

**Maui.005**

**COMMENTS**

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

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

- Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.
  - Mr. Carter Romero at (808) 961-8943 of the County of Hawaii, Department of Public Works.
  - Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.
  - Ms. Wynne Ushigome at (808) 241-4890 of the County of Kauai, Department of Public Works.
- The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
  - The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.**

Additional Comments: \_\_\_\_\_

Other: \_\_\_\_\_

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

Signed:   
CARTY S. CHANG, CHIEF ENGINEER

Date: 5/4/11



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

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

**SUBJECT:** Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii

Dear Mr. Tsuji:

On behalf of the Department of Education (DOE), we thank you for your Department's letter of May 9, 2011 responding to our request for review of the Draft Environmental Assessment (EA). We offer the following information, which addresses comments from the Engineering Division in the order listed in your letter.

1. The Final EA includes the Flood Insurance Rate Map designation of Flood Zone X for the project site.
2. Please note that the preliminary water demand calculation was included in the Preliminary Engineering Report (Appendix "B") in the Draft EA. The estimated water demand for the project is 4, 819 gallons per day, including irrigation use.

Russel Tsuji, Administrator  
June 6, 2011  
Page 2

We appreciate your review of the document. Thank you again for participating in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of your letter will be included in the Final EA.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:lh

cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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NEIL ABERCROMBIE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO  
DIRECTOR

Deputy Directors  
FORD N. FUCHIGAMI  
JAN S. GOUVEIA  
RANDY GRUNE  
JADINE URASAKI

IN REPLY REFER TO:

STP 8.0422

May 11, 2011

Ms. Colleen Suyama  
Senior Associate  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:

Subject: Baldwin High School Softball Field and Related Improvements  
Draft Environmental Assessment (DEA)

Thank you for requesting the State Department of Transportation's (DOT) review of the subject project.

DOT previously commented on the subject case during the early consultation period in its letter STP 8.0263 dated October 20, 2010 (see Section IX of the DEA). DOT's additional comments based on the subject DEA are as follows:

1. DOT does not anticipate any significant adverse impacts to the State transportation facilities. However, the applicant is required to obtain a permit from DOT Highways Division, Maui District Office, to transport oversize and overweight equipment/loads within the State highways facilities.
2. Any changes to the proposed project plans that may impact traffic operations on the State highway facilities in the area must be submitted to the Highways Division for prior review and approval.

DOT appreciates the opportunity to provide comment. If there are any questions or the need to meet with DOT staff, please contact Mr. David Shimokawa of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Very truly yours,

  
GLENN M. OKIMOTO, Ph.D.  
Director of Transportation



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

Glenn M. Okimoto, Ph.D., Director  
**Department of Transportation**  
869 Punchbowl Street  
Honolulu, Hawaii 96813-5097

**SUBJECT:** Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii, STP 8.0422

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Dear Mr. Okimoto:

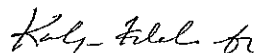
On behalf of the Department of Education (DOE), we thank you for your Department's letter of May 11, 2011 responding to our request for review of the Draft Environmental Assessment (EA). We offer the following information, which addresses your comments in the order listed in your letter.

1. As applicable, a permit from the State Department of Transportation Highways Division, Maui District Office will be obtained to transport oversize and overweight equipment/loads within the State highway facilities.
2. As applicable, any changes to the proposed project plans that may impact traffic operations on the State highway facilities in the area will be submitted to the Highways Division for review and approval.

Glenn M. Okimoto, Ph.D., Director  
June 6, 2011  
Page 2

We appreciate your review of the document. Thank you again for participating in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of your letter will be included in the Final EA.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:lh

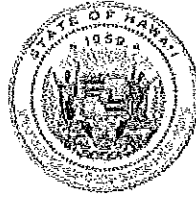
cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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NEIL ABERCROMBIE  
GOVERNOR

MAJOR GENERAL DARRYLL D. M. WONG  
DIRECTOR OF CIVIL DEFENSE

EDWARD T. TEIXEIRA  
VICE DIRECTOR OF CIVIL DEFENSE



MAY 09 2011



PHONE (808) 733-4300  
FAX (808) 733-4287

**STATE OF HAWAII**  
**DEPARTMENT OF DEFENSE**  
**OFFICE OF THE DIRECTOR OF CIVIL DEFENSE**  
3949 DIAMOND HEAD ROAD  
HONOLULU, HAWAII 96816-4495

May 5, 2011

Ms. Colleen Suyama, Senior Associate  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawai'i 96793

Dear Ms. Suyama:

Draft Environmental Assessment for Proposed H.P. Baldwin High School  
Softball Field and Related Improvements, Wailuku, Maui, Hawaii


Thank you for the opportunity to comment on this Draft Environmental Assessment.

We strongly recommend that mitigation measures be considered in the planning and design phase of any new construction, as mitigation prevents loss of life, minimizes loss of property, and provides for continuity of essential services. Generally, the cost of integrating mitigation measures during construction is approximately one-third the cost of post-construction retrofit.

We defer to the appropriate State and Federal agencies as to the appropriateness of proposed mitigation measures for any archeological, cultural, historical and environmental impacts.

We anticipate reviewing the Final Environmental Assessment when it is available. If you have any questions, please call Ms. Havinne Okamura, Hazard Mitigation Planner, at (808)733-4300, extension 556.

Sincerely,

  
EDWARD T. TEIXEIRA  
Vice Director of Civil Defense



MICHAEL T. MUNEKIYO  
EWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

Edward T. Teixeira  
Vice Director  
**Department of Defense**  
Office of the Director of Civil Defense  
3949 Diamond Head Road  
Honolulu, Hawaii 96816-4495

**SUBJECT:** Response to Draft Environmental Assessment Comment Letter Regarding Proposed H.P. Baldwin High School Softball Field and Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui, Hawaii

Dear Mr. Teixeira:

On behalf of the Department of Education (DOE), we thank you for the Department's letter of May 5, 2011 responding to our request for review of the Draft Environmental Assessment (EA). As recommended we have coordinated appropriate mitigation measures with the various agencies with respect to archaeological, cultural historical and environmental impacts which are included in the Final EA. Additionally, per phone conference with Havinne Okamura of your office, a copy of the Final EA will not be sent to your office for review. A link to the Office of Environmental Quality Control's website was provided to Ms. Okamura for the Final EA.

We appreciate your review of the document. Thank you again for participating in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of your letter will be included in the Final EA.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:lh

cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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DEPARTMENT OF  
**HOUSING AND HUMAN CONCERNS**  
HOUSING DIVISION  
COUNTY OF MAUI

**MAY 09 2011**

ALAN M. ARAKAWA  
Mayor

JO-ANN T. RIDAO  
Director

JAN SHISHIDO  
Deputy Director

---

35 LUNALILO STREET, SUITE 102 • WAILUKU, HAWAII 96793 • PHONE (808) 270-7351 • FAX (808) 270-6284

May 3, 2011

Ms. Colleen Suyama, Senior Associate  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:

**Subject: Draft Environmental Assessment for the Proposed H.P.  
Baldwin High School Softball Field and Related Improvements  
at Wailuku, Maui, Hawaii.  
TMK (2)3-8-007:004(por.)**

The Department has reviewed the Draft Environmental Assessment for the above subject project. Based on our review, we have determined that the subject project is not subject to Chapter 2.96, Maui County Code. At the present time, the Department has no additional comments to offer.

Please call Mr. Buddy Almeida of our Housing Division at (808) 270-5746 if you have any questions.

Sincerely,

WAYDE T. OSHIRO  
Housing Administrator

cc: Director of Housing and Human Concerns



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

Wade T. Oshiro  
Housing Administrator  
**Department of Housing and Human Concerns**  
Housing Division  
35 Lunalilo Street, Suite 102  
Wailuku, Hawaii 96793

**SUBJECT:** Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii

---

Dear Mr. Oshiro:

On behalf of the Department of Education (DOE), we thank you for your Department's letter of May 3, 2011 responding to our request for review of the Draft Environmental Assessment (EA). We appreciate your determination that the project is not subject to Chapter 2.96, Maui County Code.

We appreciate your review of the document. Thank you again for participating in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of your letter will be included in the Final EA.

Very truly yours,

Colleen Suyama  
Senior Associate

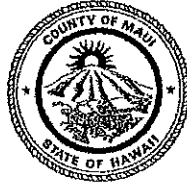
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cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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MAY 10 2011

ALAN M. ARAKAWA  
Mayor



GLENN T. CORREA  
Director

PATRICK T. MATSUI  
Deputy Director

(808) 270-7230  
FAX (808) 270-7934

**DEPARTMENT OF PARKS & RECREATION**

700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawaii 96793

May 4, 2011

Colleen Suyama, Senior Associate  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:

**SUBJECT: Draft Environmental Assessment for the Proposed H.P. Baldwin High School Softball Field and Related Improvements, Wailuku, Maui, Hawai'i (TMK (2) 3-8-007:004(por.))**

Thank you for the opportunity to review and comment on the subject project. The Department of Parks & Recreation has no comments at this time, and looks forward to reviewing the Environmental Assessment when it is available.

Please feel free to contact me or Robert Halvorson, Chief of Planning and Development, at 270-7931, should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "GLENN T. CORREA".

GLENN T. CORREA  
Director of Parks & Recreation

c: Robert Halvorson, Chief of Planning and Development, TA

GTC:RH:as



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

Glenn Correa, Director  
Department of Parks & Recreation  
700 Hali'a Nakoa Street, Unit 2  
Wailuku, Hawaii 96793

**SUBJECT:** Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii

Dear Mr. Correa:

On behalf of the Department of Education (DOE), we thank you for your Department's letter of May 4, 2011 responding to our request for review of the Draft Environmental Assessment (EA) which was published in the Office of Environmental Quality Control's Environmental Notice of April 8, 2011. We appreciate your conveying confirmation that your Department has no comments at this time. The Final EA will be available online at the Office of Environmental Quality Control's website at the time of publication.

We appreciate your review of the document. Thank you again for participating in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of your letter will be included in the Final EA.

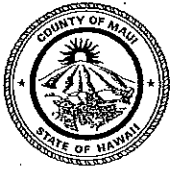
Very truly yours,

Colleen Suyama  
Senior Associate

CS:lh

cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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ALAN M. ARAKAWA  
MAYOR

OUR REFERENCE  
YOUR REFERENCE

**POLICE DEPARTMENT**  
COUNTY OF MAUI

55 MAHALANI STREET  
WAILUKU, HAWAII 96793  
(808) 244-6400  
FAX (808) 244-6411

MAY 10 2011



GARY A. YABUTA  
CHIEF OF POLICE

CLAYTON N.Y.W. TOM  
DEPUTY CHIEF OF POLICE

May 5, 2011

Ms. Colleen Suyama  
Senior Associate  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, HI 96793

Dear Ms. Suyama:

SUBJECT: DEA for Proposed H.P. Baldwin High School Softball Field and  
Related Improvements  
TMK (2) 3-8-007:004 (por.)

This is in response to the request for comments on the above subject.

We have reviewed the information submitted for this project and have submitted our comments and/or recommendations. Thank you for giving us the opportunity to comment on this project.

Very truly yours,

  
Assistant Chief Danny Matsuura  
for: Gary A. Yabuta  
Chief of Police

c: William Spence, Planning Department

# COPY

TO : GARY YABUTA, CHIEF OF POLICE, COUNTY OF MAUI  
VIA : CHANNELS  
FROM : MARK VICKERS, SERGEANT, VISITOR ORIENTED POLICE  
SUBJECT : RESPONSE FOR DRAFT ENVIRONMENTAL ASSESSMENT:  
PROPOSED H.P. BALDWIN HIGH SCHOOL SOFTBALL FIELD AND RELATED  
IMPROVEMENTS PROJECT

*Ac D. D. O. W. B. M.*  
*5/5/11*

This communication is submitted as a response to a request for review and comment for an \_\_\_\_\_ environmental assessment from Colleen Suyama, Senior Associate of Munekiyo & Hiraga, Inc., regarding:

PROJECT : H.P. Baldwin High School Softball Field and Related Improvements  
TMK # : (2) 3-8-007:004(por)  
APPLICANT : State of Hawaii, Department of Education  
CONSULTANT : Munekiyo & Hiraga, Inc.

**RESPONSE:**

In review of the submitted documents, concerns from the police perspective are upon the safety of pedestrian and vehicular movement.

The specified project's location is on the property as provided by the TMK number above which encompasses both projects of the proposed H.P. Baldwin High School Softball Field and Related Improvements. The project is located on the H.P. Baldwin High School campus in Wailuku, Maui, Hawaii. This campus is bounded by Kaahumanu Avenue to the south, the War Memorial Complex to the east, portions of the War Memorial Complex, Liholiho Street, the Wailuku U.S. Army Reserve Center and the Boy Scouts of America offices to the west.

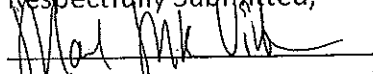
As noted in the Traffic Assessment prepared by Keith NIIYA, Chief Transportation/Traffic Engineer of AUSTIN, TSUTSUMI & ASSOCIATES, INC., this project does not meet the required minimum trip generation criteria of 100 new trips in peak direction in order to prepare a Traffic Impact Assessment Report. This project's overall net impact will be the redistribution of existing trips traveling in the vicinity of the project and Keopuolani Field (where the H.P. Baldwin High School Girl's softball team currently practices).

*NO CONCERNS OR  
OBJECTIONS AT  
THIS TIME*  
*[Signature]*  
*5/5/11*

**CONCLUSION:**

There are no objections to the progression of this project at this time, from the police standpoint, in regards to pedestrian and vehicular movement.

Respectfully Submitted,



Sgt. Mark MK Vickers 10046

Visitor Oriented Police

May 5, 2011 @ 0845 Hours



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

Chief Gary Yabuta  
**Maui Police Department**  
County of Maui  
55 Mahalani Street  
Wailuku, Hawaii 96793

**SUBJECT:** Response to Draft Environmental Assessment Comment Letter Regarding Proposed H.P. Baldwin High School Softball Field and Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui, Hawaii

---

Dear Chief Yabuta:

On behalf of the Department of Education (DOE), we thank you for your Department's letter of May 5, 2011 responding to our request for review of the Draft Environmental Assessment (EA). We appreciate your review of the document and your conveying confirmation that your Department has no objections to the progression of the subject project at this time.

We appreciate your review of the document. Thank you again for participating in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of your letter will be included in the Final Environmental Assessment (EA).

Very truly yours,

Colleen Suyama  
Senior Associate

CS:lh

cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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MAY 10 2011

ALAN M. ARAKAWA  
Mayor

DAVID C. GOODE  
Director

ROWENA M. DAGDAG-ANDAYA  
Deputy Director

Telephone: (808) 270-7845  
Fax: (808) 270-7955



COUNTY OF MAUI  
**DEPARTMENT OF PUBLIC WORKS**  
200 SOUTH HIGH STREET, ROOM NO. 434  
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.  
Development Services Administration

CARY YAMASHITA, P.E.  
Engineering Division

BRIAN HASHIRO, P.E.  
Highways Division

May 6, 2011

Ms. Colleen Suyama, Senior Associate  
MUNEKIYO & HIRAGA, INC.  
305 High Street, Suite 104  
Wailuku, Maui, Hawaii 96793

Dear Ms. Suyama:

**SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE  
PROPOSED BALDWIN HIGH SCHOOL SOFTBALL FIELD AND  
RELATED IMPROVEMENTS; TMK: (2) 3-8-007:004 (POR.)**

We reviewed the subject application and have the following comments:

1. The applicant shall be responsible for all required improvements as required by Hawaii Revised Statutes, Maui County Code and rules and regulations.
2. As applicable, construction plans shall be designed in conformance with Hawaii Standard Specifications for Road and Bridge Construction dated 2005 and Standard Details for Public Works Construction, 1984, as amended.
3. As applicable, worksite traffic-control plans/devices shall conform to Manual on Uniform Traffic Control Devices for Streets and Highways, 2003.

Please call Rowena M. Dagdag-Andaya at 270-7845 if you have any questions regarding this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Goode".

DAVID C. GOODE  
Director of Public Works

DCG:RMDA:ls

xc: Highways Division  
Engineering Division

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MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

David Goode, Director  
Department of Public Works  
200 South High Street  
Wailuku, Hawaii 96793

SUBJECT: Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii

Dear Mr. Goode:

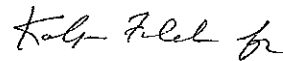
On behalf of the Department of Education (DOE), we thank you for your Department's letter of May 6, 2011 responding to our request for review of the Draft Environmental Assessment (EA). We offer the following information, which addresses your comments in the order listed in your letter:

1. We acknowledge that pursuant to Hawaii Revised Statutes (HRS), Maui County Code and rules and regulations all required improvements shall be the responsibility of the DOE.
2. We acknowledge, as applicable, construction plans shall be designed in conformance with Hawaii Standard Specifications for Road and Bridge construction dated 2005 and Standard Details for Public Works construction, 1984, as amended.
3. We acknowledge worksite traffic-control plans/devices shall conform to Manual on Uniform Traffic Control Devices for Streets and Highways.

David Goode, Director  
June 6, 2011  
Page 2

We appreciate your review of the document. Thank you again for participating in the Chapter 343, HRS, review process. A copy of your letter will be included in the Final EA.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:lh

cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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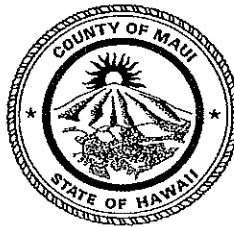
ALAN M. ARAKAWA  
Mayor

KYLE K. GINOZA, P.E.  
Director

MICHAEL M. MIYAMOTO  
Deputy Director

TRACY TAKAMINE, P.E.  
Solid Waste Division

ERIC NAKAGAWA, P.E.  
Wastewater Reclamation Division



**COUNTY OF MAUI  
DEPARTMENT OF  
ENVIRONMENTAL MANAGEMENT**  
2200 MAIN STREET, SUITE 100  
WAILUKU, MAUI, HAWAII 96793

June 1, 2011

Ms. Colleen Suyama  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

**SUBJECT: H.P. BALDWIN HIGH SCHOOL  
SOFTBALL FIELD AND RELATED IMPROVEMENTS  
DRAFT ENVIRONMENTAL ASSESSMENT  
TMK (2) 3-8-007:POR. OF 004, WAILUKU**

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:
  - a. None.
2. Wastewater Reclamation Division (WWRD) comments:
  - a. Although wastewater system capacity is currently available as of 6/1/2011, the developer should be informed that wastewater system capacity cannot be ensured until the issuance of the building permit.
  - b. Wastewater contribution calculations are required before building permit is issued.

If you have any questions regarding this memorandum, please contact Michael Miyamoto at 270-8230.

Sincerely,

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

KYLE K. GINOZA, P.E.  
Director of Environmental Management



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MIGH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

Kyle Ginoza, Director  
**Department of Environmental Management**  
County of Maui  
2200 Main Street, Suite 100  
Wailuku, Hawaii 96793

**SUBJECT:** Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii

---

Dear Mr. Ginoza:

On behalf of the Department of Education (DOE), we thank you for your letter of June 1, 2011 responding to our request for review of the Draft Environmental Assessment (EA).

We appreciate your review of the document and note that the Department of Education and its consultants will work with the Department of Environmental Management to provide wastewater contribution calculations with their building permit submittal.

Thank you for your participation in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of your letter will be included in the Final EA.

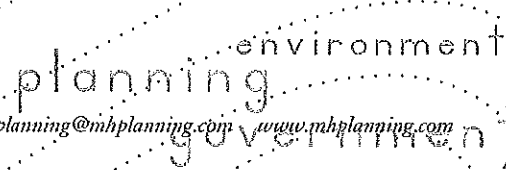
Very truly yours,

Colleen Suyama  
Senior Associate

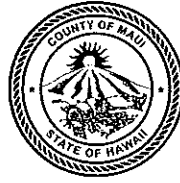
CS:lh

cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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ALAN M. ARAKAWA  
Mayor



APR 21 2011  
JO ANNE JOHNSON WINER  
Director  
MARC I. TAKAMORI  
Deputy Director  
Telephone (808) 270-7511

DEPARTMENT OF TRANSPORTATION

COUNTY OF MAUI  
200 South High Street  
Wailuku, Hawaii, USA 96793-2155

April 15, 2011

Ms. Colleen Suyama  
Munekiyo & Hiraga Inc.  
305 High Street, Suite 104  
Wailuku, Maui, Hawaii 96793

Subject: EA for Proposed Baldwin High School Softball Field Improvements

Dear Ms. Suyama,

Thank you for the opportunity to comment on this project. We have no comments to make at this time.

Please feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Jo Anne Johnson Winer".

Jo Anne Johnson Winer  
Director



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

Jo Anne Johnson Winer, Director  
**Department of Transportation**  
County of Maui  
200 South High Street  
Wailuku, Hawaii 96793

**SUBJECT:** Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii

---

Dear Ms. Johnson Winer:

Thank you for your letter of April 15, 2011, responding to our request for Draft Environmental Assessment (EA) comments on the proposed H.P. Baldwin High School Softball Field and Related Improvements Project.

We appreciate your review of the document and your conveying confirmation that the Department has no comment at this time.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Final EA.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:lh

cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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MAY 11 2011

ALAN M. ARAKAWA  
Mayor



DAVID TAYLOR, P.E.  
Director

PAUL J. MEYER  
Deputy Director

**DEPARTMENT OF WATER SUPPLY**  
**COUNTY OF MAUI**  
200 SOUTH HIGH STREET  
WAILUKU, MAUI, HAWAII 96793-2155  
www.mauewater.org

May 4, 2011

Ms. Colleen Suyama, Senior Associate  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Subject: Draft Environmental Assessment for Proposed H.P. Baldwin High School  
Softball Field and Related Improvements, Wailuku, Maui, Hawaii  
TMK: 3-4-007:004 (por.)

Dear Ms. Suyama,

Thank you for consulting with the Department of Water Supply on this Draft Environmental Assessment (EA). We note that our comment letter dated October 11, 2010 and your response letter dated March 15, 2011 are included in the Draft EA. We recommend that the conservation measures and best management practices outlined in our comment letter be evaluated and included in the Final EA for implementation.

Should you have any questions, please contact our Water Resources and Planning Division at 244-8550.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Taylor".

David Taylor, Director  
emb

*"By Water All Things Find Life"*







MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

David Taylor, P.E., Director  
**Department of Water Supply**  
County of Maui  
200 South High Street  
Wailuku, Hawaii 96793

**SUBJECT:** Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii

Dear Mr. Taylor:

Thank you for your letter of May 4, 2011, responding to our request for Draft Environmental Assessment (EA) comments on the proposed H.P. Baldwin High School Softball Field and Related Improvements Project.

Your recommendation that conservation measures and best management practices outlined in your previous comment letter dated October 11, 2010 has been forwarded to the Department of Education for consideration. It is noted that low-flow fixtures will be installed in the restroom and that the irrigation system installed for the field itself will be minimized to conserve water usage.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes (HRS) review process. A copy of your letter will be included in the Final EA.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:lh

cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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April 18, 2011

Ms. Colleen Suyama, Senior Associate  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Subject: H.P. Baldwin High School Softball Field and Related Improvements – Draft  
Environmental Assessment  
Wailuku, Maui, Hawaii  
Tax Map Key: (2) 3-8-007: 004 (por.)

Dear Ms. Suyama,

Thank you for allowing us to comment on the Draft Environmental Assessment for the subject project.

In reviewing our records and the information received, Maui Electric Company has no additional comments to the subject project at this time.

Should you have any questions or concerns, please call me at 871-2341.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kyle Tamori', followed by a long horizontal line extending to the right.

Kyle Tamori  
Staff Engineer



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

June 6, 2011

Kyle Tamori, Staff Engineer  
**Maui Electric Company, Ltd.**  
P.O. Box 398  
Kahului, Hawaii 96732

**SUBJECT:** Response to Draft Environmental Assessment Comment Letter  
Regarding Proposed H.P. Baldwin High School Softball Field and  
Related Improvements at TMK (2)3-8-007:004(por.), Wailuku, Maui,  
Hawaii

---

Dear Mr. Tamori:

Thank you for your letter of April 18, 2011, responding to our request for Draft Environmental Assessment comments on the proposed H.P. Baldwin High School Softball Field and Related Improvements Project.

We appreciate your review of the document and your conveying confirmation that Maui Electric Company has no comments at this time.

Thank you for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Final EA.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:lh

cc: Cheng-Hsin Chang, Department of Education, Facilities Development Branch  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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## **XI. REFERENCES**

## XI. REFERENCES

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County of Maui, The 2030 County Wide Policy Plan, 2010.

County of Maui, Wailuku-Kahului Community Plan, December 2002.

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Maui County Planning Department, Socio-Economic Forecast: The Economic Projections for the Maui County General Plan 2030, June 2006.

Munekiyo & Hiraga, Inc., Application for Special Management Area Use Permit -Maui Community College Swap Meet Improvements, September 2007.

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PB Americas, Inc., Traffic Evaluation Study for Baldwin High School, 2009.

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State of Hawaii, Department of Business, Economic Development and Tourism (DBEDT), State Data Book, 2009.

State of Hawaii, Department of Labor and Industrial Relations, Hawaii Workforce Informer, hiwi.org, May 2011.

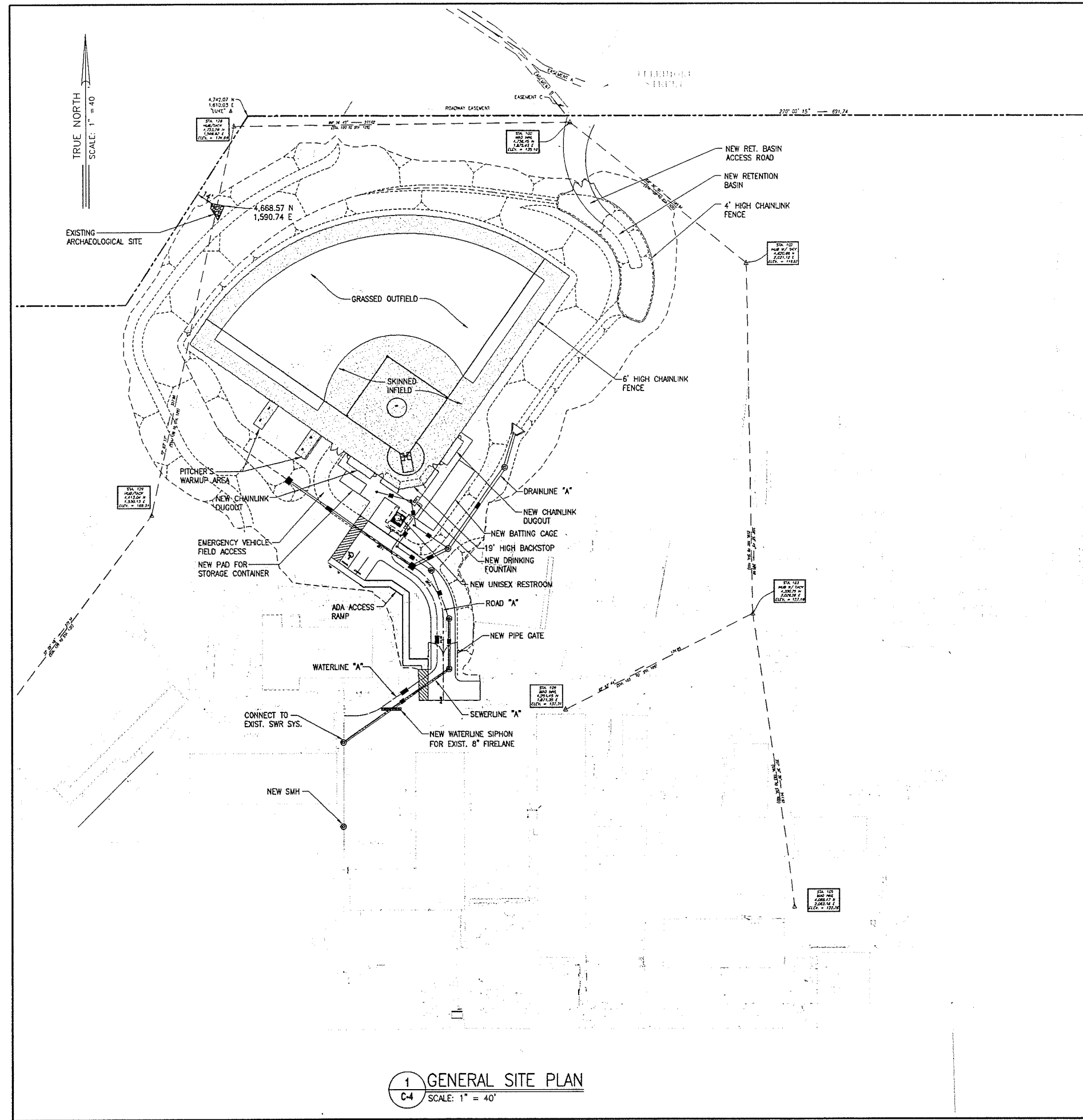
University of Hawaii at Hilo, Department of Geography, Atlas of Hawaii, Third Edition, 1998.

U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii, August 1972.

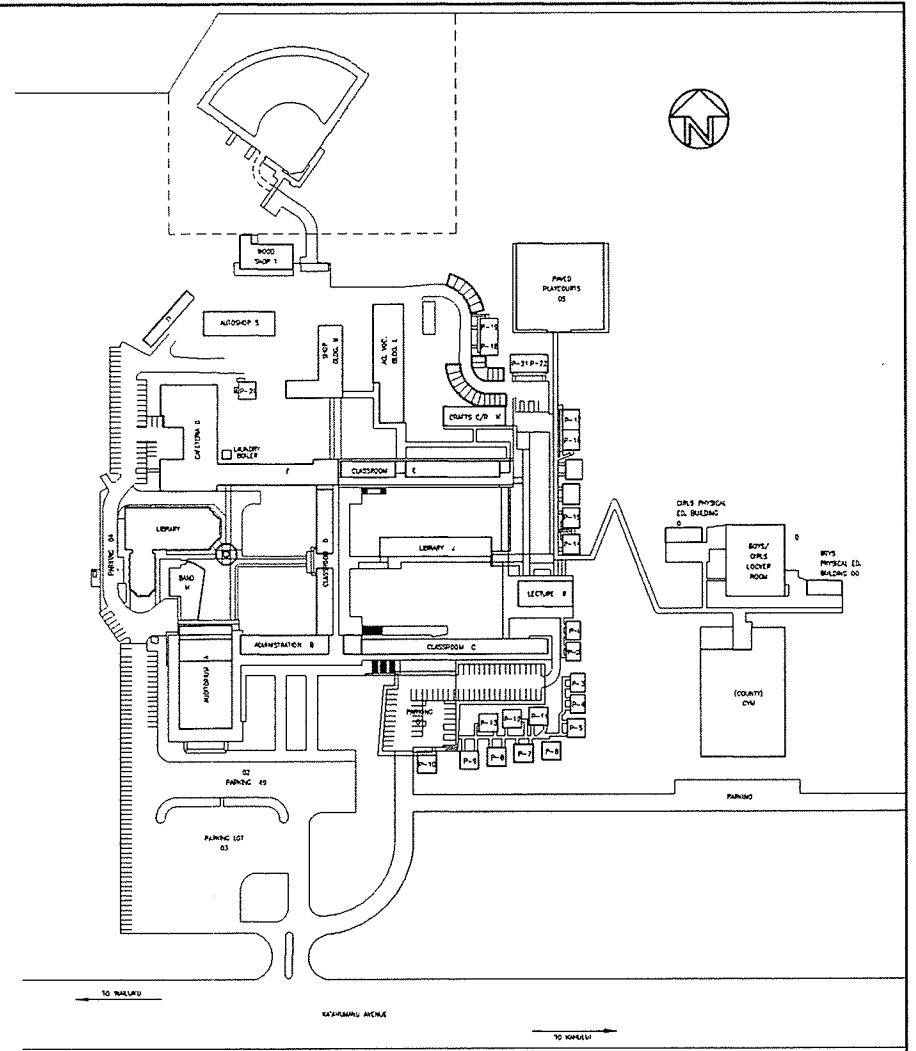
Xamanek Researches, LLC, Maui Lani Shopping Center Archaeological Inventory Survey Report on Maui Lani Lot 11-4, June 1997.

# **APPENDIX A.**

## **Project Plans**

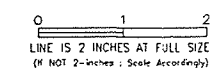


**1 GENERAL SITE PLAN**  
 C-4 SCALE: 1" = 40'



**2 VICINITY MAP**  
 C-4 SCALE: NTS

FORM 1	DATE	PROJECT	SCALE	SHEET
		BALDWIN HIGH SCHOOL		1 OF 1
<b>DEPARTMENT OF EDUCATION</b> <b>STATE OF HAWAII</b> <b>BALDWIN HIGH SCHOOL</b> <b>SOFTBALL FIELD</b> <b>WAILUKU, MAUI, HAWAII</b> <b>GENERAL SITE PLAN</b>				
<small>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THE PROJECT SHALL BE UNDER MY OBSERVATION AS DEFINED IN SECTION 15-115.2, HAWAII ADMINISTRATIVE RULES, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, STATE OF HAWAII. PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.</small>		LICENSE NO. 11223 EXPIRES: APRIL 30, 2012	PROJECT NO. <b>Q00024-06</b>	SHEET NO. <b>C-4</b>
DESIGNER <b>AUSTIN, TSUTSUMI &amp; ASSOCIATES INC.</b>	CLIENT <b>STATE OF HAWAII</b>	DATE <b>20 DEC 2010</b>	SCALE <b>AS NOTED</b>	SHEET <b>1 OF 1</b>



## **APPENDIX B.**

# **Preliminary Engineering and Drainage Report**



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# PRELIMINARY ENGINEERING AND DRAINAGE REPORT FOR BALDWIN HIGH SCHOOL SOFTBALL FIELD

WAILUKU, MAUI, HAWAII  
TMK: (2) 3-8-07: 004

February 2011

Prepared for:

State of Hawaii  
Department of Education  
Facilities Development Branch  
1151 Punchbowl Street, Room 431  
Honolulu, Hawaii 96814

Prepared by:



*Austin Tsutsumi & Associates, Inc.*

Civil Engineers • Surveyors

1871 Wili Pa Loop, Suite A

Wailuku, Maui, Hawaii 96793

Telephone: (808) 244-8044

Fax: (808) 242-9163

Honolulu • Wailuku • Hilo, Hawaii

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**PRELIMINARY ENGINEERING AND DRAINAGE REPORT  
FOR  
BALDWIN HIGH SCHOOL SOFTBALL FIELD**

WAILUKU, MAUI, HAWAII

TMK: (2) 3-8-07: 004

Prepared for:

**State of Hawaii**

**Department of Education**

**Facilities Development Branch**

1151 Punchbowl Street, Room 431

Honolulu, Hawaii 96814

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Civil Engineers • Surveyors

Honolulu • Wailuku • Hilo, Hawaii

February 2011

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**PRELIMINARY ENGINEERING AND DRAINAGE REPORT  
FOR  
BALDWIN HIGH SCHOOL SOFTBALL FIELD**

**I. INTRODUCTION**

The purpose of this report is to provide an overview of the preliminary civil engineering design of the Baldwin High School Softball Field project. This report evaluates existing site conditions and presents proposed site grading, drainage, water, wastewater, and roadway improvements.

**II. PROPOSED PROJECT**

**A. LOCATION**

The Baldwin High School Softball Field project is located in Wailuku, Maui, Hawaii within an undeveloped area of the existing Baldwin High School campus. It has a Tax Map Key of (2) 3-8-007: 004. The project site is bordered by an existing residential subdivision to the north, and vacant land to the west, with the exception of the Boy Scouts of America's office. Existing parts of the campus are located to the south and east of the project site. Refer to Exhibit 1 for the Location and Vicinity Map.

**B. PROJECT DESCRIPTION**

The developer of the project is the State of Hawaii Department of Education (DOE). The project consists of the construction of a new softball field with dugouts, a batting cage, unisex restroom and the construction of a small parking lot. The project will also provide ADA access from other parts on campus to the field. Construction is planned to begin in 2011. Site work includes excavation and embankment of site, construction of an access roadway, walkways, installation of service utilities including water, sewer, underground electrical, and a drainage system.

### III. EXISTING CONDITIONS

#### A. TOPOGRAPHY AND SOIL CONDITIONS

The ground surface of the site is currently covered with overgrown brush, weeds and kiawe trees. The project site generally slopes from a west to east direction with an average slope of approximately 11 percent. Onsite elevations range from 170 to 128 feet mean sea level (MSL). A topographic survey of the subject parcel was conducted by Austin, Tsutsumi & Associates Inc.

The soil classification found on the project site is classified as Puuone Series, Puuone Sand (PZUE). This soil consists of excessively drained soils on low uplands. Elevations range from 50 to 350 feet. The mean annual soil temperature is 75°F. The surface layer is grayish brown, calcareous sand about 20 inches thick. This is underlain by a grayish brown cemented sand. There is moderate alkalinity in the surface layer. Permeability is rapid above the cemented layer and the runoff is slow. The Puuone Series soil is within hydrologic classification "C" with an erodibility factor of 0.10. This soil is used primarily for pasture and homesites, and found near sandhills near the ocean. Soils classifications and descriptions area taken from the United States Department of Agriculture Soil Conservation Services publication entitled, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, dated 1972.

#### B. CLIMATE AND RAINFALL

The area of Wailuku is generally warm and sunny throughout the year, with temperatures varying from 70 to 80 degrees Fahrenheit. Wailuku is exposed to prevailing tradewinds with most of it coming from the northeasterly direction. These tradewinds occur mainly through the dry seasonal months of May through September. Rainy seasonal months of October through April produce strong wind conditions varying from trades from the northeast to southerly winds known as "Kona storms". Average annual rainfall for Wailuku is approximately 31 inches. The 50-year, 1-hour rainfall is 2.5 inches. The 10-year, 1-hour rainfall is 2.0 inches.

## C. INFRASTRUCTURE

### 1. Water

The project site currently has no existing domestic water service. Nearby existing buildings on campus have domestic water service. Also within the vicinity of the project site is an existing 8" water line used to service onsite fire hydrants for fire protection. The school is currently serviced by a 4" water meter and a detector check assembly for fire protection. Existing domestic service and landscape irrigation are connected to the 4" water meter.

### 2. Sewer

The project site currently generates no wastewater flow. An existing 4" sewer line servicing the nearby wood shop building is the nearest sewer utility to the project site. Another 6" sewer line located to the south of the project site is approximately 350 feet away. Sewage from the school eventually travels east via underground sewer lines and enters the County sewer system. Sewage from the project will be treated at the Kahului Wastewater Treatment Facility.

### 3. Drainage

The existing onsite stormwater runoff generally flows from a west to east direction, through the project site and is eventually taken offsite through the nearby War Memorial Stadium.

Pre-development runoff is estimated to be approximately 8.1 cubic feet per second (cfs), based on a 50 year – 1 hour storm recurrence interval. Refer to Appendix A for preliminary hydrology calculations and Exhibits 3 and 5 for existing drainage information.

### 4. Roadway

The main access to the project site will be provided through an existing access road on the west side of the campus. The existing access is connected to the main student parking lot which eventually connects to Kaahumanu Avenue. The access road services buildings

and north areas of the campus. Refer to Exhibit 2 for Preliminary Site Plan.

#### D. FLOOD ZONE

The proposed project site has a flood zone classification of Zone X. Zone X is characterized as an area of minimal flooding, specifically areas determined to be outside the 0.2% annual chance floodplain. Flood zone classification is based on the Flood Insurance Rate Map (FIRM) number 1500030391E, effective September 25, 2009, as prepared by the Federal Emergency Management Agency. Refer to Exhibit 8 for Flood Zone Map.

### IV. PROPOSED IMPROVEMENT

#### A. GRADING PLAN

The subject project will require both excavation and embankment for the construction of the entire site. A majority of the project site will be in a "cut" condition due to the natural terrain of the site, American's with Disabilities Act (ADA) requirements and roadway grade restrictions. Proposed grading will generally slope downward from the west to east. The site will be graded to provide a relatively flat area for the field. Although maximum slopes within the site are held at 2:1, flatter slopes have also been utilized where necessary.

Grades within the field itself were determined from informational sources pertaining to softball/baseball field designs. Slopes within the infield are held at 0.5% where slopes on the outfield and foul territories range from 1% to 1.75%. The field is graded to direct runoff away from the infield and towards the fences of the field. Grass swales will be created to collect the field runoff which will eventually end up in the proposed retention basin. Refer to Exhibit 3 – Preliminary Grading and Drainage Plan.

#### B. DRAINAGE PLAN

The Rational Method is used to determine stormwater runoff quantities for drainage areas less than 100 acres, based on a 50 year – 1 hour storm. The proposed onsite drainage system will be designed to manage the 50-year 1 hour



storm runoff from onsite and offsite drainage areas. Post-development onsite runoff for a 50 Yr-1Hr storm is calculated at 10.5 cfs, which is an increase of 2.4 cfs over existing conditions. Refer to Appendix A. The increase in runoff will be retained in the proposed onsite retention basin.

The proposed drainage system improvements will include grated drain inlets, area drains, manholes, and underground drain lines. Runoff on the softball field will be collected by drain inlets, area drains, and swales and will be routed to the onsite retention basin or diverted offsite.

A portion of offsite runoff from the west is anticipated to enter the project site. The proposed onsite drainage system is designed to accommodate these flows and allow it to pass through the site.

#### C. EROSION CONTROL PLAN

Temporary erosion control measures will be incorporated during the construction to minimize soil loss and erosion hazards. Best Management Practices will include temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, inlet protection, slope protection, stabilized construction entrances and truck wash-down areas. Periodic water spraying of loose soils will be implemented to minimize air-borne dirt particles from reaching adjacent properties. An application for a National Pollution Discharge Elimination System (NPDES) permit will be submitted to the State Department of Health for review and approval.

#### D. WATER SYSTEM PLAN

Onsite water system improvements will include a domestic water system and an irrigation system. A new 2.5" type "K" copper waterline will be installed to service the new restroom and nearby drinking fountain. This new waterline will connect to an existing 2" water line servicing the nearby wood shop. Per available as-built information, the existing 2" waterlines servicing the wood shop is the nearest adequate water service. Refer to Exhibit 4 for the Preliminary Utility Plan and Appendix B for Preliminary Water Demand Calculations.

Preliminary water contributions are calculated at approximately 110 gallons per day (gpd) for domestic use and 4,709 gpd for irrigation use. Refer to

Exhibit 4 Preliminary Utility Plan and Appendix B for Preliminary Water Demand Calculations.

E. SEWER SYSTEM PLAN

An onsite sewer system will be installed to provide wastewater collection service to the single proposed building. The proposed sewerline will start as a reinforced concrete jacketed 6" PVC pipe for a length of approximately 93 feet and changes to a 4" PVC pipe to the building connection. The new sewerline will connect to the existing 4" sewerline servicing the wood shop as it is the nearest existing sewer utility available. The portion of reinforced concrete jacketed sewerline will run beneath the existing roadway adjacent to the wood shop. Preliminary wastewater contributions are calculated at approximately 110 gpd (average daily demand). Refer to Exhibit 4 for the Preliminary Utility Plan and Appendix C for Preliminary Wastewater Contribution Calculations.

V. CONCLUSION

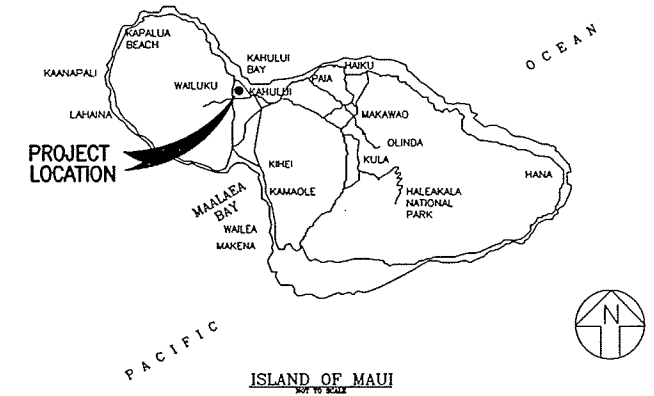
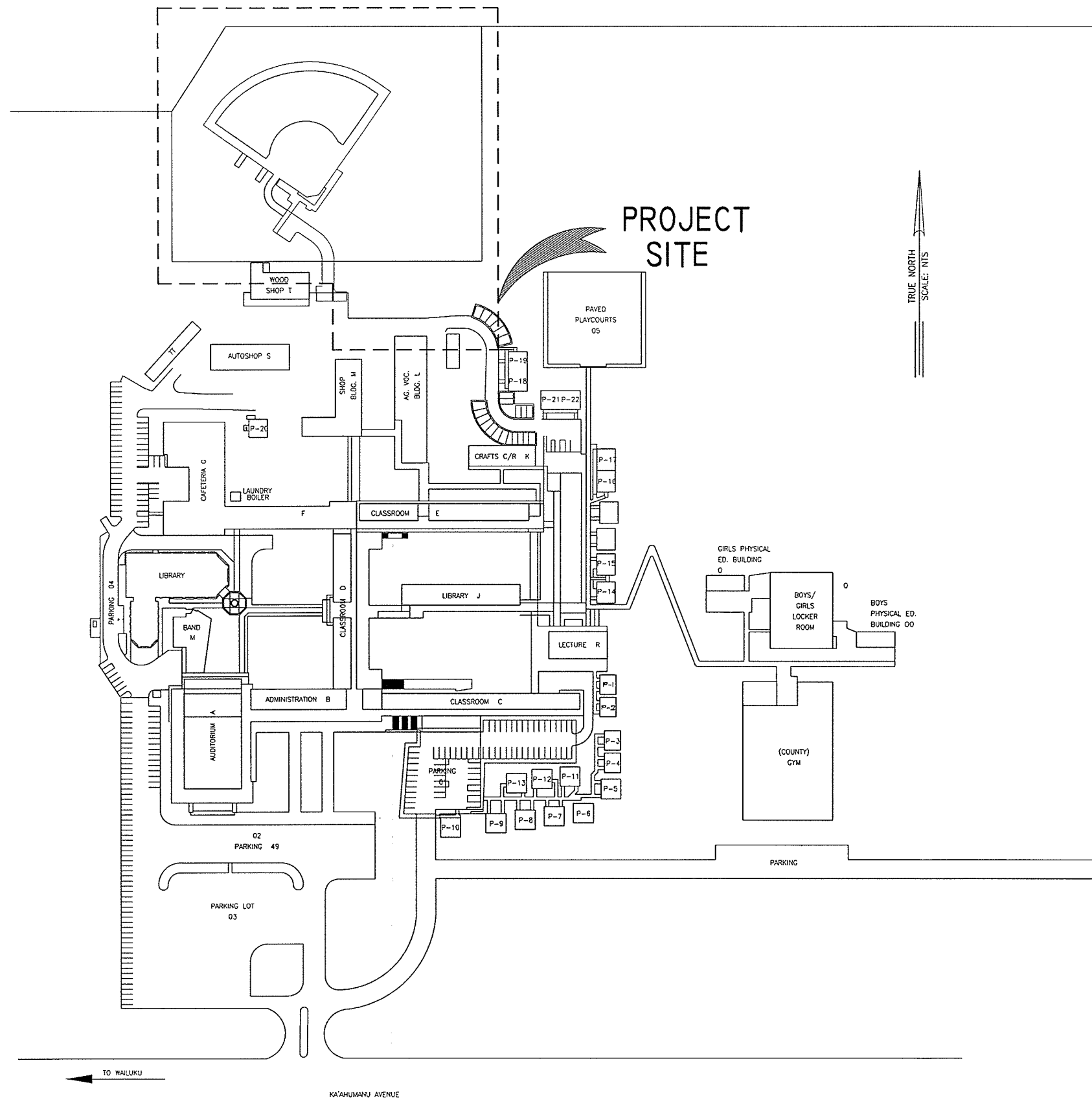
The proposed project is in accordance with the design criteria of the DOE. The proposed grading and drainage design for this project will impose no adverse effects from storm runoff to adjacent and downstream areas. Soil loss will be minimized during the construction period by implementing appropriate erosion control measures. All drainage improvements will conform to the Maui County Standards.

The proposed improvements for this project will be designed in accordance with the applicable rules and regulations of the County of Maui. Based on the preceding information, the project is expected to have no adverse effects on existing facilities or the surrounding environment.

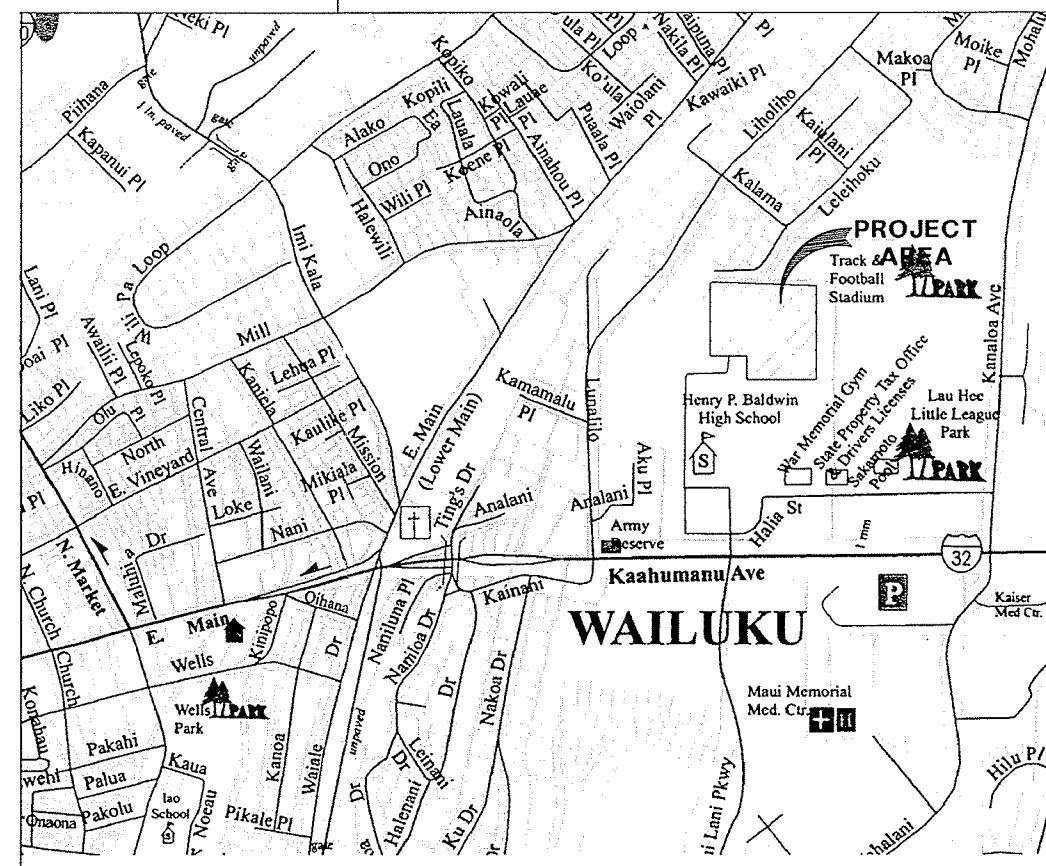
## REFERENCES:

1. Department of Public Works & Waste Management, County of Maui, Chap.4, "Rules for the Design of Storm Drainage Facilities in the County of Maui".
2. County of Maui, Wastewater Reclamation Division, Wastewater Flow Standards, February 2, 2000.
3. Water System Standards, State of Hawaii, 2002.
4. Design Standards, Division of Wastewater Management, Vol. 1, February 1984.
5. Table 3.3, American Water Works Association Water Distribution Systems Handbook, Larry W. Mays, 2000.

# **EXHIBITS**



**PROJECT LOCATION**  
SCALE: NOT TO SCALE



**REGIONAL LOCATION**  
SCALE: NOT TO SCALE



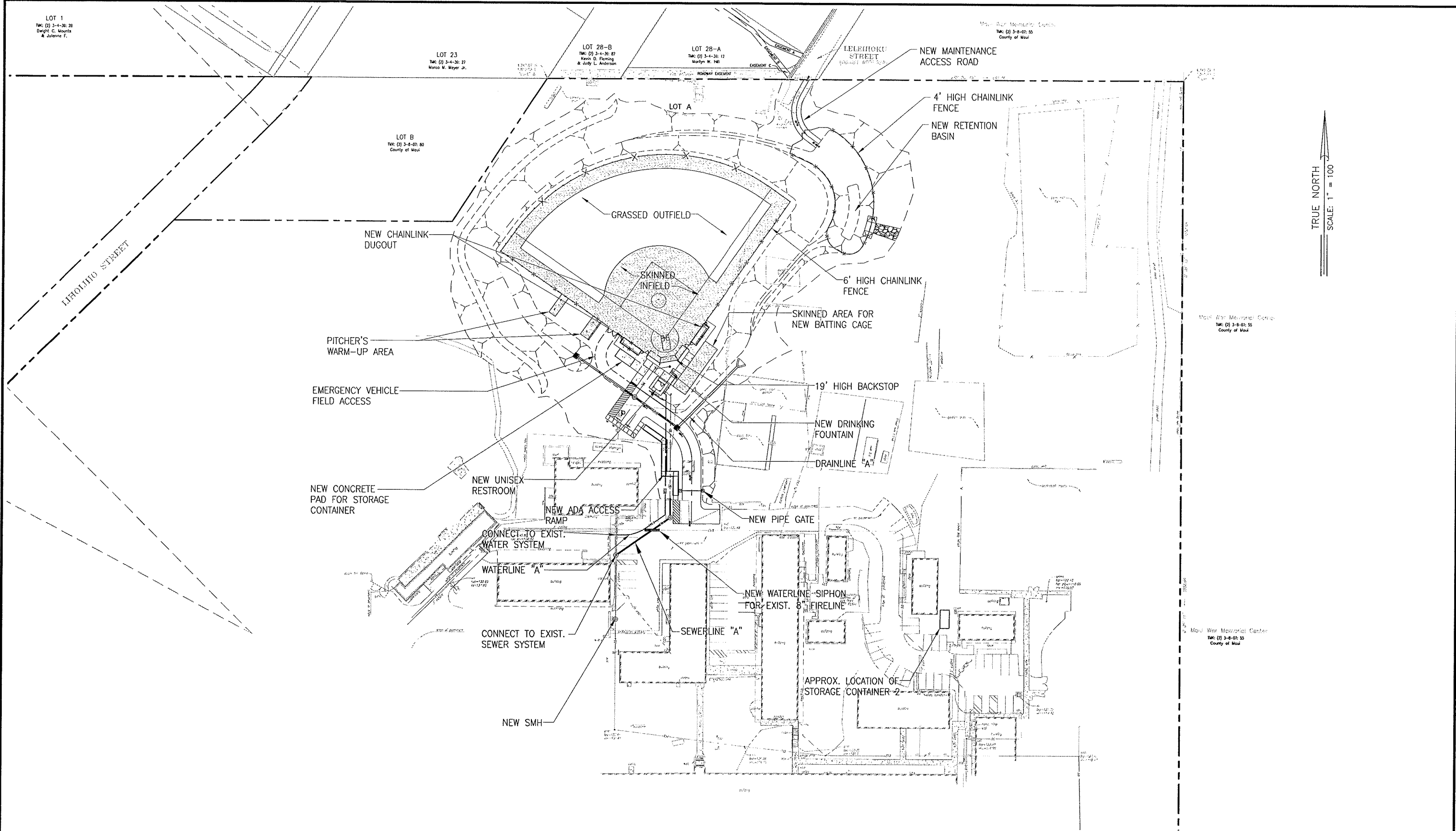
**VICINITY MAP**  
SCALE: NOT TO SCALE

PRELIMINARY ENGINEERING AND DRAINAGE REPORT  
BALDWIN HIGH SCHOOL  
SOFTBALL FIELD  
WAILUKU, MAUI, HAWAII

**ATA** AUSTIN, TSUTSUMI & ASSOCIATES, INC.  
ENGINEERS, SURVEYORS • HONOLULU, WAILUKU, HILO, HAWAII

PROJECT LOCATION  
AND VICINITY MAP

EXHIBIT  
1



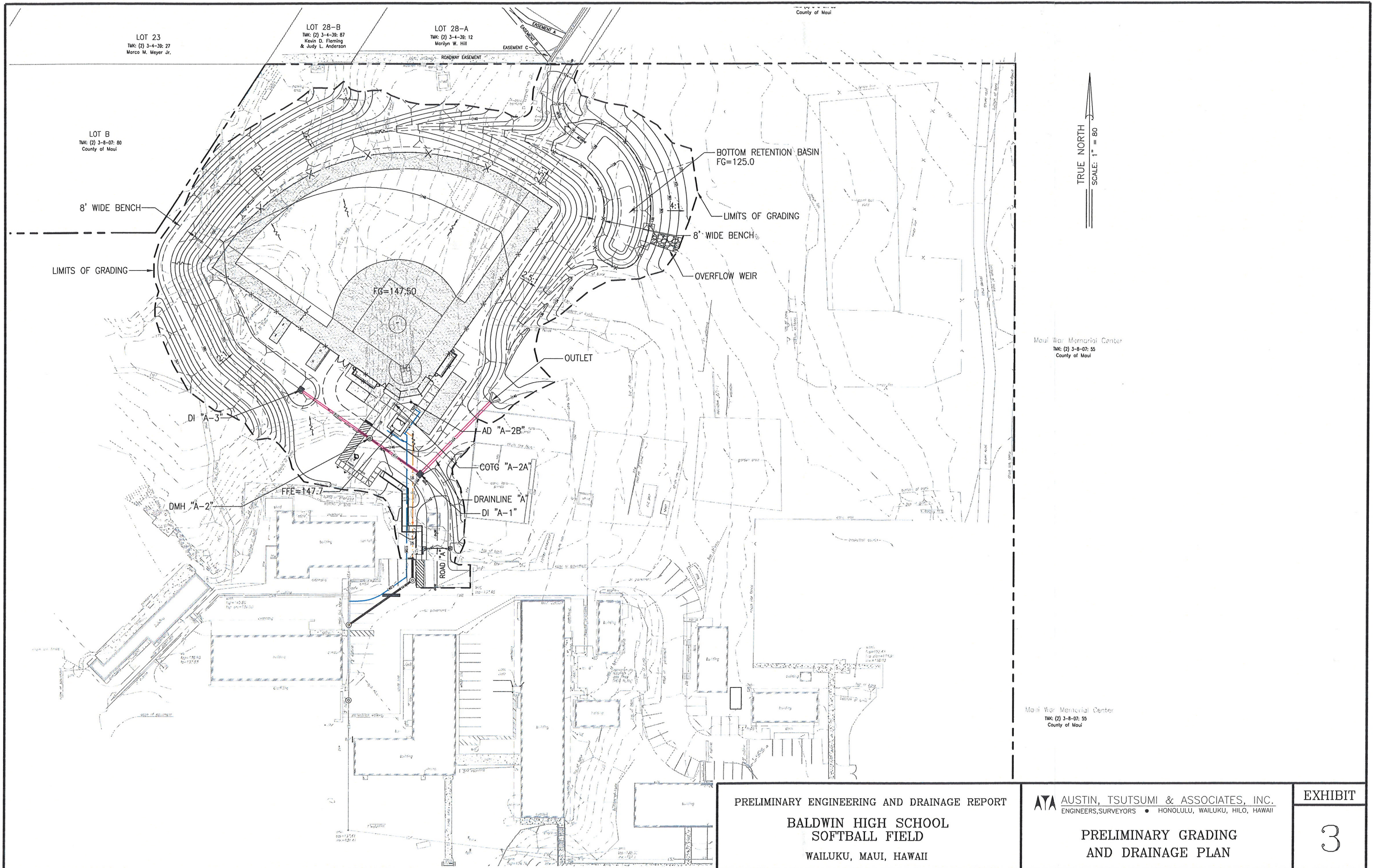
TRUE NORTH  
SCALE: 1" = 100'

PRELIMINARY ENGINEERING AND DRAINAGE REPORT  
 BALDWIN HIGH SCHOOL  
 SOFTBALL FIELD  
 WAILUKU, MAUI, HAWAII

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 PRELIMINARY SITE PLAN

EXHIBIT  
 2





TRUE NORTH  
SCALE: 1" = 80'

Maui War Memorial Center  
TMK: (2) 3-8-07: 55  
County of Maui

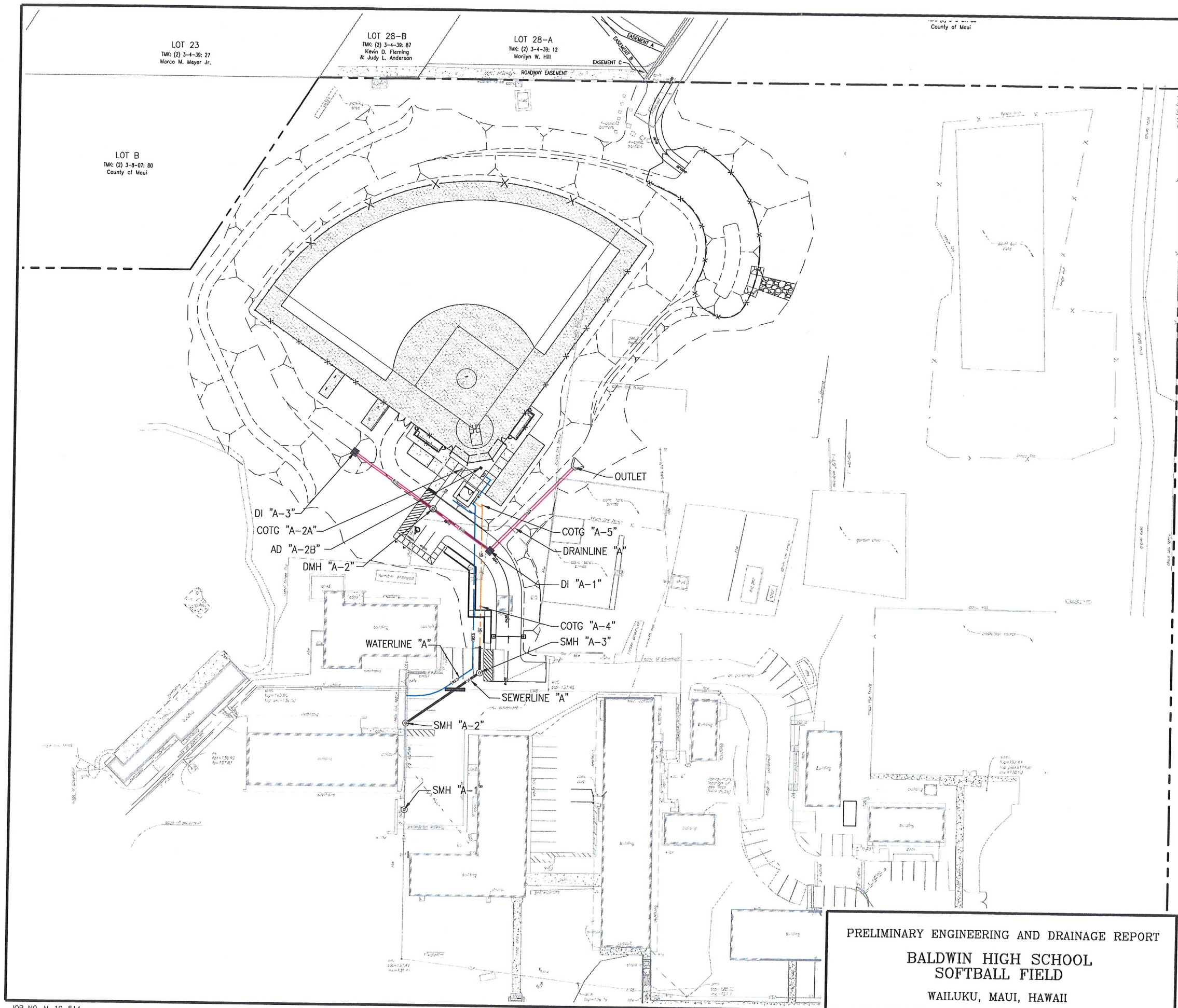
Maui War Memorial Center  
TMK: (2) 3-8-07: 55  
County of Maui

PRELIMINARY ENGINEERING AND DRAINAGE REPORT  
BALDWIN HIGH SCHOOL  
SOFTBALL FIELD  
WAILUKU, MAUI, HAWAII

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PRELIMINARY GRADING  
AND DRAINAGE PLAN

EXHIBIT  
3





TRUE NORTH  
SCALE: 1" = 80'

Maui War Memorial Center  
TMK: (2) 3-8-07: 55  
County of Maui

Maui War Memorial Center  
TMK: (2) 3-8-07: 55  
County of Maui

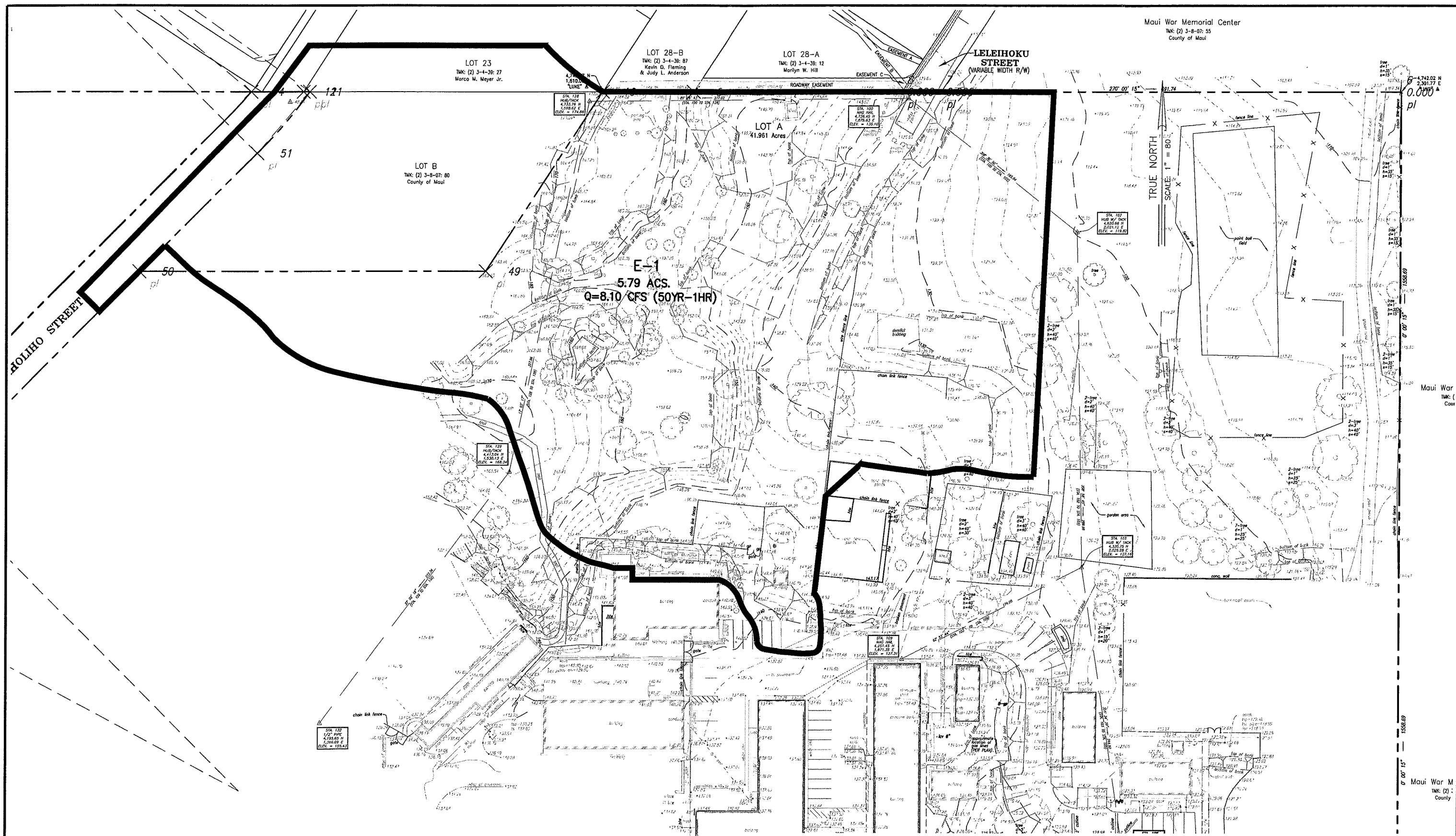
PRELIMINARY ENGINEERING AND DRAINAGE REPORT  
BALDWIN HIGH SCHOOL  
SOFTBALL FIELD  
WAILUKU, MAUI, HAWAII

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PRELIMINARY UTILITY PLAN

EXHIBIT  
4





Maui War Memorial Center  
 TWC (2) 3-8-07: 55  
 County of Maui

0.000  
 pl

Maui War  
 TWC (2)  
 County

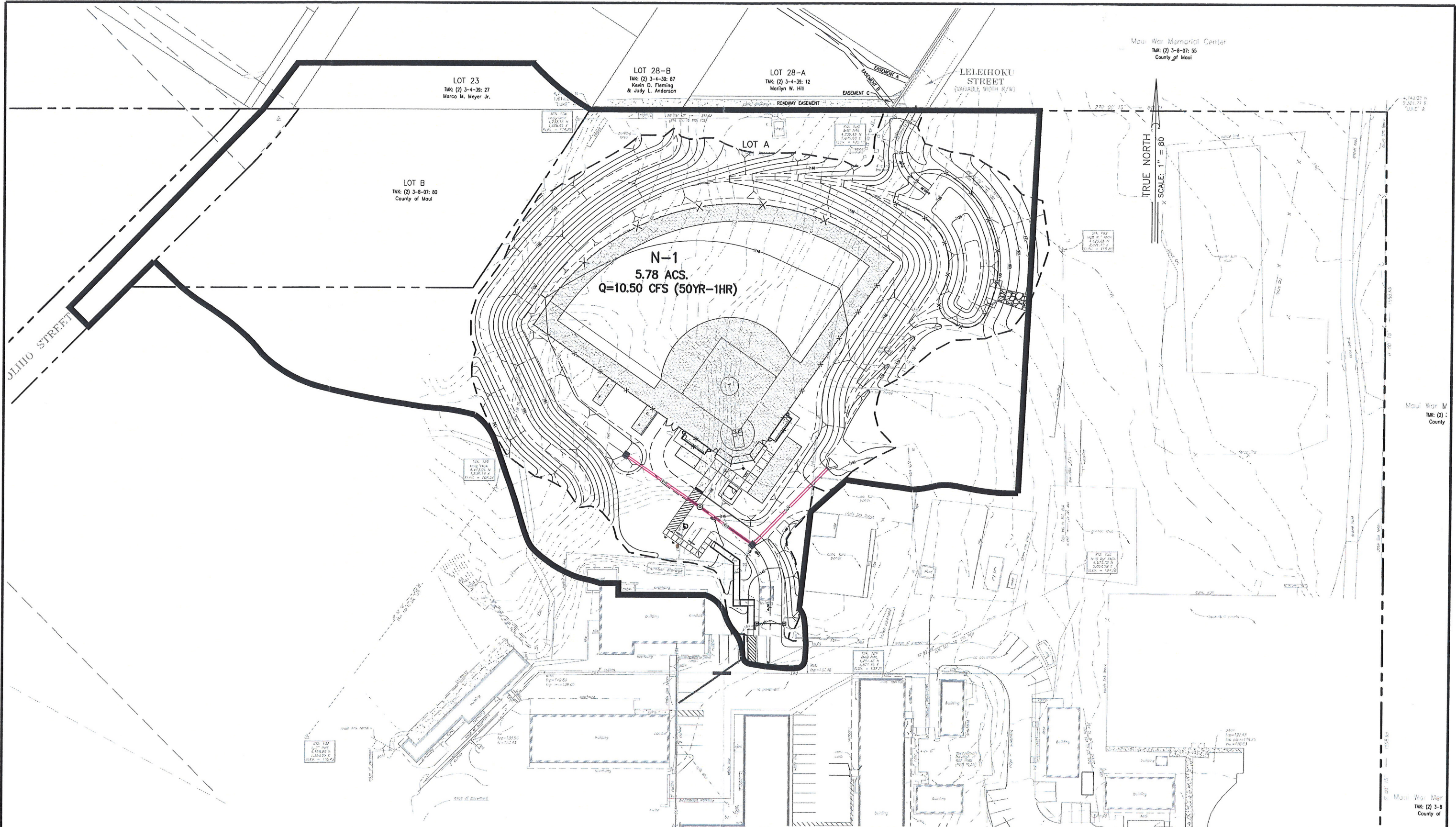
Maui War M  
 TWC (2)  
 County

PRELIMINARY ENGINEERING AND DRAINAGE REPORT  
 BALDWIN HIGH SCHOOL  
 SOFTBALL FIELD  
 WAILUKU, MAUI, HAWAII

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 DRAINAGE AREA MAP:  
 PRE-DEVELOPMENT CONDITIONS

EXHIBIT  
 5





Maui War Memorial Center  
 TMK: (2) 3-8-07: 55  
 County of Maui

Maui War M  
 TMK: (2) 3-8-07: 55  
 County of Maui

Maui War M  
 TMK: (2) 3-8-07: 55  
 County of Maui

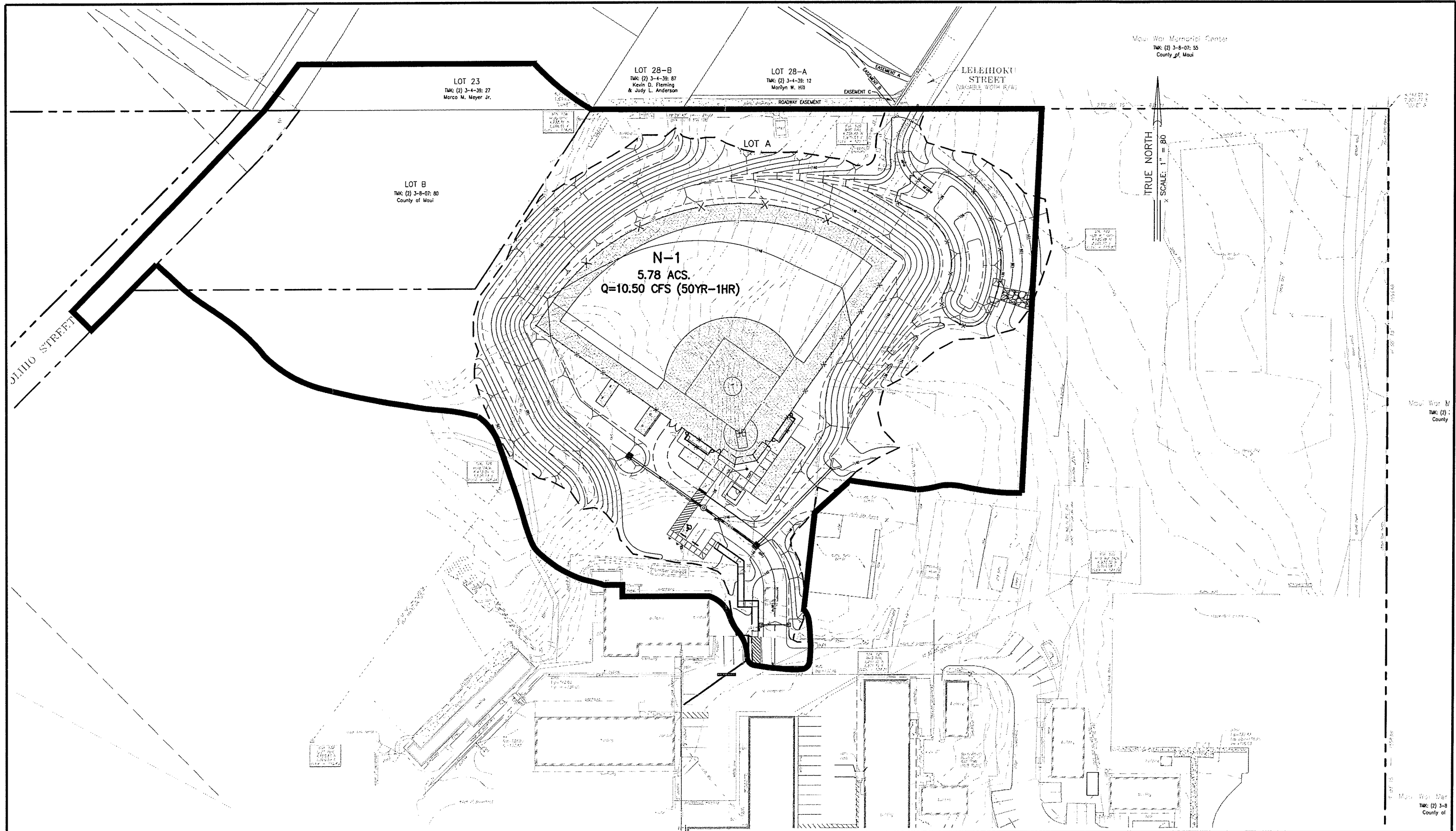
Maui War M  
 TMK: (2) 3-8-07: 55  
 County of Maui

PRELIMINARY ENGINEERING AND DRAINAGE REPORT  
**BALDWIN HIGH SCHOOL  
 SOFTBALL FIELD**  
 WAILUKU, MAUI, HAWAII

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**DRAINAGE AREA MAP:  
 POST-DEVELOPMENT CONDITIONS**

**EXHIBIT**  
**6**





PRELIMINARY ENGINEERING AND DRAINAGE REPORT  
BALDWIN HIGH SCHOOL  
SOFTBALL FIELD  
WAILUKU, MAUI, HAWAII

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DRAINAGE AREA MAP:  
POST-DEVELOPMENT CONDITIONS

EXHIBIT  
6

PRE-DEVELOPMENT FLOWS  
50 YR-1 HR

BALDWIN HIGH SCHOOL SOFTBALL FIELD  
PROJECT OFFSITE AND ONSITE  
 $Q_{\text{EXISTING}} = 8.1 \text{ cfs}$



8.1 cfs EXISTING DRAINAGE WAY

POST-DEVELOPMENT FLOWS  
50 YR-1 HR

BALDWIN HIGH SCHOOL SOFTBALL FIELD  
PROJECT OFFSITE AND ONSITE  
 $Q_{\text{POST-DEV.}} = 10.5 \text{ cfs}$



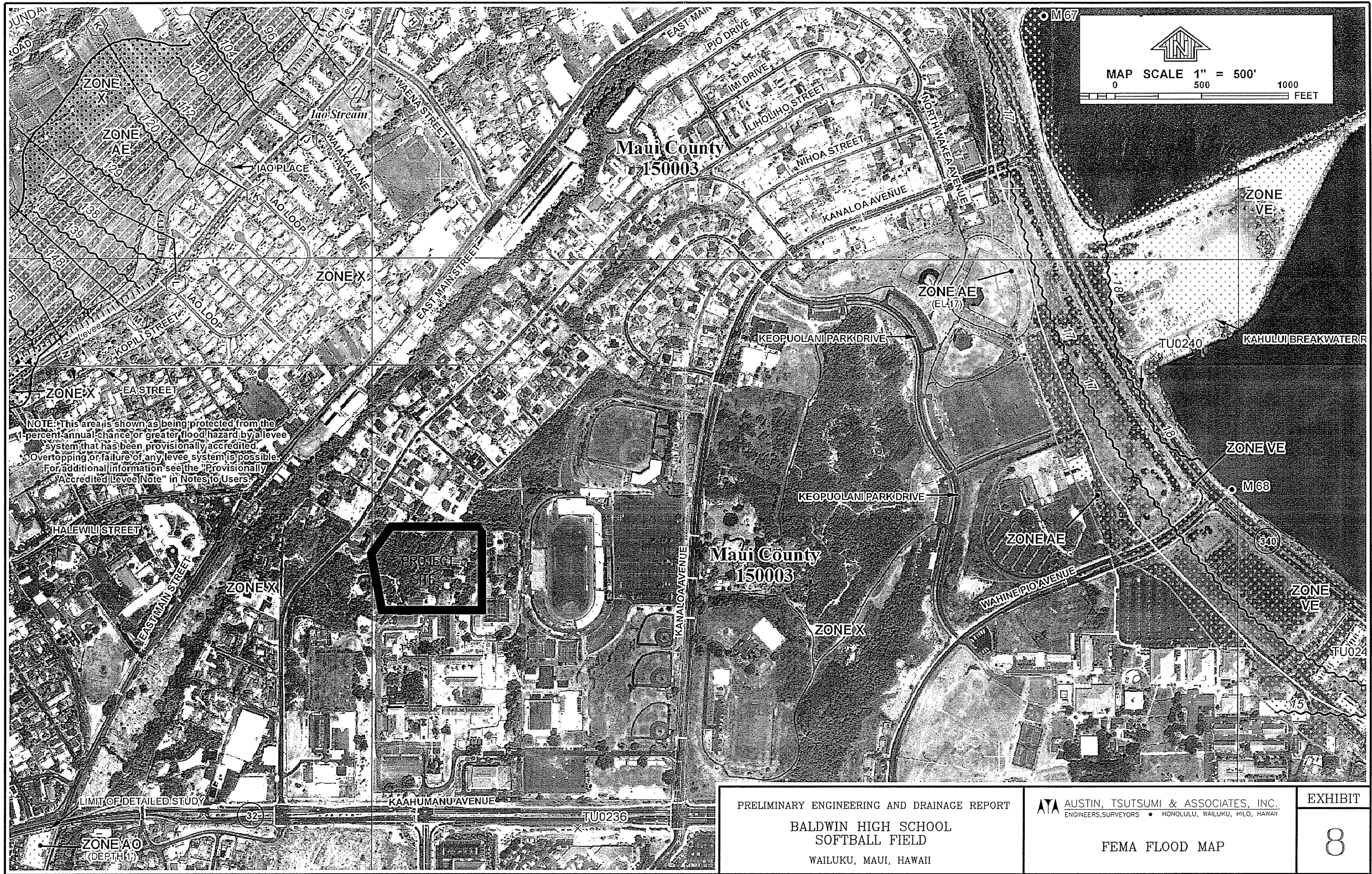
RETENTION BASIN  
 $Q_{\text{RETAINED}} = 2.4 \text{ cfs}$


$$\begin{array}{r} Q_{\text{POST-DEV.}} = 10.5 \text{ cfs} \\ - Q_{\text{RETAINED}} = 2.4 \text{ cfs} \\ \hline Q_{\text{EXISTING}} = 8.1 \text{ cfs} \end{array}$$



8.1 cfs EXISTING DRAINAGE WAY





  
 MAP SCALE 1" = 500'  
 0 500 1000 FEET

NOTE: This area is shown as being protected from the 1-percent annual-chance or greater flood hazard by a levee system that has been provisionally accredited. Overtopping or failure of any levee system is possible. For additional information see the "Provisionally Accredited Levee Note" in Notes to Users.

Maui County  
15003

PRELIMINARY ENGINEERING AND DRAINAGE REPORT  
 BALDWIN HIGH SCHOOL  
 SOFTBALL FIELD  
 WAILUKU, MAUI, HAWAII

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FEMA FLOOD MAP

EXHIBIT

8

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## APPENDICIES

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## **APPENDIX A**

**DRAINAGE STUDY  
PROJECT: BALDWIN HIGH SCHOOL SOFTBALL FIELD  
PRELIMINARY HYDROLOGY CALCULATIONS**

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## **DRAINAGE STUDY**

### **Project: BALDWIN HIGH SCHOOL SOFTBALL FIELD**

#### **Hydrology Calculations**

#### **Summary of Procedures**

#### **References:**

1. "Rules for the Design of Storm Drainage Facilities in the County of Maui", County of Maui, Department of Public Works and Waste Management.

#### **Pre-development and Post-development Runoff:**

#### **Definitions:**

1. Drainage Area, A:

Areas delineated by relatively identical drainage patterns based on topographic information and a common point or system.

2. Recurrence Interval, T<sub>m</sub>:

The frequency of the occurrence of a particular design-storm. For example, a 100-year frequency storm has a 1% chance of occurring in any given year.

The following criteria will be used in the analysis of the drainage systems:

- a. Onsite & Offsite storm runoff: 50 year – 1 hour storm interval

3. Intensity of 1-hour Rainfall value, I:

The Rainfall Value is assumed constant over the watershed and uniformly distributed. The 10 year – 1 hour rainfall value is 2.0 inches. The 50 year – 1 hour rainfall value is 2.5 inches. (See Reference 1, Plates 4 & 7).

#### **Methodology:**

Rational Method

- A. Runoff Quantity, Q:

See Hydrology Calculations.



The equation for the Rational Method is:

$$Q = c i A \quad \text{where: } Q = \text{peak flow rate (cfs)}$$

$c$  = runoff coefficient

$i$  = intensity of a 1-hour rainfall

$A$  = drainage area (acres)

B. Runoff Coefficient,  $C$ :

The percentage of rain that appears as direct runoff.

1. Unimproved areas: Runoff coefficient 0.25.
2. For roadways, sidewalks, future buildings: Runoff coefficient 0.95.
3. Dirt areas: Runoff coefficient 0.50.
4. For landscaped/graded areas: Runoff Coefficient 0.30.
5. A weighted average among runoff coefficients will be used for drainage areas containing a combination of streets, sidewalks, future dwellings and landscaping.

C. Time of Concentration,  $T_c$  (min.):

Time required for water to flow from the most remote point of a drainage area to the outlet point.

1. The Time of Concentration is determined from the nomograph (See Ref. 1, Plate 1). Data for the longest length of reach, ground character and ground slope are required to use this chart appropriately.

**EXISTING ON-SITE & OFF-SITE HYDROLOGY CALCULATIONS  
 (50 Year - 1 Hour Storm)**

**Project Site Descriptions:**

**Area (a)**

Total Project Site: **a= 5.79 acres**  
 (Watershed Area)

Area Breakdown:

Undeveloped areas: 5.10 acres  
 Parking/Walkway/Building areas: 0.69 acres

**Runoff Coefficient (c)**

Undeveloped areas: c= 0.25  
 Parking/Walkway/Building areas: c= 0.95

**Weighted Average: c= 0.334**

**Rainfall Intensity (i)**

Recurrence Interval: 50 Yr - 1 Hr = 2.5 inches  
 Longest reach length: approx 762 feet  
 Average site slope: 11.0 %  
 Time of concentration: 19 minutes  
**i= 4.2 inches / hour**

**Runoff (Q)**

$$Q = c \times i \times a$$

Q = discharge, in cubic feet per second (cfs)  
 c = runoff coefficient  
 i = rainfall intensity, inches per hour  
 a = watershed area, in acres

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**Q<sub>50</sub>= 8.1 cfs**

**PROPOSED ON-SITE & OFF-SITE HYDROLOGY CALCULATIONS  
 (50 Year - 1 Hour Storm)**

**Project Site Descriptions:**

**Area (a)**

Total Project Site:	<b>a=</b>	<b>5.79 acres</b>
(Watershed Area)		
Area Breakdown:		
Undeveloped areas:		2.17 acres
Parking/Walkway/Building areas:		0.95 acres
Dirt areas:		0.46 acres
Landscaped/Graded areas:		2.21 acres

**Runoff Coefficient (c)**

Undeveloped areas:	<b>c=</b>	0.25
Parking/Walkway/Building areas:	<b>c=</b>	0.95
Dirt areas:	<b>c=</b>	0.50
Landscaped/Graded areas:	<b>c=</b>	0.30
<b>Weighted Average:</b>	<b>c=</b>	<b>0.403</b>

**Rainfall Intensity (i)**

Recurrence Interval:	50 Yr - 1 Hr =	2.5 inches
Longest reach length:	approx	762 feet
Average site slope:		11.0 %
Time of concentration:		16 minutes

**i= 4.5 inches / hour**

**Runoff (Q)**

$$Q = c \times i \times a$$

Q = discharge, in cubic feet per second (cfs)

c = runoff coefficient

i = rainfall intensity, inches per hour

a = watershed area, in acres

**Q<sub>50</sub>= 10.5 cfs**

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## **APPENDIX B**

### **WATER SYSTEM PROJECT: BALDWIN HIGH SCHOOL SOFTBALL FIELD PRELIMINARY WATER DEMAND CALCULATIONS**

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## PRELIMINARY WATER DEMAND CALCULATIONS

### Project Site Description

\*Students – 20

\*Coaches – 2

Total = 22 persons

Irrigated Areas: 2.77 acres

### Department of Water Supply Standard (Irrigation Demand)

(Table 100-18, Water System Standards)

Schools, Parks 1700 gallons / acre

1700 gallons/acre x 2.77 acre = **4,709 gallons/day**

### Average Daily Demand (Domestic Demand)

(Table 3.3, AWWA Water Distribution Systems Handbook)

Picnic park, with flush toilets \*\*5 gallons / person

#### Domestic Water Demand

22 people x (5 gallons / person / day) = **110 gallons/day**

### Total Demand

110 + 4,709 = **4,819 gallons/day**

\* Student and Faculty/Staff counts provided by the Department of Education.

\*\* 5 gallons/person derived by taking the low end of the 5-11 gallons/person range per Water Distribution Systems Handbook as the closest approximation.

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Project: Baldwin High School Softball Field  
Wailuku, Maui, Hawaii  
TMK: (2) 3-8-007: 004

Job No: M-10-514  
Computed by: KTS  
Date: Feb. 2011 [1 of 1]

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Austin, Tsutsumi & Associates, Inc. • Civil Engineers • Surveyors  
1871 Wili Pa Loop • Suite A • Wailuku, HI 96793 • (808) 244-8044



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## **APPENDIX C**

**SEWER SYSTEM  
PROJECT: BALDWIN HIGH SCHOOL SOFTBALL FIELD  
PRELIMINARY WASTEWATER  
CONTRIBUTION CALCULATIONS**

---

## PRELIMINARY WASTEWATER CONTRIBUTION CALCULATIONS

### Project Site Description:

20 – Students at 1 use / day  
2 – Coaches at 1 use / day

### Wastewater Contribution Standards:

Students	*5 gallons / use / day
Coaches	*5 gallons / use / day (assumed)

\* Per County of Maui Wastewater Reclamation Division Wastewater Flow Standards

### Wastewater Contribution Calculation:

20 Students x (5 gallons/use/day) = 100 gallons per day (gpd)  
2 Staff/Faculty x (5 gallons/use/day) = 10 gpd

**Average Daily Wastewater Contribution:        =        110 gpd**

Reference: - Wastewater Flow Standards, Wastewater Reclamation Division, County of Maui, February 2, 2006

-Design Standards, Division of Wastewater Management, Vol. 1, February 1984

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Project: Baldwin High School Softball Field  
Wailuku, Maui, Hawaii  
TMK: (2) 3-8-007: 004

Job No: M-10-514  
Computed by: KTS  
Date: Dec. 2010 [1 of 1]

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# **APPENDIX C.**

## **Biological Resources Report**



**BIOLOGICAL RESOURCES SURVEY**  
**for the**  
**BALDWIN HIGH SCHOOL SOFTBALL FIELD**  
**Wailuku – Maui - Hawaii**

**by**

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**November 13, 2010**

**Prepared for:**  
**State of Hawaii Dept of Education**

# **BIOLOGICAL RESOURCES SURVEY**

## **Baldwin High School Softball Field**

### **INTRODUCTION**

The Baldwin High School Softball Field Project lies on approximately 2.75 acres of undeveloped land, TMK (2) 3-8-07:04 (por.), on the eastern edge of Wailuku town. The site lies on the north edge of the Baldwin High School campus, west of the Wailuku War Memorial Stadium, and east and south of residential subdivisions in the Wailuku Sand Hills. This study was initiated to fulfill environmental requirements of the planning process.

### **SITE DESCRIPTION**

The project area lies partly on rolling dunes and partly on a leveled field that was used by the High School Agricultural Program. Soil is entirely lithified or loose sand of the Puu One Sand (PZUE) series (Foote et al, 1972). The vegetation consists of open forest land over dry grasses. Elevations range between 135 feet and 170 feet above sea level. Rainfall averages about 25 inches per year with the bulk falling during the winter months (Armstrong, 1983).

### **BIOLOGICAL HISTORY**

In pre-contact times these dunes would have been less stabilized than at present. The shifting sands would have been sparsely vegetated with low, wind-tolerant native shrubs, vines and grasses. These infertile dunes were not used for agriculture but were probably used for winter pasture for livestock. Over the years this area has become forested by kiawe (*Prosopis pallida*) trees and dryland grasses. The native plant species are now almost completely gone and have been replaced by hardy weeds which now dominates the site.

### **SURVEY OBJECTIVES**

This report summarizes the findings of a flora and fauna survey of the proposed Baldwin High School Softball Field project which was conducted in November 2010.

The objectives of the survey were to:

1. Document what plant and animal species occur on the property or may likely occur in the existing habitat.
2. Document the status and abundance of each species.
3. Determine the presence or likely occurrence of any native flora and fauna, particularly any that are Federally listed as Threatened or Endangered. If such occur, identify what features of the habitat may be essential for these species.
4. Determine if the project area contains any special habitats which if lost or altered might result in a significant negative impact on the flora and fauna in this part of the island.
5. Note which aspects of the proposed development pose significant concerns for plants or for wildlife and recommend measures that would mitigate or avoid these problems.

## BOTANICAL SURVEY REPORT

### SURVEY METHODS

A walk-through botanical survey was used to cover all parts of this 2.75 acre project area. All representative habitats including forests, grasslands and open areas were examined. Close attention was made to ascertaining the presence of any native plant species. Taxonomy and nomenclature follow (Wagner et al, 1999).

### DESCRIPTION OF THE VEGETATION

Most of the project area is forested with kiawe trees. Beneath these trees and in openings are a number of brush and grass species including Guinea grass (*Megathyrsus maximus*), koa haole (*Leucaena leucocephala*) and Chinese violet (*Asystasia gangetica*). One indigenous, native species was found, 'uhaloa (*Waltheria indica*), growing alongside an old agricultural planting. The remaining 37 plant species were all non-native weeds and a few ornamentals.

### DISCUSSION AND RECOMMENDATIONS

The vegetation in this project area is totally dominated by non-native species. Only one plant species was native to Hawai'i: 'uhaloa. This is a widespread and common indigenous species in Hawai'i as well as other Pacific islands. No Endangered or Threatened plant species were found, nor were any seen that are candidates for such protected Federal status. No special native plant habitats were found either. There are no wetlands on the property.

Because the vegetation on this site is dominated by common non-native plants and because there are no rare or protected native species within the project area, there is little of botanical concern with regard to this property, and the proposed project is not expected to have a significant negative impact on the botanical resources in this part of Maui.

No special recommendations with reference to plants are deemed appropriate or necessary.

## PLANT SPECIES LIST

Following is a checklist of all the vascular plant species inventoried during the field studies. Plant families are arranged alphabetically within two groups: Monocots and Dicots. Taxonomy and nomenclature of the flowering plants are in accordance with Wagner et al. (1999).

For each species, the following information is provided:

1. Scientific name with author citation.
2. Common English or Hawaiian name.
3. Bio-geographical status. The following symbols are used:

endemic = native only to the Hawaiian Islands; not naturally occurring anywhere else in the world.

indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).

Polynesian = those plant species brought to Hawaii by the Polynesians during the course of their migrations.

non-native = all those plants brought to the islands intentionally or accidentally after western contact.

4. Abundance of each species within the project area:

abundant = forming a major part of the vegetation within the project area.

common = widely scattered throughout the area or locally abundant within a portion of it.

uncommon = scattered sparsely throughout the area or occurring in a few small patches.

rare = only a few isolated individuals within the project area.

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<b>MONOCOTS</b>			
ASPARAGACEAE (Asparagus Family)			
<i>Yucca elephantipes</i> Regel	giant yucca	non-native	uncommon
CYPERACEAE (Sedge Family)			
<i>Cyperus involucratus</i> Rottb.	umbrella sedge	non-native	rare
<i>Cyperus rotundus</i> L.	nut sedge	non-native	rare
POACEAE (Grass Family)			
<i>Cenchrus ciliaris</i> L.	buffelgrass	non-native	uncommon
<i>Chloris barbata</i> (L.) Sw.	swollen fingergrass	non-native	rare
<i>Cynodon dactylon</i> (L.) Pers.	Bermuda grass	non-native	rare
<i>Eragrostis amabilis</i> (L.) Wight & Arnott	Japanese lovegrass	non-native	uncommon
<i>Megathyrsus maximus</i> (Jacq.) Simon & Jacobs	Guinea grass	non-native	abundant
<b>DICOTS</b>			
ACANTHACEAE (Acanthus Family)			
<i>Asystasia gangetica</i> (L.) T. Anderson	Chinese violet	non-native	common
AMARANTHACEAE (Amaranth Family)			
<i>Chenopodium murale</i> L.	'āheahea	non-native	rare
ANACARDIACEAE (Mango Family)			
<i>Schinus terebinthifolius</i> Raddi	Christmas berry	non-native	rare
APOCYNACEAE (Dogbane Family)			
<i>Thevetia peruviana</i> (Pers.) K. Schum.	be-still tree	non-native	rare
ASTERACEAE (Sunflower Family)			
<i>Bidens pilosa</i> L.	Spanish needle	non-native	uncommon
<i>Calyptracarpus vialis</i> Less.	-----	non-native	rare
<i>Conyza bonariensis</i> (L.) Cronq.	hairy horseweed	non-native	rare
<i>Emilia fosbergii</i> Nicolson	red pualele	non-native	uncommon
<i>Pluchea carolinensis</i> (Jacq.) G. Don	sourbush	non-native	rare
<i>Synedrella nodiflora</i> (L.) Gaertn.	nodeweed	non-native	rare
<i>Verbesina encelioides</i> (Cav.) Benth. & Hook.	golden crown-beard	non-native	uncommon
BORAGINACEAE (Borage Family)			
<i>Heliotropium procumbens</i> Mill.	fourspike heliotrope	non-native	uncommon
BRASSICACEAE (Mustard Family)			
<i>Lepidium virginicum</i> L.	pepperwort	non-native	rare
EUPHORBIACEAE (Spurge Family)			
<i>Euphorbia hirta</i> L.	hairy spurge	non-native	rare
FABACEAE (Pea Family)			
<i>Desmanthus pernambucanus</i> (L.) Thellung	slender mimosa	non-native	rare
<i>Desmodium tortuosum</i> (Sw.) DC.	Florida beggarweed	non-native	rare
<i>Leucaena leucocephala</i> (Lam.) de Witt	koa haole	non-native	common
<i>Neonotonia wightii</i> (Wight & Arnott) Lackey	glycine	non-native	uncommon
<i>Pithecellobium dulce</i> (Roxb.) Benth.	öpiuma	non-native	rare
<i>Prosopis pallida</i> (Humb. & Bonpl. ex Willd.) Kunth	kiawe	non-native	abundant

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<b>MALVACEAE (Mallow Family)</b>			
<i>Abutilon grandifolium</i> (Willd.) Sweet	hairy abutilon	non-native	rare
<i>Malvastrum cormandelianum</i> (L.) Garcke	false mallow	non-native	rare
<i>Sida rhombifolia</i> L.	Cuban jute	non-native	rare
<i>Waltheria indica</i> L.	'uhaloa	indigenous	rare
<b>MORACEAE (Mulberry Family)</b>			
<i>Ficus microcarpa</i> L. fil.	Chinese banyan	non-native	rare
<b>NYCTAGINACEAE (Four-o'clock Family)</b>			
<i>Boerhavia coccinea</i> Mill.	scarlet spiderling	non-native	rare
<i>Bougainvillea spectabilis</i> Willd.	bougainvillea	non-native	rare
<b>PASSIFLORACEAE (Passion Flower Family)</b>			
<i>Passiflora foetida</i> L.	love-in-a-mist	non-native	rare
<b>SOLANACEAE (Nightshade Family)</b>			
<i>Nicandra physalodes</i> (L.) Gaertn.	apple of Peru	non-native	rare
<b>VERBENACEAE (Verbena Family)</b>			
<i>Vitex trifolia</i> L.	blue vitex	non-native	rare

## FAUNA SURVEY REPORT

### SURVEY METHODS

A walk-through fauna survey method was conducted in conjunction with the botanical survey. All parts of the project area were covered. Field observations were made with the aid of binoculars and by listening to vocalizations. Notes were made on species, abundance, activities and location as well as observations of trails, tracks, scat and signs of feeding. In addition an evening visit was made to the area to record crepuscular activities and vocalizations and to see if there was any evidence of occurrence of the Hawaiian hoary bat (*Lasiurus cinereus semotus*) in the area.

### RESULTS

#### MAMMALS

No mammals were seen during two site visits to the project area. Mammals that could be expected to be observed within this area include mice (*Mus domesticus*), rats (*Rattus* spp.), mongoose (*Herpestes auropunctatus*), cats (*Felis catus*), and the occasional domestic dog (*Canis familiaris*).

A special effort was made to look for the native Hawaiian hoary bat by making an evening survey of the area. When present in an area these bats can be easily identified as they forage for insects, their distinctive flight patterns clearly visible in the glow of twilight. No evidence of such activity was observed though visibility was excellent and plenty of flying insects were seen.

In addition, an electronic bat detecting device was employed set to the frequency range of 27,000 to 28,000 hertz which these bats are known to utilize. No bats were detected using this device.

#### BIRDS

Birdlife was moderate in numbers but rather sparse in species representation, no doubt due to the large amount of student activity on the adjacent campus. Just five species of non-native birds were observed during two site visits to the area. Taxonomy and nomenclature follow American Ornithologists' Union (2009).

Zebra dove (*Geopelia striata*) – These small doves were common throughout the property in small flocks. Their calls could be heard at all times.

Spotted dove (*Streptopelia chinensis*) – These large doves were scattered throughout the area, seen alone or in pairs in trees.

Chicken (*Gallus gallus*) – One flock of chickens inhabited the understory of the forest and they could be seen and heard.

Myna (*Acridotheres tristis*) – Two pairs of these mynas were in kiawe trees.

Japanese white-eye (*Zosterops japonicus*) – A couple of these energetic small green birds were seen in trees and heard making their high-pitched calls.

## INSECTS

A small variety of insects were observed during the survey. Four non-native species and one indigenous dragonfly were identified. Taxonomy and nomenclature follows Nishida (1992).

Kiawe moth	<i>Anacamptodes fragilaria</i>	non-native	common
House fly	<i>Musca domestica</i>	non-native	uncommon
Argentine ant	<i>Linepithema humile</i>	non-native	uncommon
Paper wasp	<i>Polistes olivaceus</i>	non-native	rare
Globe skimmer	<i>Pantala falvescens</i>	indigenous	rare

The indigenous globe skimmer is widespread in Hawaii and is known from a number of Pacific islands. It can thrive in small water features in residential communities as well as along reservoirs, ditches and streams.

No Endangered Blackburn's sphinx moths (*Manduca blackburni*), their larvae or their host plants were seen on or near the project area.

## REPTILES

One reptile, the mourning gecko (*Lepidodactylus lugubris*) was seen and its chipping calls heard in the kiawe forest during the evening survey. This gecko is a Polynesian introduction and is common throughout the tropical Pacific.

## MOLLUSKS

One mollusk, the African snail (*Achatina fulica*), was common throughout the project area. Their shells littered the sandy ground under the kiawe forest. No other mollusks were seen.



## DISCUSSION AND RECOMMENDATIONS

The fauna survey documented twelve species within the project area, including five non-native birds, one non-native reptile that was probably an inadvertent Polynesian introduction, five non-native insects and one non-native mollusk. None of these species are of any particular environmental concerns.

No 'öpe'ape'a or Hawaiian hoary bats were detected during the evening survey. None the less, it is entirely possible that these highly mobile insectivorous mammals could occupy this site when Lepidopteran moth populations are emerging from dormancy and taking flight. These solitary bats use a wide variety of trees for roosting and rearing their young during their late spring and summer breeding season so it is recommended that any tree removal be avoided during this time of year.

The habitat in the project area might be utilized by a few other non-native species but it is not suitable for such Endangered Species such as the nene goose (*Branta sandvicensis*). It is also too low in elevation for Hawaii's native forest birds.

Seabirds including the Endangered ua'u and the Threatened 'a'o were not found on this property and are highly unlikely to utilize such an area. Yet these birds are known to fly over these lowlands in the evenings to get to their burrows high in the mountains. Young birds which are fledgling during the fall months are particularly vulnerable to being confused by bright lights, upon which they are prone to crash and be injured or killed. It is recommended that any outdoor lights in the proposed project be hooded to direct the light downward so the light is not visible from above. Project plans call for the development of a softball field facility that will be confined to day use, and that therefore no outdoor lighting is being planned. If this is the case, the above recommendation is unnecessary.

## ANIMAL SPECIES LIST

Following is a checklist of the animal species inventoried during the field work. Animal species are arranged in descending abundance within four groups: Birds, Reptiles, Insects and Mollusks. For each species the following information is provided:

1. Common name.
2. Scientific name.
3. Bio-geographical status. The following symbols are used:

endemic = native only to Hawaii; not naturally occurring anywhere else in the world.

indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).

non-native = all those animals brought to Hawaii intentionally or accidentally after western contact.

migratory = spending a portion of the year in Hawaii and a portion elsewhere. In Hawaii the migratory birds are usually in the overwintering/non-breeding phase of their life cycle.

4. Abundance of each species within the project area.

abundant = many flocks or individuals seen throughout the area at all times of day.

common = a few flocks or well scattered individuals throughout the area.

uncommon = only one flock or several individuals seen within the project area.

rare = only one or two seen within the project area.

COMMON NAME	SCIENTIFIC NAME	STATUS	ABUNDANCE
<b>MAMMALS</b>			
<b>Reptiles</b>			
Mourning gecko	<i>Lepidodactylus lugubris</i>	Polynesian	rare
<b>Birds</b>			
Zebra dove	<i>Geopelia striata</i>	non-native	common
Spotted dove	<i>Streptopelia chinensis</i>	non-native	uncommon
Chicken	<i>Gallus gallus</i>	non-native	uncommon
Common myna	<i>Acridotheres tristis</i>	non-native	uncommon
Japanese white-eye	<i>Zosterops japonicus</i>	non-native	rare
<b>Insects</b>			
Kiawe moth	<i>Anacampodes fragilaria</i>	non-native	common
House fly	<i>Musca domestica</i>	non-native	uncommon
Argentine ant	<i>Linepithema humile</i>	non-native	uncommon
Paper wasp	<i>Polistes olivaceus</i>	non-native	rare
Globe skimmer	<i>Pantala falvescens</i>	indigenous	rare
<b>Mollusks</b>			
African snail	<i>Achatina fulica</i>	non-native	common

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# **APPENDIX D.**

## **Archaeological Inventory Survey**

**Archaeological Assessment Survey**

**A Portion of the H.P. Baldwin High School *Lot A***

**Wailuku *Ahupua`a* Wailuku District Maui Island**

**TMK (2) 3-8-007:004 (por.)**

**Prepared on behalf of:**

**Baldwin High School**

**Wailuku, Maui**

**Prepared by**

**Xamanek Researches, LLC**

**Pukalani, Maui**

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***21 March 2011(DRAFT)***

## ABSTRACT

Through consultation with the State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources (DLNR), Xamanek Researches, LLC conducted an Archaeological Assessment Survey on a portion of Lot A at Tax Map Key (TMK) 3-8-007:004 (por.). The subject area includes approximately 3.1 acres. Plans are being prepared to construct a softball field for the H.P Baldwin High School. The subject area is nestled in the sand dunes in central Maui at Wailuku *Ahupua`a*, Wailuku District, Maui Island.

Archaeological fieldwork occurred intermittently during December 2010 and January 2011. Fieldwork consisted of both surface and subsurface investigations across the undulating subject parcel. Subsurface testing included both archaeological hand testing and the excavation of 17 controlled mechanical Backhoe test Trenches (BT). Controlled, hand testing and screening occurred at a surface feature consisting of a pile of water-worn cobbles; and along an access road with scattered fragmented animal skeletal remains. Both locales proved to reflect relatively modern disturbance, less than 50 years old.

This archaeological assessment survey report was prepared following the Department of Land and Natural Resources (DLNR), State Historic Preservation Division (SHPD) Hawai`i Administrative Rules (HAR 13-275-276); in compliance with Maui County guidelines, rules, and recommendations. This report records and synthesizes data gathered from a combination of background research and field survey results.

Archaeological monitoring is warranted for any proposed alterations including potential clearing, grubbing, or grading activities on the subject parcel. We understand that proposed construction plans include a significant amount of grubbing and grading including heavy equipment operations for a massive cut to the naturally shifting Aeolian sand dune. Several human burial features have been documented in the sand dune network on surrounding parcels. An archaeological monitoring program is recommended, in order to mitigate impacts to potential inadvertent discoveries that may occur.

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## INTRODUCTION

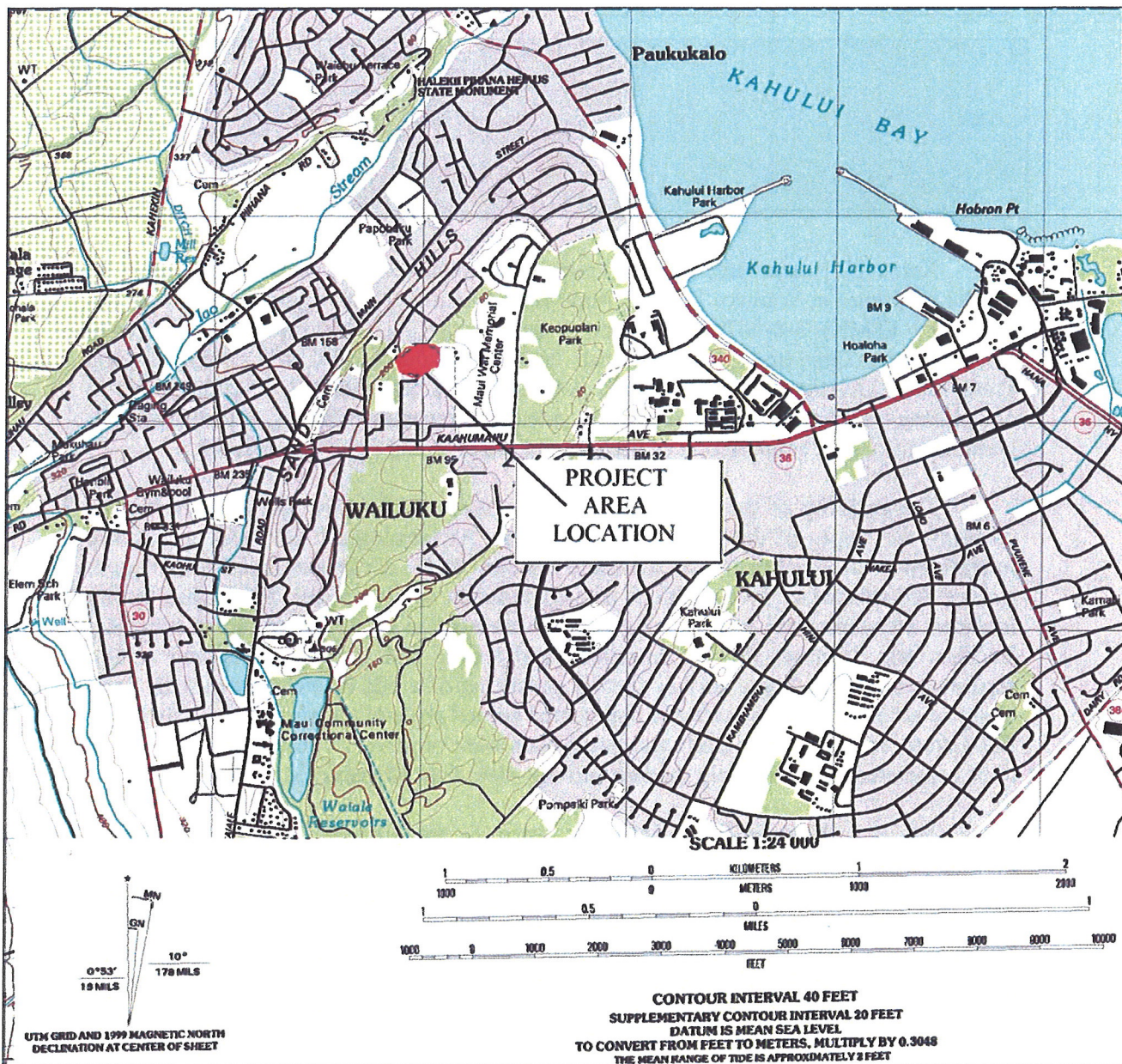
Xamanek Researches, LLC conducted an Archaeological Assessment Survey in Wailuku *Ahupua`a*, Wailuku District, Maui Island on a c. 3.1-acre portion (por.) of Tax Map Key (TMK) 3-8-007:004 (Figure 1 and Figure 2). This report was prepared following the Department of Land and Natural Resources (DLNR), State Historic Preservation Division (SHPD) Hawai'i Administrative Rules (HAR 13-275-276-5); in compliance with Maui County guidelines, rules, and recommendations. Information was compiled through a combination of background research and field survey results.

The majority of the subject area is open space with *kiawe* and *koa haole* trees covering the slopes of the undulating sand dune. Archaeological fieldwork took place intermittently during December 2010 and January 2011. Fieldwork consisted of both surface and subsurface investigations across the sandy subject parcel. Subsurface testing included archaeological hand testing and the excavation of 17 controlled mechanical Backhoe test Trenches (BT). Controlled hand testing and screening occurred at two separate areas: including a surface feature consisting of a pile of water-worn rocks; and along an access road with scattered fragmented animal skeletal remains. Previously cut or filled areas, road or access trails and dump sites were observed. The tested areas proved to be associated with relatively modern activity - less than 50 years old.

The H.P. Baldwin High School is listed on the National Register of Historic Places. Although the buildings are located on the same parcel, we understand the school and its' associated historic components are located outside of the perimeters of this archaeological assessment. One "derelict building" was noted and concluded to be related to the campus agricultural program and less than 50 years. One large water worn rock pile was encountered during the surface transect sweeps. This feature was adequately documented and tested during the course of this archaeological assessment survey and determined to be less than 50 years old. Fragmented, bleached animal bone fragments (non-human) were identified in some sections and also determined to be less than 50 years old.

While no significant material culture remains were located during this archaeological survey, it is important to note that human burial features have been documented throughout surrounding areas, scattered throughout sections of the sand dune network. Consequently, archaeological monitoring is warranted for any proposed earthmoving activities within the project area. This precautionary action will help mitigate potential adverse affects with respect to possible inadvertent discoveries.





**Figure 1: Portion of the United States Geological Survey Topographic Map of the Wailuku Quad showing the Project Area Location.**



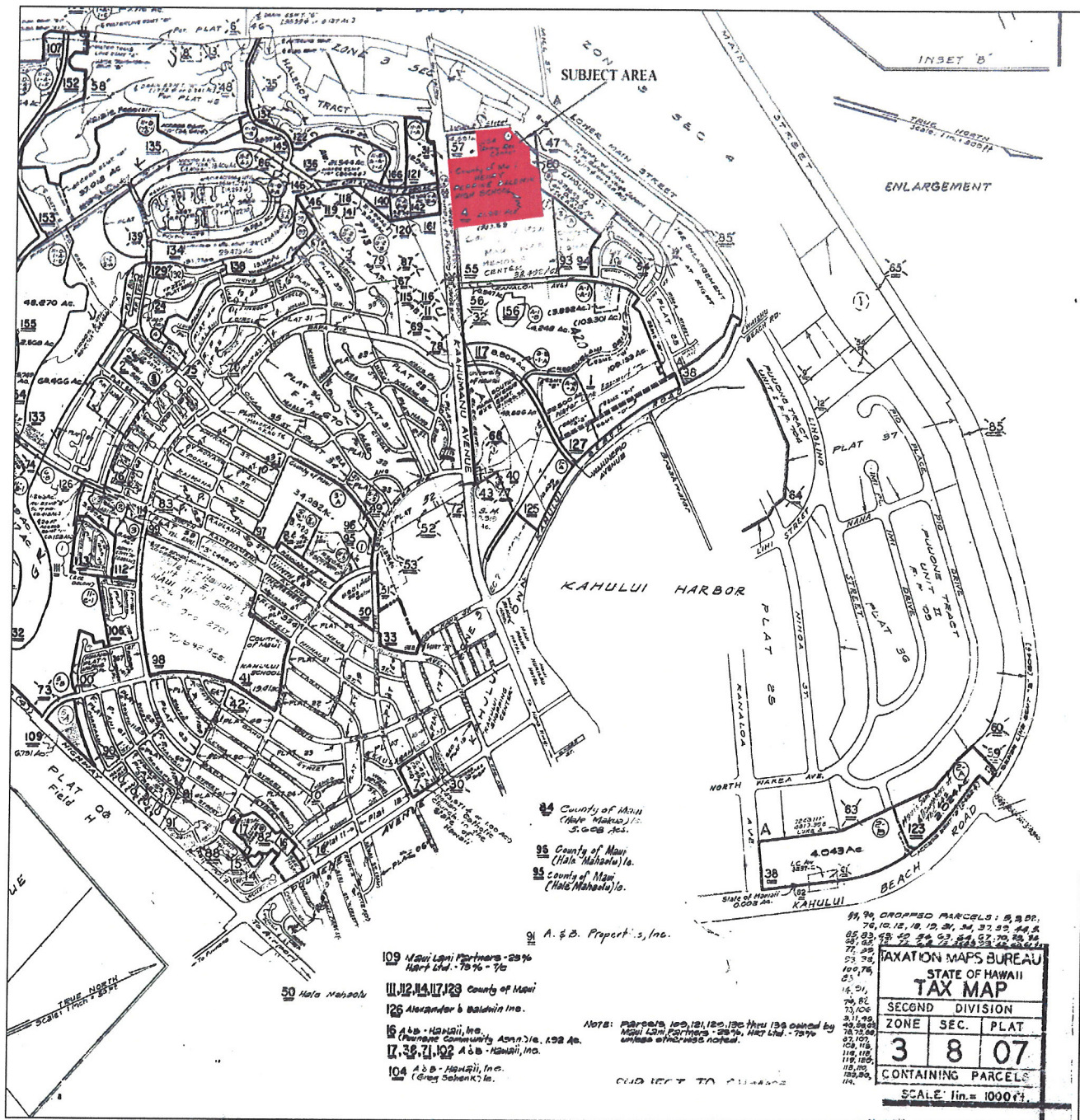


Figure 2 Tax Map Key Depicting the Subject Area in Red (TMK 3-8-007:004 por.).

## STUDY AREA

### Natural History

The subject area lies on the windward side of the Kahului Isthmus within the town of Wailuku. The project area is located on the western side of the isthmus, below the flank of the West Maui Mountains within a general overall area commonly referred to as *pu`uone* or *sand hills*. The sloping area consists of an extensive Aeolian sand dune formation—a large geologic feature that extends overall at least eight miles from Waiehu through Waikapū. The sandy matrix is underlain by lava flows from Haleakalā and alluvial sediments from the West Maui Mountains (Stearns and Macdonald 1942: 54). Soil classification is Pulehu-Ewa-Jaucas association; further described as “Deep, nearly level to moderately sloping, well-drained and excessively drained soils that have a moderately fine-textured to coarse-textured subsoil or underlying material; on alluvial fans and in basins” (Foote, et.al 1972: 8).

The color of the sand varies from grayish-brown to light brown and golden that generally forms layers of strongly alkaline cemented sand hard pan otherwise known as lithified sand that undulates above and below the surface. Old root molds, or root castings, filled with hard, white alkaline deposits are a common feature in the sand dunes (Ibid: 117). The sand dunes occur on slopes of 7 to 30 degrees, and develop in material derived from coral and seashells (Ibid.).

The parcel is situated approximately 1.2 kilometers (0.75 mile) inland from Kahului Harbor on the alluvial flank of the West Maui Mountains between approximately 36 to 49 meters (118 to 160 feet) above mean sea level. Annual precipitation in this portion of Maui averages between 20 to 30 inches. The highest monthly rainfall occurs during the winter and spring months. Temperatures range from 60 to 80 degrees Fahrenheit in January to 68 to 90 degrees Fahrenheit in July. Winds are generally trade winds from the northeast, averaging 16 to 18 miles per hour (University of Hawaii, 1983:56).

The subject parcel has been utilized by Baldwin High School for educational, agricultural, athletic, or other school related events (Photo #1). Again, the high school is listed on the National Register of Historic Places. Foot trails run throughout the subject area evident of excess foot traffic. Modern rubbish as well as evidence of prior mechanical grubbing and grading activities with more recent developments has affected large sections of the natural landscape (Photo #2). Access roads have been graded across portions of the subject area (Photo #3).





**Photo # 1: Subject Area Overview from Southwest Corner showing Concrete Embedded School Logo within Sandstone, View to Northeast.**



**Photo # 2: Previously Graded (borrow-pit) Portion of Subject Area (foreground) along Boundary of Football Stadium (background), View to East.**





**Photo # 3: Example of Previously Graded Access *Jeep* Roadways within the Subject Area, View to West.**

Following modern development trends, the surrounding areas have been developed for a variety of purposes including commercial agriculture as well as housing, medical, and business related uses. Many unique architectural structures are scattered throughout the historic Wailuku corridor. In general, the area has been heavily impacted through urban development while the quaint historic features add eclectic character to the already unique landscape. Wailuku is a culturally and architecturally significant historic town. Old Wailuku town has a rich history and currently contains a mixture of diverse business and residential areas, service stations, restaurants, and the Historic 'Īao Theatre.

The subject parcel is located in a mixed business and residential community at Baldwin High School adjacent to the War Memorial Stadium, and next to a well established residential neighborhood commonly referred to as *Sand Hills*. Wailuku is considered both a District and an *Ahupua`a*. *Wailuku District* is a relatively recent land term created for one of four main districts in Maui County (Figure 3). Wailuku District boundaries include a large land unit stretching around Kahului Bay from Paukūkalo to Kapukaulua. Wailuku is the name of the largest *Ahupua`a* (smaller land division) within the District. The area includes the infamous 'Īao Valley and the central Kahului Isthmus.

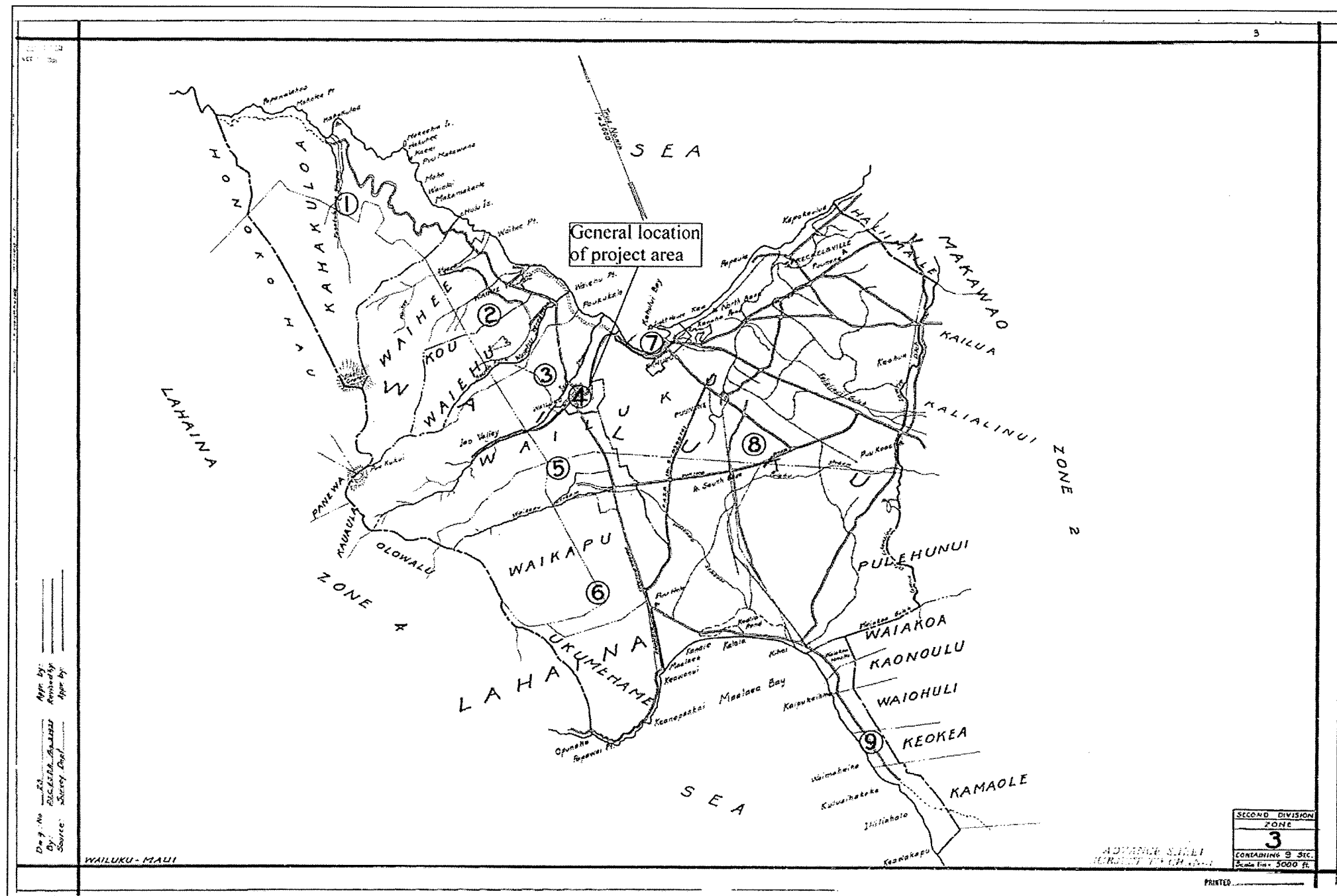


Figure 3: TMK Depicting the Current Boundaries of the *Wailuku District* showing Various *Ahupua`a*.



Typical foliage in the project area includes alien weeds as well as kiawe trees (Prosopis pallida) and koa haole trees (Prosopis). Vegetation in the project area consists of drought tolerant plant species, especially thick grasses such as buffel grass (Cenchrus ciliaris), and other dry shrub land introduced grasses and weeds.

The southeastern quad of the subject area contains actively utilized agricultural space associated with the Baldwin High Agricultural Department so a variety of manicured plants are located in the lower section of the subject area. An access or jeep road bisects the subject area connecting Leleihoku Street to the Baldwin High School boundary fence line (Photo #4). Various access roads have been graded throughout the parcel.



**Photo # 4: Grubbed Access Road from the Edge of *Baldwin High School* Boundary Fence, View to Northwest.**

War Memorial Gym, State Property Tax Office & Drivers Licenses, Sakamoto Pool, and Lau Hee Little League Park are located southeast of the subject area. A track and Football Stadium is located east of the property along the lower section of Leleihoku Street. Leleihoku Street borders the adjacent residential area. The subject area is south adjacent to the well established residential neighborhood (Photo #5). The neighborhood and subject area are both situated on a large southeastern sloped sand dune.



**Photo # 5: Overview of the Northwestern Boundary of the Subject Area Showing the Adjacent Shed or Outbuilding, View to West.**

Again, the subject area lies in central Maui, which is mostly comprised of *Jaucas* sand deposits. Isolated and clustered human burials have been located in the general vicinity of the project area within the sand dunes. The subsurface deposition throughout the project area is comprised of Aeolian dunes, or wind-blown sand, that through alluvial deposits and weathering, often transforms into concreted or lithified sand.

The subject area is comprised completely of various sand deposits (Photos #6 & 7). Human burial features have been identified in many forms throughout the sand dunes: sometimes scattered across the surface or displaced from prior disturbances, in shallow marked or un-marked burial pits, or even elaborate burial pits excavated through meters of concreted sand. Because the sand dunes essentially shift over long periods of time, burials have also been discovered as deep as 20 feet below the existing surfaces. Although this archaeological survey did not result in the identification of any archaeological features, there is a possibility that subsurface cultural deposits including human skeletal remains may be encountered during the proposed mechanical re-shaping, shifting, or grubbing and grading the sand dunes.





**Photo # 6: Recently Grubbed Area (prior to survey) with Exposed Sand Dune Surface (foreground) with Vegetated Area (background), View to West.**



**Photo # 7: Overview of the Central Portion of the Project Area; or the Area of Proposed Sand Removal to reach final Grade, View to Southeast.**

## BACKGROUND RESEARCH

### Hawaiian Settlement

Some of the oldest radiocarbon dates on the island of Maui have been recovered from archaeological research conducted in the general vicinity. Original Hawaiian settlers may have utilized the area for permanent habitation, ceremony, or agriculture. As summarized in the *Previous Archaeology* section of this report, nearby cultural deposits have yielded relatively early occupation dates. Ceremonial, agricultural, habitation and human burial features have all been documented across the central Maui isthmus.

Wailuku was a well populated area, rich with ancient traditional Hawaiian cultural practices. Significant *mo`olelo*, or stories of old, are associated with the area including the adjacent infamous `Īao Valley. The Kahului Isthmus was rich in natural resources. No doubt fishponds were abundant along the nearby fringing coral reefs and throughout the low-lying wetlands or mudflats.

Wailuku is a significant area and was referred to as such by early Hawaiians. Wailuku *Ahupua`a* contained many *ili*, or smaller land divisions. Wailuku was one of several *ahupua`a* within the traditional land division called a *Moku*, or "district" named Pū`ali Komohana *Moku* (Kame`eleihiwa 1992).

In ancient Hawaiian days, the prime environmental condition of lower `Īao Valley was ideal for agricultural endeavors necessary to support a large population. The area consisted of a wide valley floor, rich alluvial soils, and a constant water supply from `Īao Stream (AKA Wailuku Stream). These conditions combined with immediate access to the wetlands and Kahului Harbor; rich in marine resources, made an ideal setting for a communal political and cultural center. The lower portion of `Īao Valley provided a perfect climate for some of the most productive taro cultivation throughout the islands.

`Īao Valley is noted as a place where chiefs were buried and wars were fought. *Wailuku* translated as "water of destruction" (Pukui, et. al., 1974: 225). Wailuku was once known as the political center of Maui that culminated during the time of Chief Pi`ilani (approximately 1600 AD). In the late pre-Contact period, warfare increased as the chiefs of Maui, O`ahu and the Big Island struggled for political and military dominance. High Chief Pi`ilani succeeded in unifying the districts (*Moku*) of Maui through warfare, but following his death, his sons fought amongst each another; each hoping to succeed their father as high chief. Eventually Kiha-a-Pi`ilani was victorious, but the following

generation of chiefs struggled through warfare to secure their positions of political domination (Speakman 1978: 9-13).

During the reign of the last powerful paramount chief or king (*Mō`ī*) of Maui Kahekili (1765 to 1790), Wailuku again became the site of intense warfare. Allegedly, Chief Kehekili was Kamehameha I's father. Wailuku was considered to be the capital of Maui and Kahekili's royal residence, Kalanihale, was located in Wailuku, where he was surrounded by his retinue.<sup>1</sup> In the mid-1770s, the royal residence in Wailuku was marched upon by the Big Island chief named Kalani`ōpu`u and his *Alapa* (his warriors). News of Kalani`ōpu`u's arrival preceded him, and Kahekili hid his warriors in the sand dunes above Haleki`i *Heiau* to surprise the invading troops. A fierce battle ensued, and Kalani`ōpu`u's invading troops were pushed toward the sea and slaughtered (Speakman 1978: 9-13 and 16-17).

For four years Kahekili controlled Maui, Moloka`i, Lāna`i, and O`ahu. With the aid of foreign weapons such as guns and a canon, in 1790, Kamehameha I invaded Kahekili's territory—an action that ended with the notorious battle of Kepaniwai<sup>2</sup> and eventual political control over Maui Island. *Kahului* translates as "the winning", and the nearby town and Bay take the name because Kamehameha I gathered his warriors there before fighting the battle in `Īao Valley (Pukui, et. al. 1974).

The reign of Kamehameha I was intertwined with the increasing presence of foreign arrivals and commercialism. The arrival of Captain Cook offshore at Kahului Bay in 1778 began the steady flow of outside influences that would forever alter the population and environment of the Hawaiian Islands.

## Missionaries

An early outside influence that eventually changed every day life in the islands came with the arrival of missionaries, who wanted to save "heathen" souls. The first missionaries arrived in Wailuku around the 1830s. The population of Wailuku was listed during an 1831-32 missionary census as 2,256; with most of it being in the northern portion, presumably in `Īao Valley (Cordy 1978: 59). In 1836, Reverend Jonathan Green established a girls' seminary known as the *Central Female Boarding School*, where young Hawaiian women were taught the foreign language, customs and religion. The school is still located in Wailuku.

Reverend Dwight and Charlotte Fowler Baldwin arrived as missionaries in 1831 as part of the fourth group from the Congregational Church. Mr. Henry Perrine Baldwin was born as their son. The early missionaries severely influenced Hawaiian communities including customs and culture. Reading and writing were among those social changes.

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<sup>1</sup> The location is said to be located just north of the intersection of High Street and Main Street leading into Iao Valley in Wailuku town.

<sup>2</sup> Kepaniwai means literally "water dam" in reference to Iao Stream, because the stream was choked with human bodies after the slaughter there (Pukui, et. al. 1974: 109).

## Henry Perrine Baldwin and Commercialism

Foreign influences changed ancient Hawaiian lifestyle and landscape forever. Large agricultural tracts of land began to be utilized for commercial profit. Commercialism first came in the strongest form of sugar production. The first sugarcane crops grown in Wailuku were harvested and processed around 1828. With help from two Chinese technicians, Kamehameha III established a water-powered mill in Wailuku known as Hungtai Sugar Works. The mill continued to operate until the *new* Wailuku Sugar Mill was established in 1862.

Twenty years earlier, in the Baldwin home on the west side of the island on Front Street, an influential man was born. Mr. Henry Perrine Baldwin was born to be a successful leader in society and was at the forefront of early Maui commercialism, involving agricultural development. Mr. Baldwin was born in 1842 and died in 1911. Henry Perrine Baldwin High School was named after this man who "was among the most benevolent Plantation owners of his time" (The Maui News Special 1900-2000:6). According to Engledow (Ibid.):

As the years went by, Henry Baldwin earned not only a fortune but also the respect and love of his community. Fluent in Hawaiian and a supporter of the monarchy, he protested the "Bayonet Revolution" of 1887, which [limited the king's powers] and Hawaiians' voting rights severely. He was the only one of his party who spoke out in support of the Constitution before Queen Liliuokalani was dethroned.

H.P. Baldwin lost his arm in a sugar mill accident and spearheaded the construction of the Hamakua Ditch. Mr. Baldwin was married to Emily Alexander Baldwin, who was also intelligent, charitable, and extremely involved in the community. Allegedly, the two of them were known throughout Maui as Father and Mother Baldwin. The H.P. Baldwin High School was named after this man and the co-founder of the Alexander & Baldwin Corporation. In June 2000, the Henry Perrine Baldwin High School was listed on the National Park Service's *National Register of Historic Places* (00000667: Maui Public Schools MPS).

By as early as 1845 in Central Maui, on the southern and eastern side of the *Pu'uone* Dunes, cattle were roaming the Kahului Isthmus and a sizable area was utilized for pasturage. Cows were first introduced on the Big Island by Vancouver in 1793. At the time, cattle were under royal *kapu*, so they were not to be bothered. The cattle were destructive to the environment and Hawaiian landowners protested, but to no avail (Barrere 1975: 52). In addition to the commercial venture of cattle ranching, there were other efforts including a brief attempt at cotton production in the 1830s. The cotton endeavor met with little commercial success<sup>3</sup>.

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<sup>3</sup>The Anglican Church felt that "the Hawaiian people, freed from their service to and dependence on the chiefs should be self-supporting and thought that the encouragement of the manufacture of cloth from the superior cotton which grew luxuriantly in the islands would be a means to that end. They suggested that a



By the 1840s, the increased number of whaling ships anchoring off of Maui's shores created a substantial market for produce such as sweet and Irish potatoes. Irish potatoes were coveted and became important in the produce trade, particularly during the California Gold Rush. They were transported from the Kula fields to the shore, where they were often sold directly to ships then shipped to Lāhaina, where the bulk of the whaling fleet moored. The California Gold Rush began in 1848, which resulted in a potato boom on Maui that commenced in the fall of 1849.

## The Māhele

The *Māhele*, or *Division*, defines the process of the mid-1800s land tenure system change that followed the establishment of the Hawaiian constitution. During the time of the *Māhele*, all of the lands were divided into three categories: (1) Crown Land (for the occupant of the throne), (2) Government Land, and (3) Konohiki Land (set aside for 245 of the highest ranking *Ali'i*). The idea of *private property* had been introduced. All of the lands were subject to the *rights of native tenants*. If the common people (*maka'āinana*), or "Native Tenants", met certain criteria and filed land claims under specific guidelines, a Land Commission Award (LCA) was issued. Further efforts required hefty commutation in addition to conducting expensive land surveys -with limited available land surveyors- then finally, a land grant might be awarded. The awarded lands are referred to as *kuleana*.

According to the on-line *Waihona 'Āina* database: 271 LCAs, 192 Royal Patents, and two Land Grants are listed for Wailuku *Ahupua`a*. In 1848, much of Wailuku was designated Crown Land, to be used in support of the royal "state and dignity". In 1872, Kamehameha V died, and his sister Princess Ruth Ke'elikolani inherited the land. She was designated as the owner of the *Ka`a* lands of Wailuku, the southern portion of the *ahupua`a*. The *ili* of *Owa* comprised of 743.40 acres, (LCA 420) and was granted to Kuihelani. The study area is located within a section of LCA 420 to Kuihelani; being a portion of Royal Patent 1996.

The lower portion of 'Īao Valley contained some of the most productive taro lands on the island, reported in historic testimonies and maps related to LCAs in the lower valley. There are 66 LCAs identified between the old Wailuku Mill site and Paukūkalo, on the southern side of 'Īao stream, listed primarily as taro patch *kuleana*, and 39 *po`alima*. Additionally, thirteen awards were given to individual chiefs by Kamehameha IV.<sup>4</sup>

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manufacturer be sent with sufficient machinery to get the project started. They felt that the people would continue to work with the encouragement and cooperation of the chiefs." (Lemmon et. al 1973:2-B-3). To this end they sent Miss Lydia Brown in 1835 with "a quantity of domestic spinning apparatus' (presumably spinning wheels and a loom)" (Ibid.), and "charged with the responsibility of teaching the Hawaiian girls the arts of carding, spinning, weaving and knitting locally grown cotton and wool." (ibid.) As each class grew proficient enough to teach others, a new class was formed (ibid. 2.B.4).

<sup>4</sup> This is in contrast to the area south and east of Lower Iao Valley, in which the study parcel lies. Here there were 2 LCAs awarded—one to Victoria Kamamalu (7713), and one to Kuihelani (420). The largest land partition of Central Maui is Grant 3343 to Claus Spreckels.

By 1876, a reciprocity treaty with the United States gave a boost to the sugar industry by increasing prices, and the dry eastern section of Wailuku *Ahupua`a* became more attractive for potential sugar land. Claus Spreckels developed a friendship with King Kalākaua, and through him purchased or leased 40,000 acres of dry lands in 1878. The lease included 16,000 acres within Wailuku *Ahupua`a*. Later in 1882, one-half of the Crown Lands of Hawaii were deeded to sugar producer, Claus Spreckels, allegedly in order to settle debts.

Worried about what Spreckels might do with half of the Crown Lands, King Kalākaua deeded one of the aforementioned grants: Land Grant 3343 to Spreckels. The grant included a 24,000 acre portion of the southeastern section of Wailuku *Ahupua`a*, in return for the surrender of his claim (Adler 1966: 262-263). Much of the land shifted after the Māhele. According to Kame`eleihiwa (1992: 314-315), King Kalākaua's mother received fifty *ahupua`a* as a result of the Māhele and by the time she died, Kalākaua only received two *ahupua`a*...

...which meant he was virtually a landless *Ali`i Nui*, equivalent to a mere *konohiki* of twenty years before. But if he were to live and rule as an *Ali`i Nui* in the new capitalist system, he needed money. His attempts to make money via his capitalist friend Spreckels, through shady land deals and auctioning of the sole opium license for the kingdom to various contending Chinese businessmen, gave the missionary faction an excuse to ferment a rebellion that culminated in 1887...The Bayonet Constitution stripped power from the Hawaiian *Mō`ī* [King] and gave it to foreign capitalists. Broken in spirit and disheartened by the betrayal of foreigners whom he thought could be his friends, Kalākaua's health deteriorated. In 1891 he died... Kalākaua had discovered that it was impossible to rule Hawai`i with *pono* for both Natives and foreigners-their worlds were too different.

All of Hawai`i, including Wailuku continued to transform under foreign influence. Because sugar cane cultivation requires an immense amount of water, the natural water flow in *Na Wai Eha* drastically shifted. In 1880, Spreckels began the construction of "Spreckels' Ditch", located *makai* of the aforementioned "Hāmākua" Ditch, which was built earlier by Alexander and Baldwin to water *Maui Agricultural Company's* fields in and around Pā`ia. The "Spreckels' Ditch" carried water from Haleakalā farther west onto the arid Kahului isthmus. The ditch was 30 miles long, delivered about 60 million gallons of water a day, and cost \$500,000 to construct.

Spreckels built the Waihe`e ditch in 1882, which tapped the water resources from the West Maui Mountains, thus bringing water to both sides of the *Wailuku Commons* isthmus area (Adler, 1966: 48-49). These endeavors enabled him, in 1882, to establish Hawaiian Commercial and Sugar Company (HC&S). He continued involvement in that company until 1898, when control was wrested from his hands. The parent company still bears the name *Alexander and Baldwin*, the principal participants in the transfer of corporate control. The production of sugar cane continues to be an activity in the isthmus

area to this day, although some portions operated by C. Brewer and Company shifted to pineapple production. Most of the early historic agricultural endeavors have relatively recently ceased operations.

## Railroad

Kahului Railroad paralleled Lower Main Street, and was one of the earliest known commercial projects that severely impacted the natural sand dune formation. The route of the railroad ran from Kahului Harbor to Wailuku Sugar Mill. Remains of the old railroad bed have been noted in a few places along Lower Main, along Kahului Beach Road, and Ka'ahumanu Avenue. The most striking architectural remnants of the railway system located along Kahului Beach Road are the 5 concrete pillars and arches, the most visible *makai* one impressed with the date "1921". In the past, a large wooden frame building rested on these pillars, serving as the housing for the Makaweli Rock Crusher apparatus. It was constructed so the train carrying rock from the quarry could off-load from the track-bed into the crusher. The concrete pilings elevated the crusher adequately above ground so trucks could be driven in and filled with crushed rock. This series of pillars (footings for the Makaweli Rock Crusher Mill) still stands near the intersection of Kanaloa Avenue and Kahului Beach Road.

Railroad construction began in the late 1870s and continued for nearly 2 decades, as routes were added and service expanded. The Maui News contains articles dealing with the railroad. One article dated February 8, 1902, described a problem and potential solution resulting from the railroad:

Superintendent R.W. Fuller of the Kahului Railroad Company is preparing to make some important changes in the line of railroad track between Kahului and Wailuku. At present the sharp turn and the railroad crossing at the beach is extremely dangerous on account of the sand dunes that shut out the approaching trains from the view of those approaching the crossing with teams, especially the wind is blowing a gale. The track will be moved some hundreds of feet south of its present location, so that the point where it crosses the road as well as the approaching trains themselves can be seen for quite a distance. On crossing the road, the track will skirt the pasture at greater distance from the public road.

On June 8, 1907, another reference describes plans improving the land for additional residential use:

The Kahului Railroad Company is filling in the lowlands, in and about Kahului and will in time raise the level of the entire town site, when the work is completed and proper drains provided, the town should be free of mosquitos and the place a most desirable locality in which to live.

The railroad continued operations until after World War II. Then slowly, demands began to change, and segments of the system were phased out. An article in The Maui

News of October 15, 1957 bore the headline "Iron Horses Bow Out as Wailuku Sugar Company Discontinues Use of Railroad". The railroad continued to serve other areas until 1966, when it ceased operation.

In central Maui, modern development occurred later than in Wailuku town. During World War II, portions of central Maui were utilized by the military. There was a large Marine Base occupied in the areas where Maui Community College and the Maui Arts and Cultural Center are now located. Following the war, several housing developments were built in Kahului (Dream City) and the Wailuku Sand Hills area. The Army Reserve Maui location is located on one of the adjacent subject parcels.

## PREVIOUS ARCHAEOLOGICAL WORK

### *Heiau* in Wailuku

The earliest archaeological work in the Wailuku area was part of the island-wide survey of *heiau* (place of worship) done by Winslow Walker during 1928-1931. He reported a number of *heiau* in the general area of Wailuku. The most well known in the area -*Pihana Heiau* and *Haleki'i Heiau*- lie on the northern side of `Iao Stream atop the large dune formation. Efforts in the 1970s led to the preservation and designation of a State Monument, under the supervision of the Division of State Parks (DLNR).

Walker reported that there were a number of other *heiau* in this area of Wailuku, which were said to have been consecrated by Liholiho during his visit to Maui for that purpose in 1801 (Walker 1931: 146-147). At the time of his survey, none of the following reported *heiau* could be located: Keahuku, Olokua, Olopio, Mālena, Pohakuokahi, Lelemākō, Kāwelowelo, Kaulupala, Palamaihiki, and Oloolokalani (ibid: 148).

Personal communication with Mr. Charles Keau (1992), a well-respected authority on history and prehistory of Maui, provided more information about some of the *heiau* Walker did not find. By Mr. Keau's account, there were 3 *heiau* located in the Lower Main Street corridor from Kahului Harbor to the intersection of Lower Main and Mill Streets. One was situated across the street from the Maui Soda Company. Another was located on parcel 083 (TMK: 3-4-039) between the Maui Electric Power Station and the County of Maui Wailuku Government cemetery. A third may have been located near the Home Maid Bakery. During the construction of the parking lot next to the bakery, Mr. Keau reported that Wesley Wong, a well-known local antiquity collector, found 5 adzes of "Tahitian" style. He did not specify when this was, but thought there might still be portions of the *heiau* there as well as some burials. More recent archaeological work has corroborated this prediction.

### **Nisei Veterans Memorial Center**

Very significant archaeological findings were identified at the corner of Lower Main Street and Waiehu Beach road during construction for the Nisei Veterans Memorial Center. The Nisei Memorial project has been underway since 1992.

In February of 1992, Xamanek Researches began an archaeological inventory survey on the approximate 2-acre parcel of land near the intersection of Lower Main and Wai'ehu Beach Road (Fredericksen and Fredericksen December 1992). The Kahului Railroad bed that ran the length of the property was documented (SIHP -3112). Another

historic site (SIHP -3119A) was a refuse disposal area about 20 centimeters below the existing surface. Historic items were bottles and ceramics dating from the late 1800s, about the time the railroad was built and in use. A subsurface excavation that cut through the historic site, exposed a subsurface pre-Contact site designated as Site -3119B. Later, data recovery work at the site caused a revision in the site numbering system. All pre-Contact components of the site are designated as Site -3120 and the later components are listed as Site -3119.

Site -3120 consists of a large habitation site with a cluster of associated human burials. Test excavations at Site -3120 yielded a number of artifacts, including coral files, bone picks, an unfinished fishhook, and worked bone, along with large quantities of marine shell or food midden. Several fire pit features were recovered and a series of 12 radiocarbon dates were obtained. They range from the very early date (AD 233-410) to a later range of AD 1200-1740. The majority of the dates fell into a range of AD 1400 to 1700 (Fredericksen, et al., 1998).

Archaeological monitoring followed the data recovery, and at least 38 additional human burials (SIHP -4668) were located in the southwestern corner of the 2-acre parcel near the crest of the dune. A radiocarbon date from a large double posthole beneath one of the burials returned a conventional radiocarbon age of 620 +/- 50, and a calibrated date range of AD 1285-1420. The monitoring program is still in progress.

Xamanek Researches surveyed a sand dune parcel (TMK: 3-8-007:038) in November 1992. Fourteen backhoe test trenches were excavated, along with 3 manual test units, in relatively undisturbed portions of the parcel. The *makai* portion of the property was impacted by the installation of a sewer line, the mid-portion by the construction of the former Kahului Railroad bed (Site -3112) and a rock crusher mill (Site -3145). An additional site has more recently been documented on the parcel consisting of a human burial within a sand mound paved with water worn cobbles and boulders (Fredericksen, November 1992, and Xamanek Researches, LLC 2010).

### **Central Maui**

The central area of Maui, south of Ka`ahumanu Avenue, is also noted as an area with many human burial features within the sand dune complex, which stretches at least 8 miles across the isthmus. There have been a number of archaeological studies documenting human burial sites throughout *Pu`uone* or the sand dunes (Fredericksen et al. 1997 & 1998; Panteleo and Sinoto 1996; Rotunno-Hazuka 1994).

Xamanek Researches conducted archaeological studies at Maui Community College, Maui Central Parkway and at the Keiki Zoo Maui (Fredericksen et. al 1992, 1994 and 1995). There were no significant cultural remains identified during the investigations.

Archaeological Consultants of Hawai'i conducted an archaeological survey for the Maui Arts and Cultural Center without significant findings (Kennedy 1990). Scattered human skeletal remains were identified on the surface near the Maui Arts and Cultural

Center, during a 1996 Xamanek Researches survey (SIHP 50-50-04-4211). Subsequent archaeological work indicated no additional human remains were present, and Site -4211 was somehow evaluated as “no longer significant” (Heidel, Pyle and Hammatt, January 1997: 97). Cultural Surveys Hawai‘i, Inc conducted an archaeological inventory survey for the 110-acre Maui Central Park area AKA Keōpūolani Park. Additional human skeletal remains have since been identified and collected from the park (SHPD). Other historic sites noted in *Maui Central Park* include Site -4232, a World War II military facility, and Site -3112, the Kahului Railroad Berm.<sup>5</sup> Both sites were partially preserved through incorporation into the landscaping of the Park (ibid: 96).

In 2001 Xamanek Researches monitored the Mahalani Street improvements project. The project involved widening, upgrading, and replacing existing drain lines, replacing sidewalks, and installing a pedestrian cross walk way and light. A 15-stall parking lot was constructed and was partially monitored during this project. A previously unidentified post-Contact wall was recorded and given Site -5113.

### **Maui Lani Development Project Area**

Early preliminary surveys in Kahului by Barrera (1976) of the 1,000 acre Maui Lani Project and the Hale Laulea Subdivision (Barrera, 1983) did not identify any sites. Neller (1984) investigated the area known as the “sand borrow site” at Maui Lani after sand with human skeletal remains was transported to a construction site in Lāhaina. Upon investigation of the *borrow site*, one complete *in situ* burial and scattered human skeletal fragments representing at least 3 individuals were displaced throughout the area.

In 1987, Xamanek Researches responded to a phone call from the Maui Police Department involving the inadvertent discovery of human skeletal remains. The archaeologists visited the “sand borrow site” to assess the situation with respect to skeletal remains reported by local residents. The disturbed, flexed burial of a young female (18 to 25 years of age) and a 4 or 5 year old sub-adult lay partially exposed in a dirt bike trail. At the request of the Police Department, the burials were removed. The presence of a shattered 4<sup>th</sup> thoracic rib and lower scapula blade on the left side, suggested that a frontal, traumatic puncture wound caused the death of the young female. The recovered burials were curated at Maui Community College until they were turned over to the State Historic Preservation Division on Maui for permanent deposition.

In 1990, the Anthropology Department of the Bishop Museum under contract to Maui Lani Partners conducted test excavation on 4 sites which had been identified in a reconnaissance survey done in January 1990 (Rotunno and Cleghorn, February 1990). The sites included 2 parallel alignments, 2 adjacent rock mounds, and a single rock mound. These sites were determined to be of recent origin related to off-road vehicular traffic, and not archaeologically significant. The fourth site (Site 50-50-04-2797) includes the human burial site at the “sand borrow pit” in the Maui Lani golf course. The scattered remains of at least 3 individuals were recovered in the upper disturbed surface layer

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<sup>5</sup> The Kanaloa Avenue construction-monitoring project located a previously unidentified pre-Contact habitation area (Site 5496) along with three *in situ* human burials and the remains of two previously disturbed individuals (Site 5495). Both of these sites lie in the northeastern portion of Keopuolani Park.

(Rotunno-Hazuka et. al., May 1994a). Data recovery resulted in the documentation of at least 12 individuals from 10 burial features. Six of the features were preserved *in situ* (Rotunno-Hazuka et. al., May 1994b).

Archaeological subsurface sampling of the Maui Lani Development Phases 1 and 1A was conducted by Aki Sinoto Consulting. The objective of the work was to implement a strategy for subsurface sampling to test for the predictability of burials based on topographic features within the unmodified dune areas, and to address the deficiencies in the inventory survey (Pantaleo and Sinoto January 1996). Ninety backhoe trenches, 2 shovel probes and a manual trench were excavated at 58 locations (*ibid*: iii). Six previously unrecorded burials were found – 4 associated with the sand borrow site (Site -2797); and one on top of a high dune (Site -4146).

Archaeological inventory level testing proved erroneous in the sand dunes. “No predictable pattern of traditional interment of the dead based on preference for topographic features was established during the current investigation. Rather, the resultant data indicates only one concentration or complex of multiple burials at Site -2797 and isolated individual burials at the top of dunes in the highest locations in the project area” (Pantaleo and Sinoto January 1996). Subsequent archaeological monitoring of the Maui Lani residential and commercial development resulted in the discovery of hundreds of additional human burial features throughout the sand dunes.

Xamanek Researches conducted an archaeological inventory survey along the Maui Lani Parkway, Lot 11-A in 1997. A human burial site was documented and assigned SIHP 50-50-04-4401. Several other burial features are documented along the Maui Lani Parkway Development such as Sites -4368 and -4435 (Xamanek Researches).

#### **Wai`ale Road Corridor**

A pre-Contact human burial was found while road crews were excavating under the Ka`ahumanu Avenue bridge crossing Wai`ale Road (Site -4126).

Along Wai`ale Road, which forms the western border of the Wailuku Sand Hills residential neighborhood, human burial features have been documented. Archaeological monitoring occurred for a drainage project (C. Brewer) and archaeologists identified human remains formerly disturbed by an old pipe line trench running perpendicular to the road (Site -4005). Site -3502 contains human burial features including an historic coffin burial and a disturbed burial determined to be ancient Hawaiian. Site -4067 is a habitation site associated with Site -4005, which was identified during the drainage project. Site -4068 is another habitation site with an associated cluster of human burials (Dunn and Spear 1995).

During construction for the Maui Homeless Shelter in May of 1992, 3 human burials were inadvertently discovered (Site 50-50-04-2916). These skeletal remains were investigated by Theresa Donham. Skeletal remains representing an adult male were documented a grading cut, roughly 2 feet below the original surface (Burial 1). On May 21, a cranium (Burial 2) was exposed during construction of a desilting basin located



along the lower slope of the dune at the southeastern corner of the project area (Donham, 1992:3). A test unit measuring 5 by 3 meters was excavated to a depth of 0.50 to 0.75 meters below the surface. 280 identifiable elements or human skeletal fragments were recovered, along with 235 non-diagnostic fragments. Two individuals were represented including an adult female, and a smaller adult individual.

In 1999, Archaeological Services Hawai'i (ASH) conducted archaeological monitoring during the initial construction activities for the Cameron Center Expansion project. Human skeletal remains representing an adult and an infant were identified. The recovered skeletal remains were placed in a previously designated permanent burial preservation area (SIHP 50-50-04-4728).

## **Wailuku Town**

In Wailuku Town, Xamanek Researches conducted two archaeological inventory surveys for the Main Street Promenade Project. Historic period bottles and crockery were recovered from two large refuse pits, along with metal parts that appear to be carriage and harness items (Fredericksen and Fredericksen 2000, 2001).

Xamanek Researches conducted an archaeological inventory survey on a portion of land fronting Central Avenue (Fredericksen and Fredericksen 2003). One historic property was documented consisting of an old concrete foundation from the former Nashiwa Bakery (Site 50-50-04-5484). An old roadbed (SIHP 50-50-04-5763) was located during subsequent archaeological monitoring for the housing and associated infrastructure during the development of the parcel (Fredericksen 2006).

An archaeological inventory survey was conducted in the parking lot of the historic Iao Theater on Market Street during 2001. Historic period artifacts were located in trash pits during the archaeological survey (Rotunno-Hazuka). Purportedly, local vendors and bottle hunters collected old bottles and historic items during excavations for the theater improvements project that they located in the open trenches.

Xamanek Researches LLC conducted an archaeological monitoring program for the Market Street Improvements project that extended from Mill Street to the bridge over the channelized ʻĪao Stream (Fredericksen, 2003). One historic property with three component features was documented during the monitoring project. The features consisted of the cut basalt edging visible in some sections along Market Street (SIHP 50-50-04-6442 Feature A); a retaining wall (SIHP 50-50-04-6442 Feature B), and subsurface remains of an old roadbed (SIHP 50-50-04-6442 Feature C). Historic glass bottles (some broken), ceramics, nails, and horseshoes were collected during the monitoring program.

**Table 1: Previous Archaeology**

<b>AUTHORS</b>	<b>LOCATION</b>	<b>FINDINGS</b>
Burgett and Spear, 1995	TMK: 3-8-37: 48, Lower Main St., Home Maid Bakery, Sites 3924 and 3925.	Habitation sites; human burials. Dated c. AD 1430 to 1671
Burgett and Spear, 1996	Inventory Survey – TMK: 3-4-39: 77. Lower Main St., Oceanhouse, Inc., Site 4004	Habitation site remnant; human burials. Dated 1429-1640 AD.
Connolly, 1973	Statewide Inventory – TMK: 3-8-36: 94, Lower Main St., Site 1172	Habitation site; burials discovered in 1994 eroding from dune face.
Donham, 1994	TMK: 3-8-37: 49, Lower Main St., Home Maid Bakery, Site 3556	Inadvertent burial discovery, both historic and precontact burials.
Donham, 1992	Letter Report – TMK: 3-8-46: 21, Waiale Road, Maui Homeless Shelter, Site 2916	Human burials
Dunn and Spear, 1995	Monitoring – TMK: 3-4-02: 36, RR bed along Waiale Rd. Sites 4068, 4067; Site 3502 at Waiale Rd. and Kaohu Street	Habitation site and burials (Site 4068); Habitation (Site 4067)
Fredericksen, W. and Fredericksen, D. December 1992a	Inventory Survey – TMK: 3-8-07: 40 and 43; Maui Community College Parking Lot Extension	Historic sites from WWII. No precontact cultural materials
Ibid., September 1995	Inventory Survey – TMK: 3-8-07: por. 1; Keiki Zoo Maui.	No significant findings
Fredericksen, D. and Fredericksen, W. February 1996	Skeletal Recovery Project – TMK: 3-8-07: 104; Maui Scrap Metal Company, Waikapu, Borrow Site 3525	Remains of at least 22 individuals recovered from mined sand
Fredericksen E. and Fredericksen D. September 1996	Data Recovery – TMK: 3-4-39: por. 82	Habitation site (Site 4127); dated c. AD 1450 to 1675
Fredericksen, E. November 1998	Monitoring Report for Baldwin High School TMK: 3-8-07: 4	No significant findings
Fredericksen E. February 1998	Monitoring Report for Kuikahi Drive and Waiale Road, TMK: 3-5-01: por. 65	No significant findings
Fredericksen, E. and D. September 1998	Mitigation Report for Lower Main/Mill Streets Public Utilities Project – MECO TMK: 3-4-39: por. 81	<i>In Situ</i> precontact burial associated with Site 4127
Fredericksen, E. 1998	Na Leo Pulama O Maui Monitoring Project	Previously disturbed human remains located (Site 4493)
Fredericksen, E., D., and W. August 1994	Inventory Survey – TMK: 3-8-46: 30; Maui Memorial Park	No significant findings
Ibid., March 1997	Inventory Survey – TMK: 3-4-36: parcel A; Mokuhaui Water Storage Tank	No significant findings
Fredericksen, E., W., and D., September 1994	Inventory Survey – TMK: 3-8-07: por. 125; Maui Central Park, 10 acres along Kahului Beach Road	No significant findings

**Table 1: Previous Archaeology (cont.)**

<b>AUTHORS</b>	<b>LOCATION</b>	<b>FINDINGS</b>
Fredericksen E., and Fredericksen D. June 1995	Inventory Survey – TMK: 3-8-46: 21, Waiale Road; Ka Hale A Ke Ola	No significant findings during inventory survey – monitoring recommended
Fredericksen D. February 1997	Skeletal Recovery Report – TMK: 3- 8-46: 21, Waiale Road; Ka Hale Ke Ola	Human burials uncovered during grading – remains of at least four individuals recovered
Fredericksen E., and Fredericksen D., January 1997	Inventory Survey – TMK: 3-4-07: por. 121, Maui Lani Parkway corridor	No precontact finds in corridor – human remains (Site 4368) on Golf Course Hole #10 – monitoring recommended
Fredericksen E. November 1997	Maui Lani Parkway Corridor Monitoring report	<i>In Situ</i> burial (Site 4435) and previously disturbed remains (Site 4419) found during monitoring
Fredericksen D. and Fredericksen E. May 1997	Inventory Survey – TMK: 3-8-47: por. 1, 2, 3, 4, 17, 18, 30 and 32; 3-9- 07: por. 121, Mahalani Street Extension	No significant findings – monitoring recommended
Fredericksen E., and D. June 1997	Inventory Survey – TMK: 3-4-07: por. 121, Lot 11-A, Maui Lani Project – 20.7 acres	One indigenous <i>in situ</i> burial (Site 4401). Monitoring recommended
Fredericksen E. December 1997	Monitoring Report for the Kaiser Permanente Parking Lot Extension Project TMK: 3-8-46: 08	No significant findings during monitoring
Fredericksen E. and D. February 1999	Monitoring Report for 12-inch sewer line along Waiale Road TMK: 3-4- 10: 27 & 30	One indigenous cultural layer and <i>in situ</i> burial – Site 4683. Further monitoring recommended
Ibid., November 1998	Monitoring Report for Baldwin High School Gymnasium Project	No significant findings
Ibid., April 1999	Monitoring Report of Kahului Barge Terminal Improvements TMK: 3-7- 08: por. 4 & 6	One subsurface site with coral and pebble pavement – site 4753
Fredericksen D. and E. April 2000  March 2001	Inventory Survey of TMK: 3-4-13: 96 and 100 – Phase 1 Main Street Promenade Phase 2 - TMK:3-4-13: 76	Adjacent property to the west. Identified 2 historic sites.
Fredericksen D. and Fredericksen, W. December 1992b  Fredericksen, et al., October 1997	Inventory Survey: TMK: 3-8-07: 123, at Lower Main and Waiehu Road, Nisei Veterans Memorial Canter  Data Recovery Report: TMK: 3-8-07: 123, at Lower Main and Waiehu Road, Nisei Veterans Memorial Center	Historic site, Kahului Railroad (Site 3112); large precontact habitation site, with continuous occupation from c. 1200 AD to c. 1740 (Site 3120); numerous burials to be preserved <i>in situ</i> .
Fredericksen D., and Fredericksen E., September 1997	Inventory Survey: TMK: 3-4-39: 82, proposed Maui Texaco Service Station project	Habitation site and burials (Site 4414) dated c. AD 1325 to 1670; data recovery and monitoring recommended.
Fredericksen, E., and D., December 1997	Inventory Survey – TMK: 3-8-07: 47 at Lunalilo and Liholiho Streets, Na Leo Pulama `O Maui Property, Site 4418	Habitation site (Site 4418), dated AD 1400s to 1600s; preservation of site recommended; monitoring of project recommended.

**Table 1: Previous Archaeology (cont.)**

<b>AUTHORS</b>	<b>LOCATION</b>	<b>FINDINGS</b>
Fredericksen, et al., July 1995	Inventory Survey – TMK: 3-4-39: por. 81, 82, 83 at Lower Main and Mill Streets, Site 4127 Data Recovery – TMK: 3-4-39: por. 82	Habitation site (Site 4127); data recovery recommended.  Habitation site (Site 4127); dated c. AD 1450 to 1675.
Fredericksen, D. and E., December 1999	Inventory Survey of Site 1172 – TMK: 3-8-36: 94.	Infant burial; habitation site dated to AD 1400-1640.
Fredericksen, D. and Fredericksen E., September 2002	Inventory Survey- TMK: 3-4-039: 76, Site 4730	Habitation site, burial (Site 4730), monitoring recommended.
Fredericksen, E., and Fredericksen D., March 2002	AIS Puuohala Mauka TMK: 3-3-2: por 1	Site 5195 – plantation era wall/platform Site 5196 – surface scatter of coral and shell
Fredericksen, D., 2005	Kanaloa Avenue Project, TMK: 3-7-001: 02	Site 5495: four Native Hawaiian <i>in situ</i> burials; Site 5496: precontact coastal habitation site; Site 5471: Native Hawaiian burial; Site 5472: previously disturbed human remains, Site 5660, habitation site.
Heidel, Pyle and Hammatt, 1997	Inventory Survey – TMK: 3-8-07: 1 and 3-7-01: 2, Maui Central Park	Historic sites – Site 4232 – WW II military camp; Site 3112 – Kahului Railroad Berm; Site 4211 – scattered human remains
Kennedy, 1992	Inventory Survey TMK: 3-8-07; Maui Arts and Cultural Center	No findings
Pantaleo, J. and A. Sinoto, January 1996	TMK: 3-8-07: 2, 110; Phase I and Phase IA, Maui Lani Partners Development, Wailuku	No habitation sites. Human burials in several locations. Monitoring recommended. Additional burials during monitoring
Rotunno and Cleghorn, 1990 Rotunno-Hazuka, et. al. May 1994a	TMK: 3-8-07: 2, 110: Maui Lani Development Property	No precontact sites other than burials (Site 2797)
Spear, 1995	TMK: 3-8-37: 48; Lower Main Street	Human burials and habitation (Site 4066).



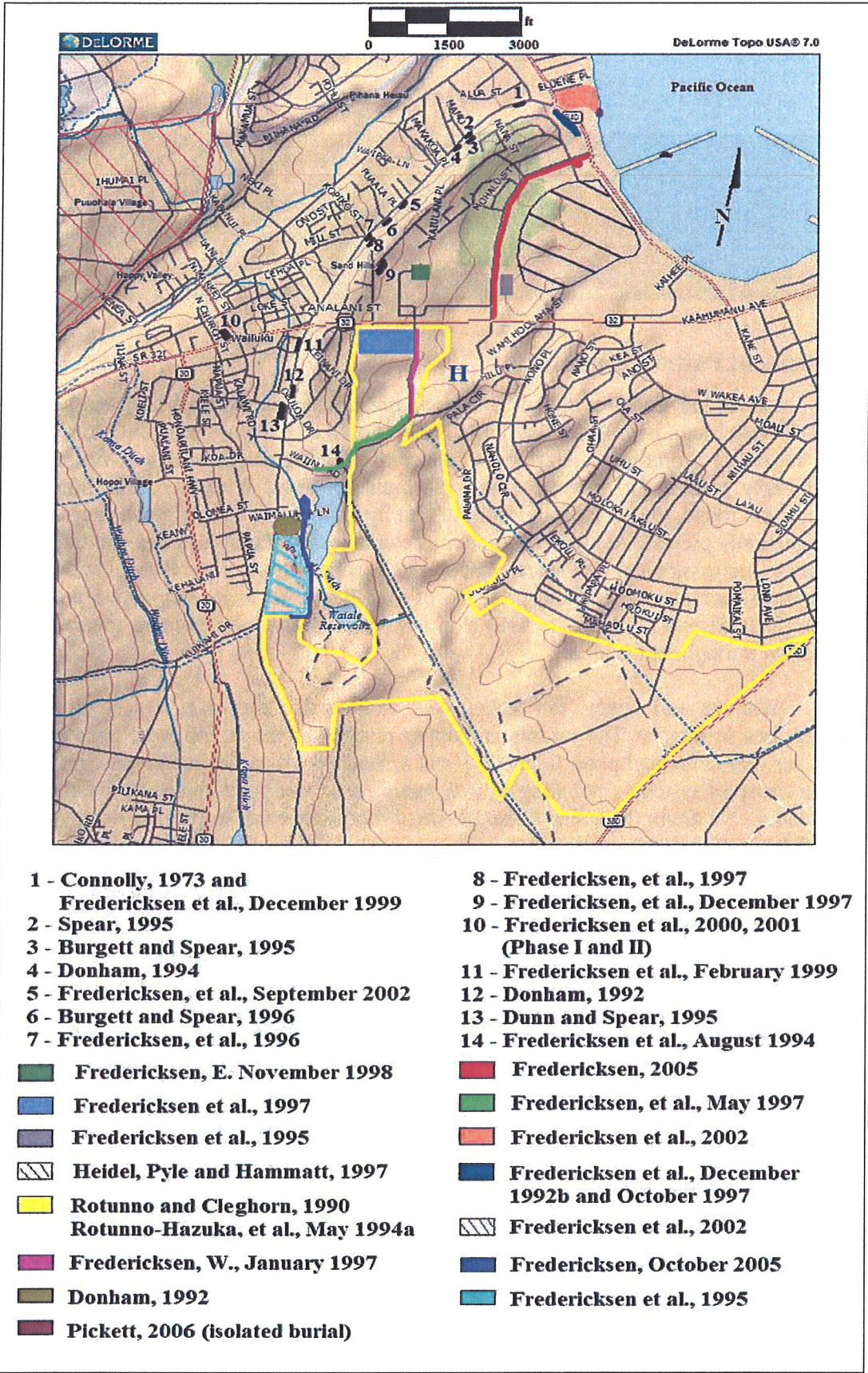


Figure 4: Map of Selected Previous Archaeology Studies in Wailuku.

## SETTLEMENT PATTERN AND EXPECTED FINDINGS

### Settlement Pattern Summary

Lower Īao Valley within Wailuku *Ahupua'a* was a central political and religious area of West Maui, because of the fertile lands as well as the close proximity to wetlands and the ocean shoreline. A sizable and successful aboriginal Hawaiian settlement was most likely present for over the past eight hundred years. Wherever large population clusters are found, the social framework of chiefly importance and religious expression is also generally present. Aside from numerous examples from oral histories and traditions, concrete archaeological evidence supports the supposition: several habitation sites, agricultural complexes, and the presence of significant *heiau* including two preserved *heiau* (Haleki'i and Pihana; Site 592) atop the northern dune system, and several others dispersed throughout the area.

Wailuku and upper Īao Valley was traditionally known as a very significant sacred area in history. The middle and upper reaches of the region were once covered with actively cultivated pond fields (*lo'i*) and associated tributaries or complex integrated water transport systems (including *'auwai*), which produced food items to support a large population. No doubt the streams also provided food sources as well as the nearby ocean, which is teeming with aquatic resources.

Coastal habitation and ceremonial sites -such as Site -3120- were occupied since at least AD 1200s (possibly earlier). Although there has not been as many studies conducted in the upper region, patterns emerge from the lower region. In general, permanent habitation and ceremonial or political center sites seem closer to the ocean and yield earlier dates than inland. This suggests early Hawaiian settlement occurred along the shoreline and moved inland as population increased. This hypothetical theory matches many other researchers and scholars. An intensification of usage occurred during the 16th century and may have peaked around the time of Pi'ilani, approximately 1600 AD. .

Foreign influence brought change to the landscape and lifestyle. Cattle ranching occurred in the general area, which reshaped much of the landscape. Commercial agricultural endeavors brought several ethnic groups to work throughout the islands, including to the bustling area of Wailuku. Many plantation camps were scattered about. *Raw Fish Camp* was one of the camps located in central Maui. Remains from historic immigration camps and early historic homes as well as commercial buildings are located throughout the historic Wailuku corridor. World War II era sites have been documented in the region.

## **Expected Findings**

Portions of the subject area have been previously altered through mechanical grubbing and grading activities but there are still many undisturbed sections of the natural Aeolian sand dunes. Based on the results of adjacent surveys and monitoring programs, it is very possible that previously unidentified subsurface cultural deposits may be encountered in the disturbed or undisturbed portions of the subject parcel.

Traces of ancient traditional Hawaiian occupation or ceremonial areas may still exist. It is not uncommon to find buried evidence of historic plantation, ranching, or military features. Although a significant amount of subsurface testing occurred, it is always possible that subsurface features still remain in the untested areas throughout the subject parcel. The occurrence of isolated human burials is noted at several locations throughout this sand dune area; so there is a strong potential for the inadvertent discovery of human skeletal remains within the project area.

## FIELD METHODS

Xamanek Researches LLC conducted an archaeological assessment survey on an approximate 3.1 acre portion of Tax Map Key (TMK) 3-8-007:004 (por.). The subject area is located in Wailuku *Ahupua`a*, Wailuku District, Maui Island. Archaeological fieldwork occurred during December 2010 and January 2011 by archaeologists Marco Molina, B.A., and Jenny Pickett, B.A. The project's field director and principal investigator was Erik Fredericksen (SHPD Permit #11-07).. A total of 10.5 days were expended for fieldwork with respect to this archaeological assessment.

The archaeological assessment survey fieldwork consisted of three segments: (1) a pedestrian surface survey with controlled transect sweeps across the subject area; (2) archaeological hand testing at two locations: one hand excavated sample trench near the center of the subject area, and three controlled Test Units (TU-1-3) in a surface rock pile; (3) subsurface testing with heavy equipment through excavation of a series of 17 strategically placed mechanical Backhoe test Trench (BT 1-17) excavations (Figure 5).

Sifting through a ½" and ¼" screen occurred during the controlled archaeological hand testing. All backfill was visually inspected by the archaeologists, exposed sidewalls examined, and the soil consistently spot checked. Following the test excavations, a representative wall from the subsurface tests was hand scraped with a trowel to aid in documentation. The wall profiles were mapped to scale and described using Munsell soil colors and U.S Soil Conservation Service terminology. The completed excavations were photographed and finally, the excavated areas backfilled.

All mapping was performed with a hand held compass (true north) and metric survey tape measures. Photographs were taken with a digital camera. All records are stored at the Xamanek Researches, LLC laboratory located in Pukalani, Maui.





## ARCHAEOLOGICAL FIELD RESULTS

The pedestrian surface survey involved controlled transect sweeps across the subject area. Sections the study area were previously altered in the relatively recent past. A Jeep access road bisects the subject area with subsurface disturbance from associated road or access improvements documented throughout the project area. One rock pile and one find spot with bleached skeletal fragments were identified during the surface survey.

Sections of the subject area were noted as mechanically grubbed and graded or altered by recent habitation activities associated with the adjacent residential areas or trash dump areas. Modern refuse was noted throughout various sections of the parcel that included items such as plastic, aluminum, concrete, wood, glass, black cloth, machine-cut bone, wire, broken metal and PVC pipes, golf clubs, bags, old furniture, and small stockpiles.

Subsurface investigations for the archaeological assessment survey included archaeological hand testing at two locations. Sifting through a 1/2" and 1/4" screen occurred during the controlled testing at both locales. Bleached skeletal fragments were located at one find spot at the surface during the transect sweeps. A large surface area was cleared, raked and a section tested at find spot. One hand excavated sample trench was excavated in the graded access road area (Photo #8). Bleached cow and pig bones were scattered across the surface of some sections through the project area.

The isolated find spot was located between backhoe test trenches 1 and 2 (see Fig 5). The find spot consisted of 3 bleached non-diagnostic skeletal fragments. The area surrounding the find was raked. A rectangular test area was positioned around the concentration. The test trench measured 50 centimeters wide by 2 meters long and approximately 50-70 centimeters below the existing surface (Photo #9). Very small, bleached skeletal fragments were located in the first 10 centimeters of the sandy surface. The entire subsurface deposit consisted of a single layer (Layer I) that was mixed with previously co-mingled material. Layer I contained plastic, glass, *kukui* nut shells, 1 echinoderm fragment, coral cobble, wood, pebbles, cobbles, imported gravel (angular base rock). Layer I consisted of approximately 80% rock 20% silty sand. Layer II (c. 15-60 cmbs) consisted of partially intact very pale brown (10 YR 7/4) dune sand. Based on our test results, the recovered materials are interpreted as modern, most likely associated with the construction of the unpaved access road.



**Photo # 8: Graded Access (*Jeep*) Road from Leleihoku Street showing Find Spot and Hand-Tested Area (center), View to Southwest.**



**Photo # 9: Hand Tested Area (trench) at Isolated Find Spot, View to Northwest.**



A rock pile was located during the surface transect sweeps along the northwestern corner boundary (Photos # 10 and 11). The surface feature measured approximately 3.5 by 3 meters and consisted of piled water worn basalt cobbles or boulders mixed with concrete chunks and sandstone cobbles (Figure 6). Modern debris was noted in the feature as well as in the immediate area.



**Photo # 10: Rock Pile or Temporary Surface Feature (foreground) with the adjacent Boy and Girl Scouts of America Parcel (background), View to West.**



**Photo # 11: Overview of Rock Pile from Top of Slope, View to Northeast.**

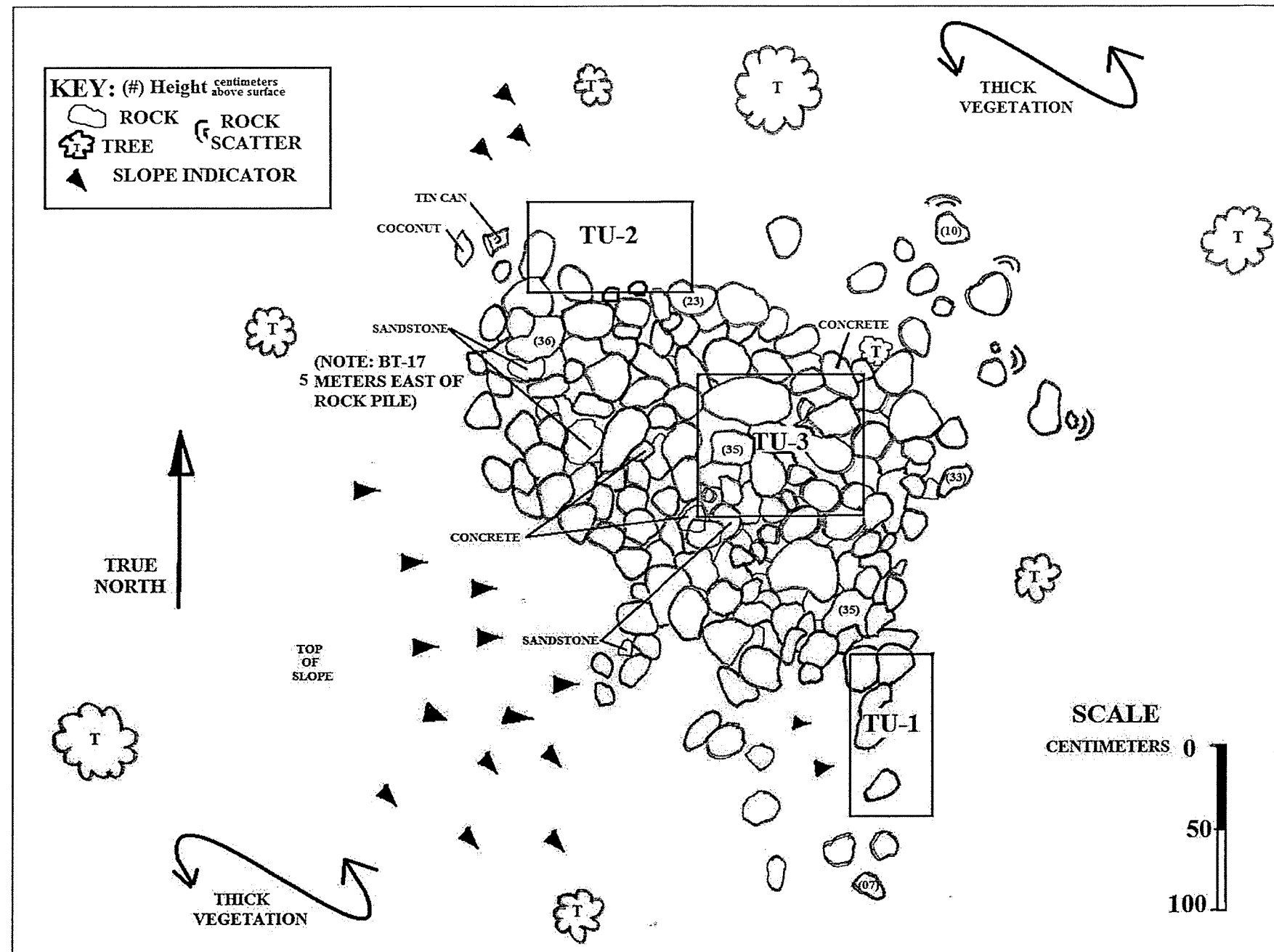


Figure 6: Plan View Map of Rock Pile depicting Test Units 1 through 3 (TU-1-TU-3).



Three controlled Test Units (TU-1-3) were situated within the surface rock feature (see Fig 6). Two of the test units (TU-1&2) measured 1 meter by 50 centimeters and were excavated to a depth of approximately 65 centimeters below the existing surface (Photos # 12 and 13). The third test area measured 1x1 meter square and was excavated nearly 1 meter below the datum (Photo #14 and Figure 7). A single sand layer was exposed- with no significant cultural remains.



**Photo # 12: Test Unit 1 Base of Excavation Overview to West.**



**Photo # 13: Test Unit 2 Overview to South.**



Photo # 14: Post-Excavation Overview of Test Unit 3, View to West.

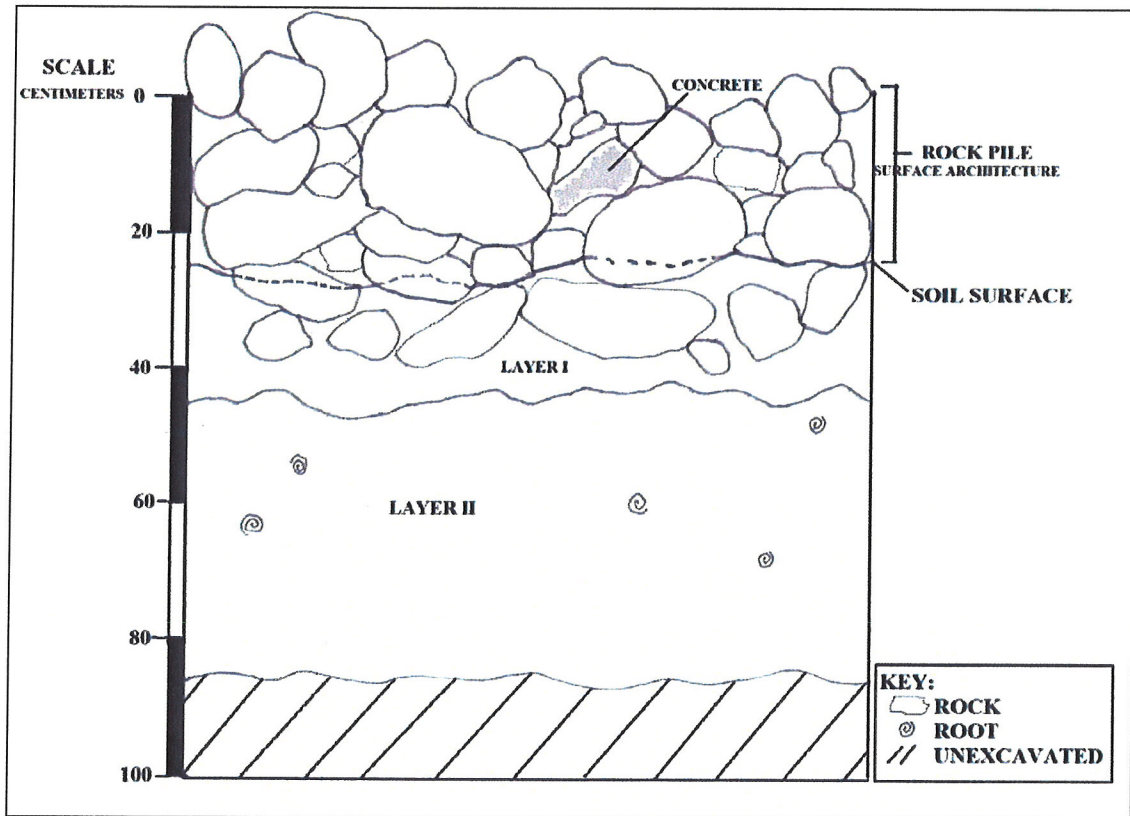


Figure 7: Profile Drawing of West Wall from Test Unit 3, Depicting Surface Architecture.



<b>Layer I</b>	7.5 YR2.5/3 very dark brown; fine, smooth sand, texture; moderate, fine, single grain, structure; loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, diffuse; topography, smooth; inclusions include rootlets and roots; inclusions, no cultural remains
<b>Layer II</b>	10YR 5/4, yellowish brown; fine, silty sand, texture; moderate, fine, single grain, structure; dry consistency, slightly hard/ compacted ; moist consistency, friable; wet consistency, slightly sticky; plasticity, slightly plastic; boundary, none; topography, smooth; inclusions; no cultural materials

During the deconstruction of the rock pile, modern refuse was identified. Plastic and glass were located in the duff layer mixed at the base of the rock pile. Further, glass shards were noted beneath the feature in Layer I within both TU-2 and TU-3. The rock pile was determined to be relatively modern, possibly the result of a stock pile or a rock clearing pile. Trash from around the 1970s is piled in the vicinity (Photo #15). The test units were backfilled and the rocks piled back on top of the feature.



**Photo # 15: Post-Excavation (pre-backfill) of Surface Rock Pile Feature, towards the adjacent *Sand Hills* Neighborhood, View to West.**

### **Mechanical Backhoe Test Trenching**

Subsurface testing with heavy equipment occurred through the excavation of a series of 17 strategically placed mechanical Backhoe test Trench (BT 1-17) excavations (see Fig 5). The bulk of the trenches were excavated along the slopes of the undulating dunes within the proposed cut and re-grade area. Trench placement concentrated in the most natural unaffected areas where the Aeolian sand dune formation was presumed most intact. Two backhoe test trenches were placed in the lower eastern section of the subject area, which was previously subject to sand



removal and grading. The maximum reach of the backhoe was approximately 2.5 meters deep, except along dune slopes where the maximum depth reached approximately 3.60 meters.

Subsurface deposition was similar throughout the sand dune network consisting of fine to course Aeolian sand (some silt) and lithified sand stone with platelets and sandstone cobbles. All backfill was visually inspected by the archaeologists, exposed sidewalls examined, and the soil consistently spot checked. Some of the land has previously been grubbed, graded or mined (Photo #16). Previously piled, pushed, or prior mechanical disturbance was evident in the uppermost layer of the undulating comingled subsurface matrix (up to 2 meters deep in some areas). Other areas contained exposed sandstone and original Aeolian deposits at the surface.



**Photo # 16: Graded Lower Section of Subject Area (foreground) with the *Derelict Building* (background) View to West.**

During the course of the subsurface testing, no evidence of significant cultural deposits was encountered. Some of the land has been mechanically altered. Soil testing occurred on the subject parcel- before the archaeological survey- evidenced by the machine disturbance. Presumably, no archaeologist was present during the excavations for the recent soil testing project on the parcel. During the archaeological testing, visual observation of the mechanical excavation and inspection of the back dirt piles did not produce an evidence of significant cultural remains. Results of the backhoe test trenches follow.

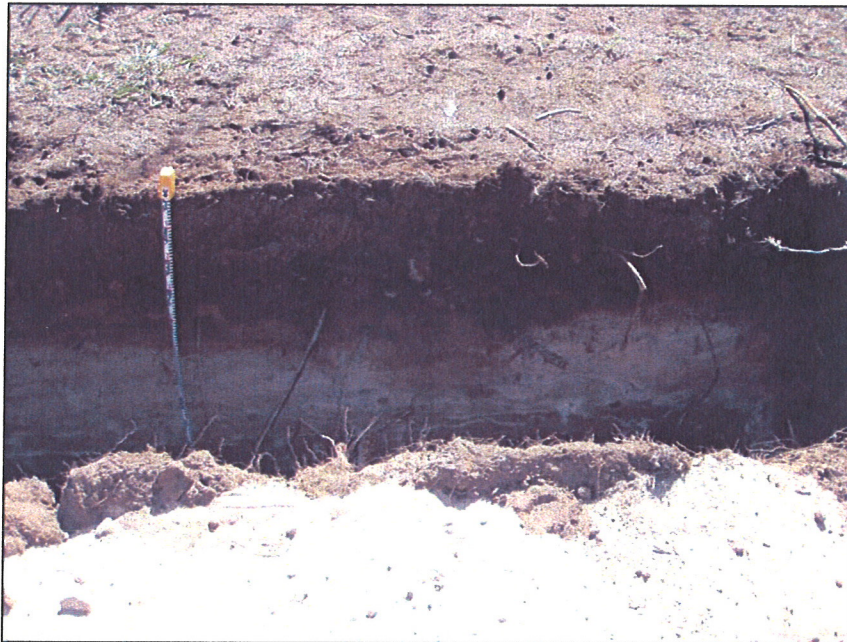
### **Backhoe Test Trench #1 (BT-1)**

BT-1 was situated within the graded (*jeep*) access roadway at the base of the cut northeastern sand dune slope (Photos #17 and 18). BT-1 was oriented 32° north/northeast & 212° south/southwest, measured 5.0 meters long, 0.70 meters wide and 1.55 meters deep. The disturbed subsurface (Layer I) contained charcoal lenses (modern) at the base in the east wall of BT-1.





**Photo # 17: Location of BT-1 within Access Roadway adjacent to Leleihoku Street (background), View to Northwest.**



**Photo # 18: Backhoe Trench 1 Southwest Wall Profile; Note Anomaly in Center and another along the Right Edge.**

Several intrusions or anomalies were observed in the walls of the trench, beneath the old A-Horizon. The anomalies consisted of the same general sand structure as Layer I but had no rootlets or rocks, the color varied, and pits intruded into lower Layer II. The east wall of BT-1 was extended (BT-2) to explore one of the anomalies. Three anomalies were exposed in BT-1



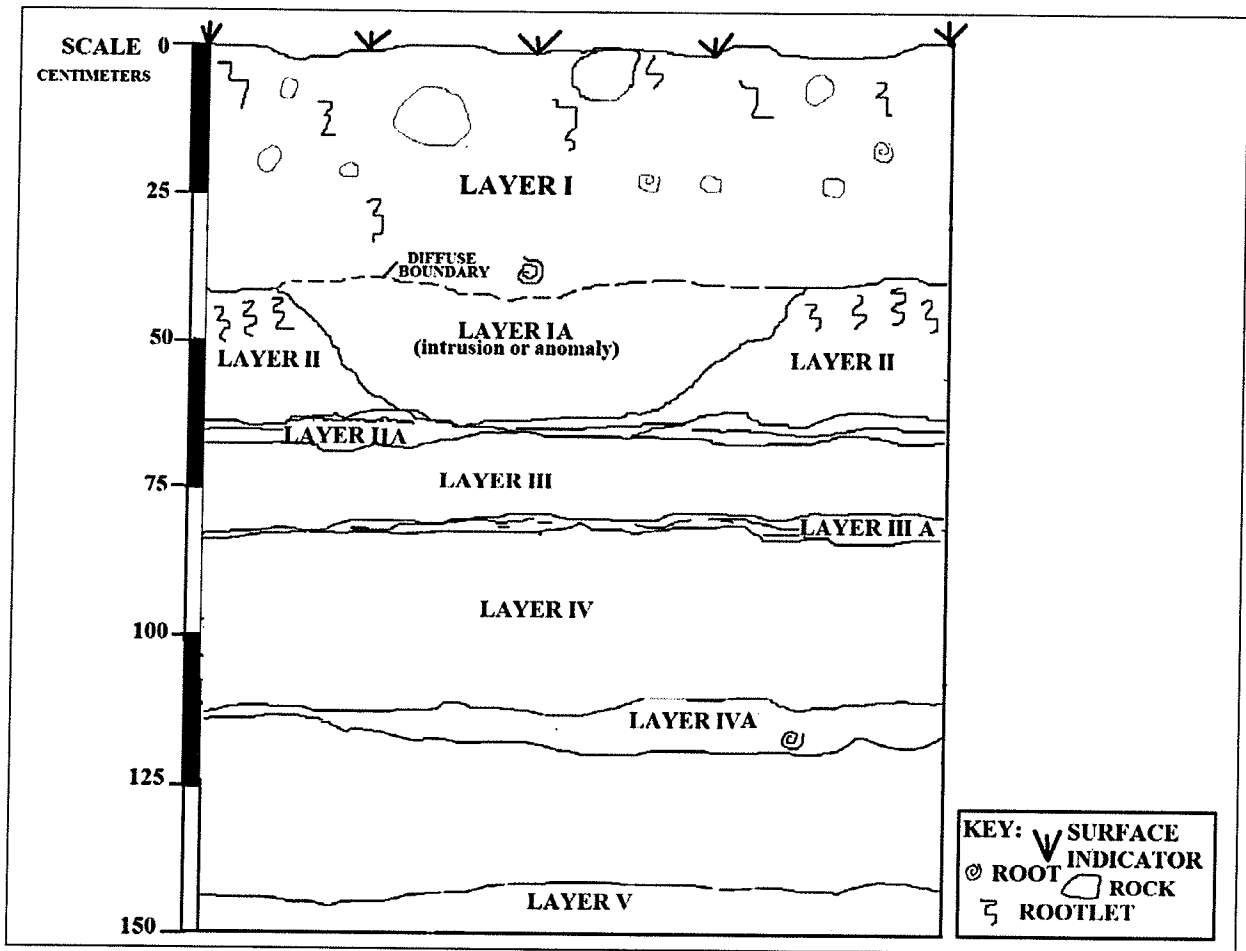
and the intrusions were approximately 30-50 centimeters wide at approximately 40 to 80 centimeters below the existing surface. The sand is fine grained and clean. The anomalies are most likely the result of tree root molds prior to grading the access roadway. Plastic and relatively modern debris was noted throughout Layer I. Refer to BT-2 results for soil description.

### **Backhoe Test Trench #2 (BT-2)**

BT-2 was an extension of the southeastern portion of BT-1 (Photo# 19 and Figure 8). BT-2 measured 1.5 meters long, 0.75 meters wide and 1.5 meters deep. The profile is similar to BT-1. Modern debris, such as plastic, is mixed within the subsurface matrix from 0-45 centimeters below the existing surface. This indicates that Layer I is composed of undulating filled or previously graded sections (access road maintenance). The anomalies did not contain any cultural remains. The sand intrusions are most likely the result of tree root molds at the old A-Horizon. The area surrounding BT-1 and BT-2 has been mechanically altered many times in the past. The intrusions or tree molds are most likely the result of former mechanical grubbing and grading activities. Excavation terminated at lithified sand.



**Photo # 19: Overview BT-2 View to West.**



**Figure 8: BT-1 and BT-2 Representative Profile Drawing (northwest).**

The subsurface deposit was impacted by the graded access road. The following layer descriptions (Layers I through V) summarize the subsurface findings for BT-1 and BT-2:

- Layer I** 10YR 5/3 mottled with 10YR 4/3, brown; fine, silty sand texture; moderate, medium, single grain, structure; dry consistency, loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, clear; topography, smooth; inclusions include rootlets, roots and other organic materials, and approximately 45% angular basalt cobbles and/or pebbles; Fill (graded access road); some basalt water worn boulders and occasional basalt pebbles, includes imported angular gravel, charcoal lenses noted and some flecking with modern debris such as plastic and aluminum
- Layer I-A (Anomaly)** 10YR 6/6, brownish yellow; fine, smooth sand, texture; moderate, fine, single grain, structure; dry consistency, slightly hard/ compacted ; moist consistency, friable; wet consistency, slightly sticky; plasticity, slightly plastic; boundary, diffuse; topography, smooth; no inclusions, contains no cultural materials
- Layer II** 10YR 6/4, light yellowish brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure; dry consistency, slightly hard/ compacted ; moist consistency, friable; wet consistency, non-sticky; plasticity, non-plastic;

	boundary, clear; angled sand platelets at base of layer, topography, smooth; some rootlets, absence of cultural remains
<b>Layer II-A</b>	10YR 8/3, very pale brown; (whitish hue) sandstone banding fine coarse, sand, texture; moderate, coarse, structure; dry consistency, very hard/very compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; some inclusions and no cultural remains
<b>Layer III</b>	10YR7/3, very pale brown; fine to coarse, sand, texture; moderate, fine, single grain, structure; dry consistency, compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; inclusions, no cultural material
<b>Layer III-A</b>	10YR 8/3, very pale brown; (whitish hue) sandstone banding (similar to Layer II-A) fine coarse, sand, texture; moderate, coarse, structure; dry consistency, very hard/very compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; some inclusions and no cultural remains
<b>Layer IV</b>	10YR 6/4, light yellowish brown; strong coarse, sand, texture; moderate, coarse, single grain, structure; dry consistency, very hard/very compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; no inclusions, no cultural remains
<b>Layer IV-A</b>	10YR 8/3, very pale brown; (whitish hue) sandstone banding (similar to Layer II-A) fine coarse, sand, texture; moderate, coarse, structure; dry consistency, very hard/very compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; few roots; some inclusions and no cultural remains
<b>Layer V</b>	10YR 5/6, yellowish brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure sand platelets and sandstones; dry consistency, extremely hard and very compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; no inclusions, no cultural material

### **Backhoe Test Trench #3 (BT-3)**

BT-3 was placed near the center of the bisecting access roadway along the west edge (Photos 20 & 21 and Figure 9). BT-3 was oriented 24° north/northeast & 204° south/southwest, measured 5 meters long, 0.70 meters wide and between 0.60 to 1.1 meters deep. The base of the trench undulated due to the presence of lithified sand. Excavation terminated due to the very strong sand stone at the base of the trench. Six large roots and several rootlets were observed within Layer I. A sandy berm (possibly back dirt pile from machine tailings) is located along the east side of the access road.

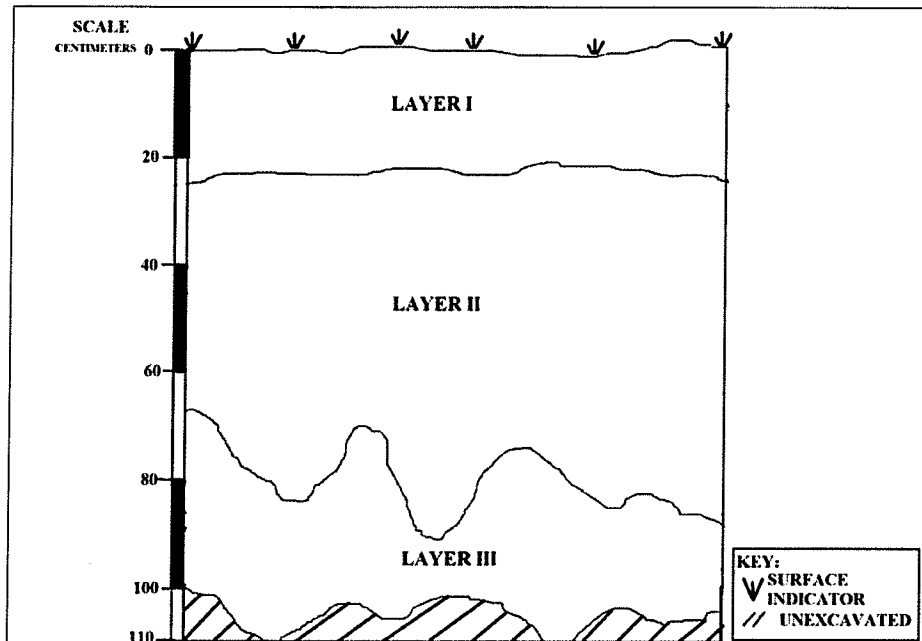




**Photo # 20: Post-Excavation of BT-3, View to North.**



**Photo # 21: East Wall Profile of BT-3.**



**Figure 9: Representative Profile Drawing from BT-3 East Wall.**

- Layer I** 10YR 5/3 mottled with 10YR 4/3, brown; fine, silty sand texture; moderate, medium, single grain, structure; dry consistency, loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, clear; topography, smooth; inclusions include rootlets, roots and other organic materials, and approximately 45% angular basalt cobbles and/or pebbles; Fill (graded access road); some basalt water worn boulders and occasional basalt pebbles, includes imported angular gravel, charcoal lenses noted and some flecking with modern debris such as plastic and aluminum
- Layer II** 10YR 6/4, light yellowish brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure; dry consistency, slightly hard/ compacted ; moist consistency, friable; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; angled sand platelets at base of layer, topography, smooth; some rootlets, no cultural remains
- Layer III** 10YR 5/6, yellowish brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure sand compact sandstone (powdery); dry consistency, extremely hard and very compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; no inclusions, no cultural material

#### **Backhoe Test Trench #4 (BT-4)**

BT-4 was placed at the toe of the large east Aeolian sand dune slope just north of the barbed wire boundary fence line near the school (Photos# 22 and 23). BT-4 was oriented 117° east/southeast & 297° west/northwest measured 5.60 meters long, 0.73 meters wide and 2.2 meters deep. Excavation terminated at the maximum reach of the backhoe for safety concerns. The sand in this area is very soft making the trench walls unstable. There are many African land snail shells and concentrations of large water worn cobbles or small boulders with modern



rubbish including a tin can, plastic, paper, and cigarette butts. Subsurface Layers had very distinctive and abrupt boundaries (Figure 10). BT-5 was excavated as an extension from BT-4 (northwest) in order to explore the nature of Layer IV, which consisted of dark silty sand.



**Photo # 22: Excavated BT-4 with Large Aeolian Sand Dune (background), View to West.**



**Photo # 23: South Profile of BT-4, View to Southeast.**



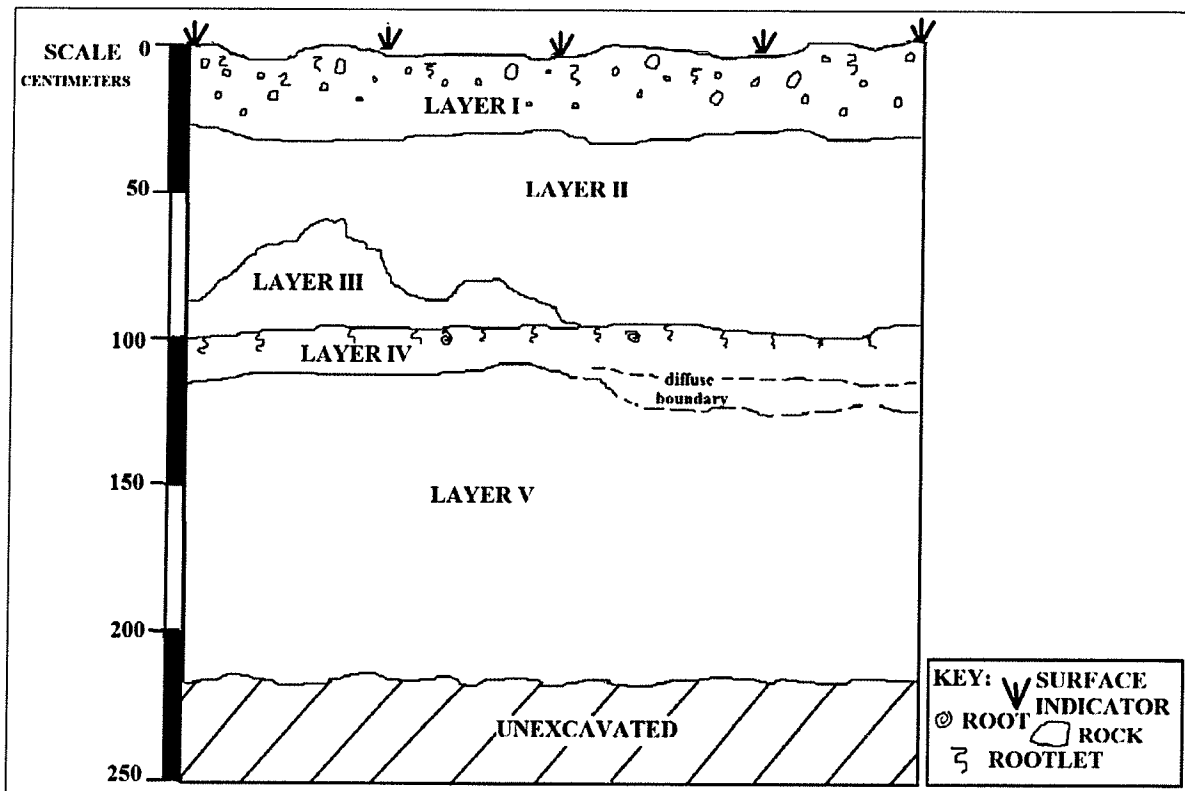


Figure 10: Representative Profile Drawing from BT-4 South Wall.

- Layer I** 10YR 5/3 mottled with 10YR 4/3, brown; fine, silty sand texture; moderate, medium, single grain, structure; dry consistency, loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, clear; topography, smooth; inclusions include rootlets, roots and other organic materials, and approximately 45% angular basalt cobbles and/or pebbles; Fill (graded access road); some basalt water worn boulders and occasional basalt pebbles, includes imported angular gravel, charcoal lenses noted and some flecking with modern debris such as plastic and aluminum
- Layer II** 10YR 5/6, yellowish brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure sand compact sandstone; dry consistency, extremely hard and very compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; no inclusions, no cultural material
- Layer III** 10YR 5/4, yellowish brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure; dry consistency, slightly hard/ compacted; moist consistency, friable; wet consistency, non-sticky; plasticity, non-plastic; boundary, diffuse; topography, not smooth; some inclusions, few roots (at lower transition) and some rootlets, no cultural material
- Layer IV** 10YR 2/1, black; fine, smooth sand, texture; moderate, fine, single grain, structure; loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, diffuse; topography, smooth; inclusions include rootlets, roots and other organic materials; inclusions, no cultural remains

**Layer V**

10YR 7/3, very pale brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure; dry consistency, slightly hard/ compacted ; moist consistency, friable; wet consistency, non-sticky; plasticity, non-plastic; friable sandstone at base of excavation, topography, smooth; no cultural remains

**Backhoe Test Trench #5 (BT-5)**

BT-5 was an extension of the northwestern portion of BT-4 (Photos 18 and 19). BT-5 measured 3 meters long, 0.70 meters wide and 1.4 meters deep. The profile was identical to BT-4, except for one section near the transition of Layers III and IV that appeared slightly pinkish in hue (10YR4/4 dark yellowish brown). Modern debris was noted in the upper layer. Excavation terminated upon verification that Layers III and IV are most likely natural and not the result of cultural deposition.



**Photo # 24: BT-5 Post-Excavation Overview with BT-5 (foreground) and BT-4 in (background), View to Southeast.**



**Photo # 25: West Wall Profile of BT-5 (Extended from of BT-4).**

### **Backhoe Test Trench #6 (BT-6)**

BT-6 was situated atop the small finger ridge dune 6.5 meters east of the tested surface rock feature (Photos #26 and 27). BT-6 was oriented  $11^{\circ}$  north &  $212^{\circ}$  south, measured 6.0 meters long, 0.72 meters wide and 2.70 meters deep (Figure 11). There was no disturbed topsoil or *duff* layer in this area. A concentration of modern rubbish was located from the surface to approximately 60 centimeters deep at the south end of the trench only visible in the southeast profile. The buried trash consisted of a pile of machine cut wood, bottles and broken glass.

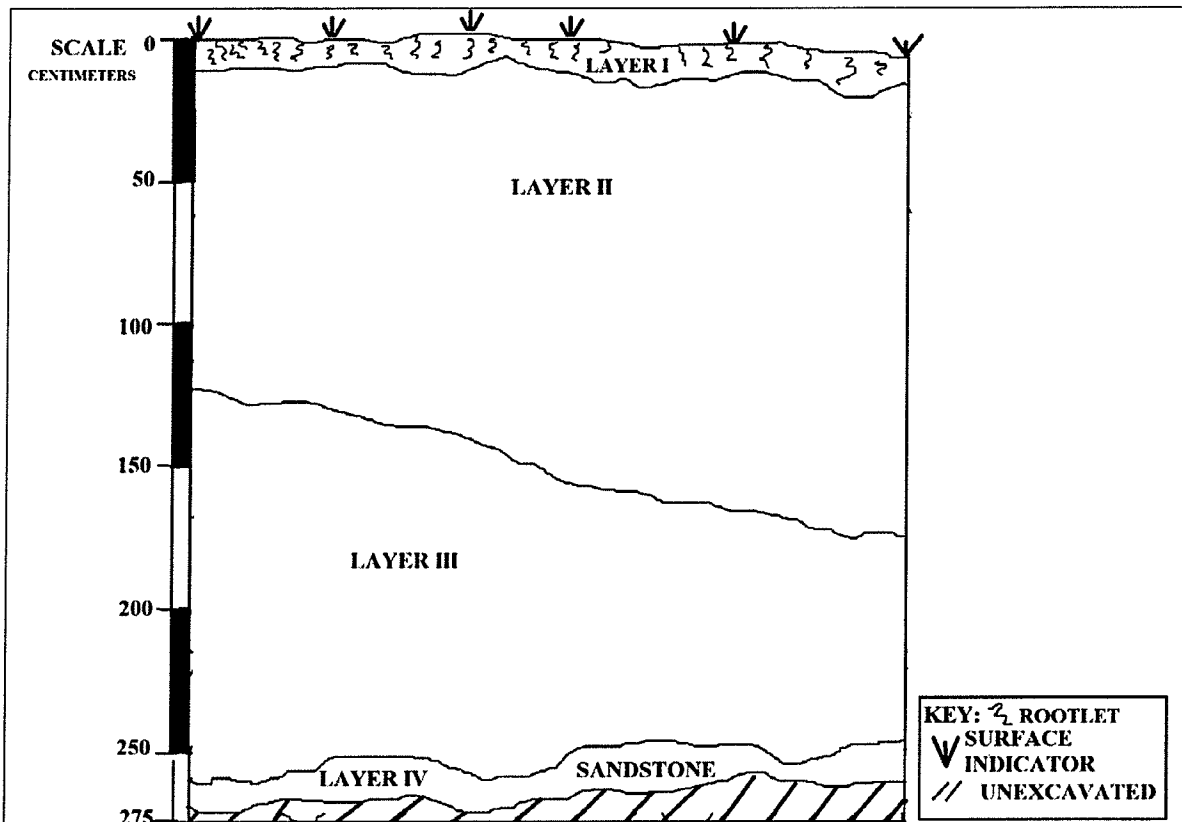




**Photo # 26: Overview of BT-6, View to South.**



**Photo # 27: BT-6 East Profile.**



**Figure 11: Drawing of BT-6 East Profile.**

- |                  |   |
|------------------|---|
| <b>Layer I</b>   | 10YR 5/3, mottled with 10YR 4/3, brown; fine, silty sand texture; moderate, medium, single grain, structure; dry consistency, loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, clear; topography, smooth; inclusions include rootlets, roots and decomposing organic materials; <i>duff</i> layer       |
| <b>Layer II</b>  | 10YR 8/2, very pale brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure sand occasional compact sandstone (breaks off into sandstone cobbles and boulder); dry consistency, hard and compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; no inclusions, no cultural material, |
| <b>Layer III</b> | 10YR 7/3, very pale brown; fine-coarse, sand, texture; moderate, powdery structure; dry consistency, slightly hard/ compacted; moist consistency, friable; wet consistency, non-sticky; plasticity, non-plastic; boundary, diffuse; topography, not smooth; some inclusions, few roots and some rootlets, no cultural material  |
| <b>Layer IV</b>  | 10YR 8/3, very pale brown; (whitish hue) sandstone; fine coarse, sand, texture; moderate, coarse, structure; dry consistency, very hard/very compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; few roots; some inclusions and no cultural remains  |



### **Backhoe Test Trench #7 (BT-7)**

BT-7 was situated within the central portion of the undulating sand dunes at the base of an eastern slope (Photos #28 and 29). BT-7 was oriented 120° northwest & 300° southeast, measured 5.3 meters long, 0.70 meters wide and 1.93 meters deep. Heavy rootlets were noted in silty Layer I. Layer II consisted of very compact sand, root castings, and sandstone cobbles. Excavation terminated at sandstone (Figure 12).



**Photo # 28: BT-7 Excavation Overview, View to North.**



**Photo # 29: BT-7 Southeast Wall Profile.**

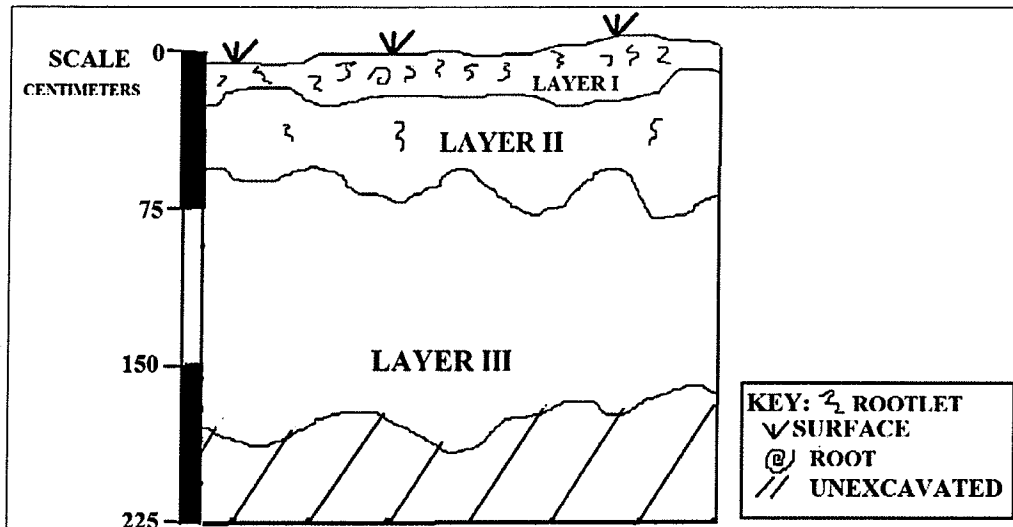


Figure 12: Drawing of BT-7 Northwest Profile.

- |                  |   |
|------------------|---|
| <b>Layer I</b>   | 10YR 5/3, brown; fine, silty sand texture; moderate, medium, single grain, structure; dry consistency, loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, clear; topography, smooth; heavy rootlets, few roots and some decomposing organic materials; <i>duff</i> layer                                  |
| <b>Layer II</b>  | 10YR 8/2, very pale brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure sand occasional compact sandstone (breaks off into sandstone cobbles and boulder); dry consistency, hard and compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; no inclusions, no cultural material, |
| <b>Layer III</b> | 10YR 7/3, very pale brown; fine-coarse, sand, texture; moderate, powdery structure; dry consistency, slightly hard/ compacted; moist consistency, friable; wet consistency, non-sticky; plasticity, non-plastic; boundary, diffuse; topography, not smooth; some inclusions, few roots and some rootlets, no cultural material  |

### Backhoe Test Trench #8 (BT-8)

BT-8 was situated into the side and toe of a sand dune slope on the northwestern side of the subject parcel (Photos #16 and 17). The slope of the dune is approximately 2 meters high. BT-8 was oriented 92° east & 272° west, measured 12.5 meters long, 0.75 meters wide and averaged 1.75 meters deep. Sandstone is exposed at the surface along this dune slope, with wide pockets of loose Aeolian silty sand building in the lower gently undulating areas.





Photo # 30: Overview of Length of BT-8, View to West.

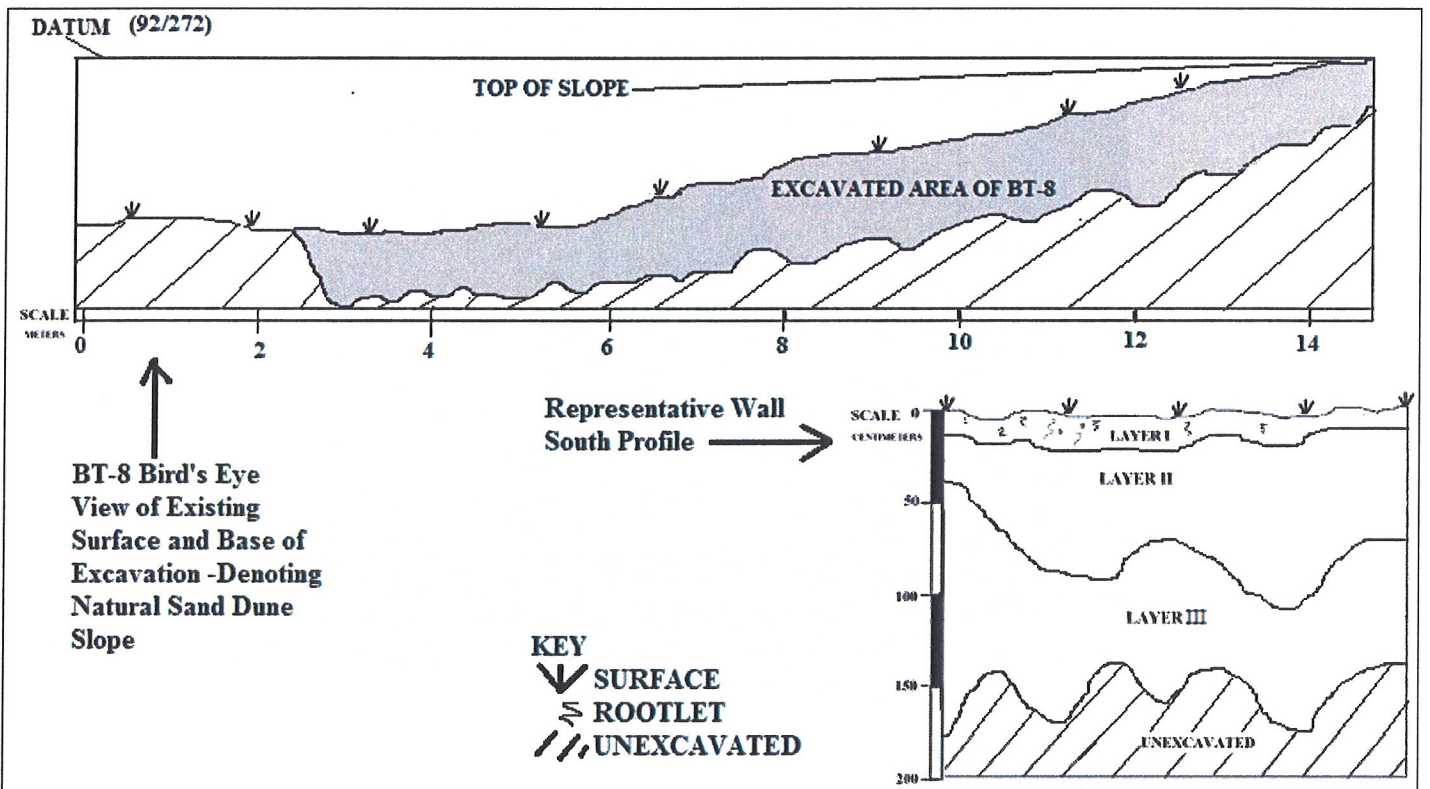


Figure 13: Representative Drawings from BT-8.



**Layer I** 10YR 5/4, brown; fine, silty sand texture; moderate, medium, single grain, structure; dry consistency, loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, clear; topography, smooth; heavy rootlets, few roots and some decomposing organic materials; some modern trash observed in Layer I

**Layer II** 10YR 4/6, dark yellowish brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure angled sand platelets common; dry consistency, intermittently loose combined with compacted intrusions; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; no cultural material

**Layer III** 10YR 7/1 mottled with 10YR 7/2, light gray; sandstone; fine coarse, sand, texture; moderate, coarse, structure; dry consistency, very hard/very compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; few roots; some inclusions and no cultural remains (undulating)

### **Backhoe Test Trench #9 (BT-9)**

BT-9 was situated at the base of the highest dune on the north side of the subject area in an area previously grubbed for the recent soil testing (Photos #32 and 33). BT-9 was oriented 10° north & 190° south, measured 9.0 meters long, 0.70-1.5 meters wide and 3.60 meters deep. BT-10 was located next to BT-9.



**Photo # 31: BT-9 Overview from Top of Slope, View to North.**



Photo # 32: BT-9 Post-Excavation Overview, View to East.

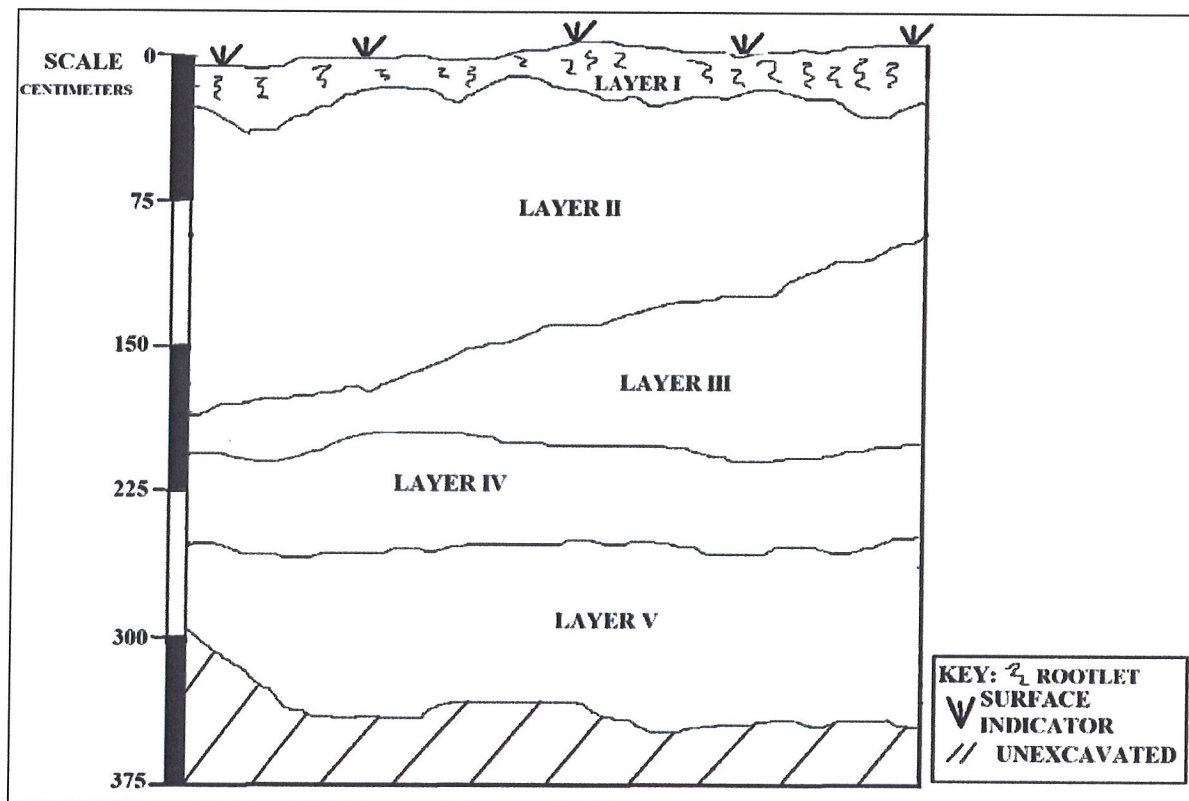


Figure 14: Representative Profile Drawing from BT-9 East Wall.

<b>Layer I</b>	10YR 5/3, brown; fine, silty sand texture; moderate, medium, single grain, structure; dry consistency, loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, clear; topography, smooth; heavy rootlets (0-30cmts), few roots and some decomposing organic materials; no cultural materials
<b>Layer II</b>	10YR 4/6, dark yellowish brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure angled sand platelets common; dry consistency, intermittently loose sand combined with lithified intrusions; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; no cultural material (undulating)
<b>Layer III</b>	10YR7/8, yellow; fine to coarse, sand, texture; moderate, fine, single grain, structure; dry consistency, compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; inclusions, no cultural material
<b>Layer IV</b>	10YR 7/1 mottled with 10YR 7/2, light gray; fine coarse, sand, texture; moderate, coarse, structure; dry consistency, semi-hard; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; few roots; some inclusions and no cultural remains
<b>Layer V</b>	10YR 8/3, very pale brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure sand occasional lithified sand); dry consistency, loose to semi-compact; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; topography, smooth; inclusions, no cultural material

### **Backhoe Test Trench #10 (BT-10)**

BT-10 was situated next to BT-9 along the toe of a steeply sloped eastern sand dune slope (Photos #34 and 35). BT-10 was oriented north/south, measured 3 meters long, 2 meters wide and 1.20 meters deep. The trench continuously collapsed because of the Aeolian sand. The subsurface matrix consisted of a co-mingled layer of collapsing sand.





**Photo # 33: BT-10 Showing Area of Collapsed Sand Slope, View to Southeast.**

#### **Backhoe Test Trench # (BT-11)**

BT-11 was situated in the center of the upper section of the subject area midway between the two recently grubbed access roads (Photos #35 and 36). BT-11 was oriented  $116^{\circ}$  east/southeast &  $296^{\circ}$  west/northwest, measured 6.0 meters long, 0.70 meters wide and 2.90 meters deep (Figure 15). Sandstone slabs (cobbles and boulders) are scattered across the surface.



**Photo # 34: BT-11 Overview of Excavated Trench, View to Southwest.**





Photo # 35: BT-11 Overview to Southeast.

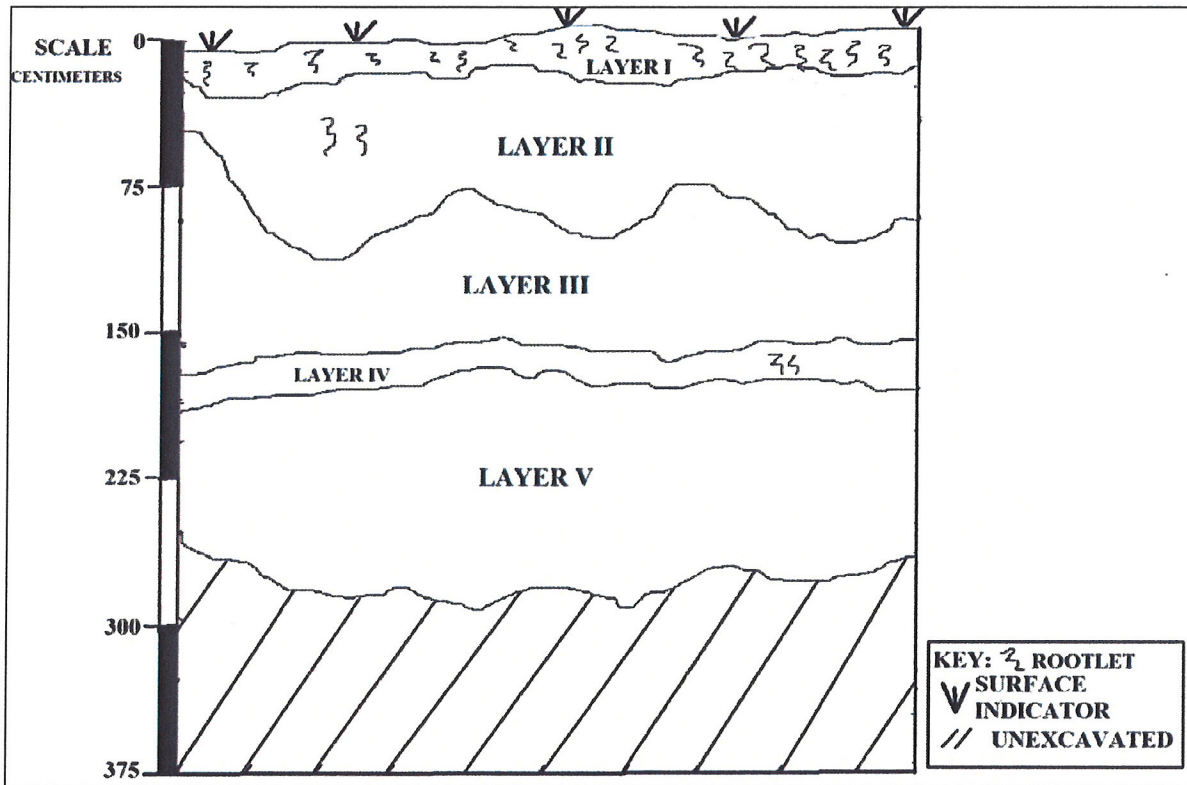


Figure 15: Representative Profile Drawing from BT-11 South Wall.

<b>Layer I</b>	10YR 5/3, brown; fine, silty sand texture; moderate, medium, single grain, structure; dry consistency, loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, clear; topography, smooth; rootlets, few roots; no cultural materials
<b>Layer II</b>	10YR 4/6, dark yellowish brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure angled sand platelets common; dry consistency, intermittently loose sand combined with lithified intrusions; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; no cultural material (undulating)
<b>Layer III</b>	10YR 8/3, very pale brown; lithified sand (soft sandstone), fine coarse, sand, texture; moderate, coarse, structure; dry consistency, hard compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; some inclusions; no cultural remains
<b>Layer IV</b>	10YR 3/2, very dark grayish brown; fine, smooth sand, texture; moderate, fine, single grain, structure; loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, diffuse; topography, smooth; inclusions include rootlets and roots; inclusions, no cultural remains
<b>Layer V</b>	10YR 7/1, light gray; sandstone; fine coarse, sand, texture; moderate, coarse, structure; dry consistency, very hard/very compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; few roots; some inclusions; no cultural remains (undulating)

### **Backhoe Test Trench #12 (BT-12)**

BT-12 was situated in the southwest corner of the subject area within the thickly vegetated sand dune (Photos #38 and 39). BT-12 was oriented 0° north & 360° south, measured 6.0 meters long, 0.70 meters wide and 3.50 meters deep (Figure 16). At approximately 3.50 meters below the surface, broken pebbles and sandstones with reddish soil clumps (10YR3/3) were observed in the back dirt pile from the base of excavation. The subsurface appears to be completely out of the original natural context throughout this trench. This area could have possibly been used as a stockpile or dump area at some time in the past.

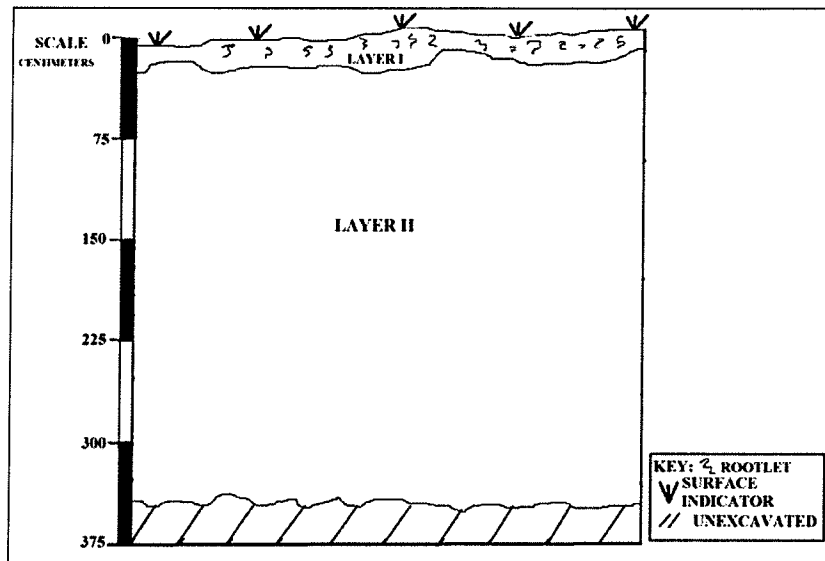




**Photo # 36: BT-12 Excavation Overview to East.**



**Photo # 37: Overview of BT-12 to Northeast.**



**Figure 16: Representative Profile Drawing from BT-12 East Wall.**

- Layer I** 10YR 3/2, very dark grayish brown; fine, smooth sand, texture; moderate, fine, single grain, structure; loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, diffuse; topography, smooth; inclusions include rootlets and roots; inclusions, no cultural remains
- Layer II** 10YR 7/3 mottled with 10YR 8/2, very pale brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure; dry consistency, slightly hard or compacted; moist consistency, friable; wet consistency, non-sticky; plasticity, non-plastic; topography, smooth; no cultural remains

### **Backhoe Test Trench #13 (BT-13)**

BT-13 was situated along the side of the sand dune next to a previously excavated soil test area (Photo #40). BT-13 was oriented 60° east & 240° northeast, measured 6.0 meters long, 0.73 meters wide and 3 meters deep (Figure 17).





Photo # 38: Overview of BT 13, View to East.

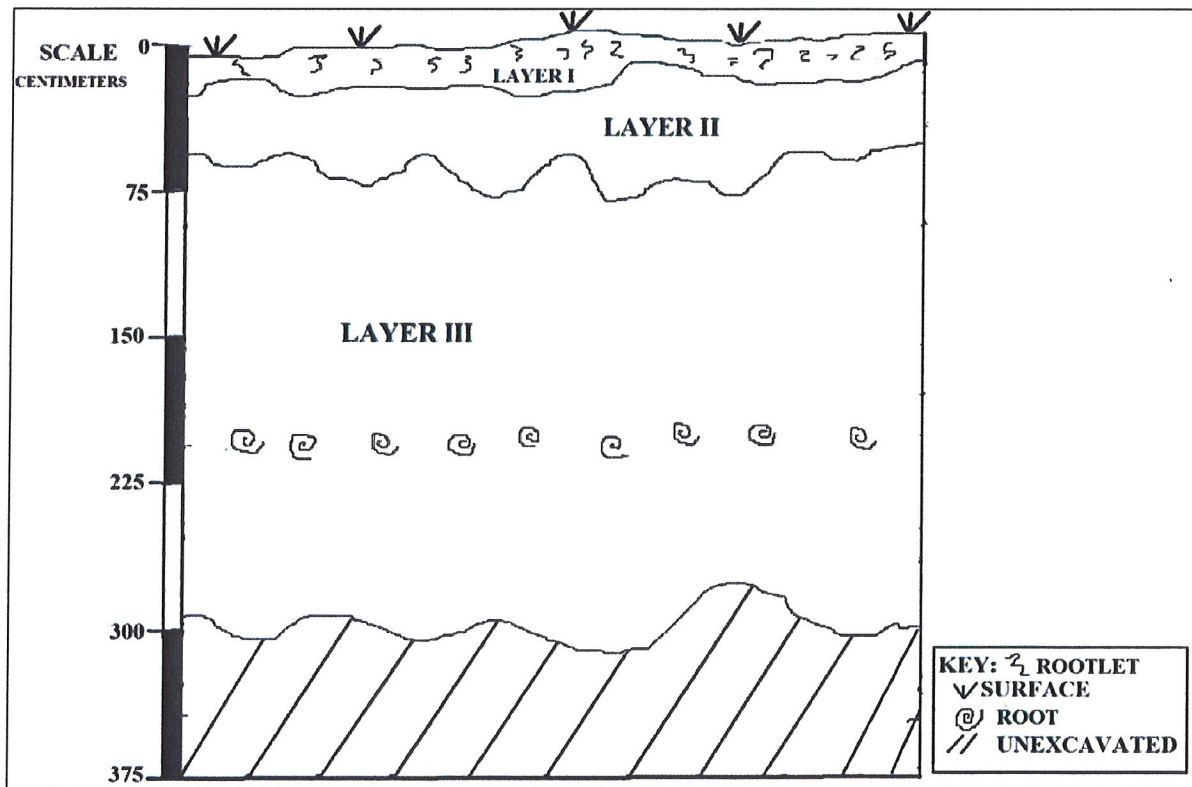


Figure 17: Representative Profile Drawing from BT-13 Northwest Wall.

- Layer I** 10YR 5/3, brown; fine, silty sand texture; moderate, medium, single grain, structure; dry consistency, loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, clear; topography, smooth; heavy rootlets, few roots and some decomposing organic materials; *duff* layer
- Layer II** 10YR 8/2, very pale brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure sand occasional compact sandstone; dry consistency, hard; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; no inclusions; no cultural material,
- Layer III** 10YR 7/3, very pale brown; fine-coarse, sand, texture; moderate, powdery structure; dry consistency, slightly hard/ compacted; moist consistency, friable; wet consistency, non-sticky; plasticity, non-plastic; boundary, diffuse; topography, not smooth; some inclusions, few roots, no cultural material; note distinct root line located approximately 2 meters deep

### **Backhoe Test Trench #14 (BT-14)**

BT-14 was situated at the highest point in the general area near the southwest corner of the subject area. BT-14 was oriented 88° east & 268° west, measured 6.0 meters long, 0.70 meters wide and 2.90 meters deep (Photo# 41 and Figure 11). Sandstone cobbles and thick platelets were observed toward the base of the trench.



**Photo # 39: Southeast Profile of BT-14.**

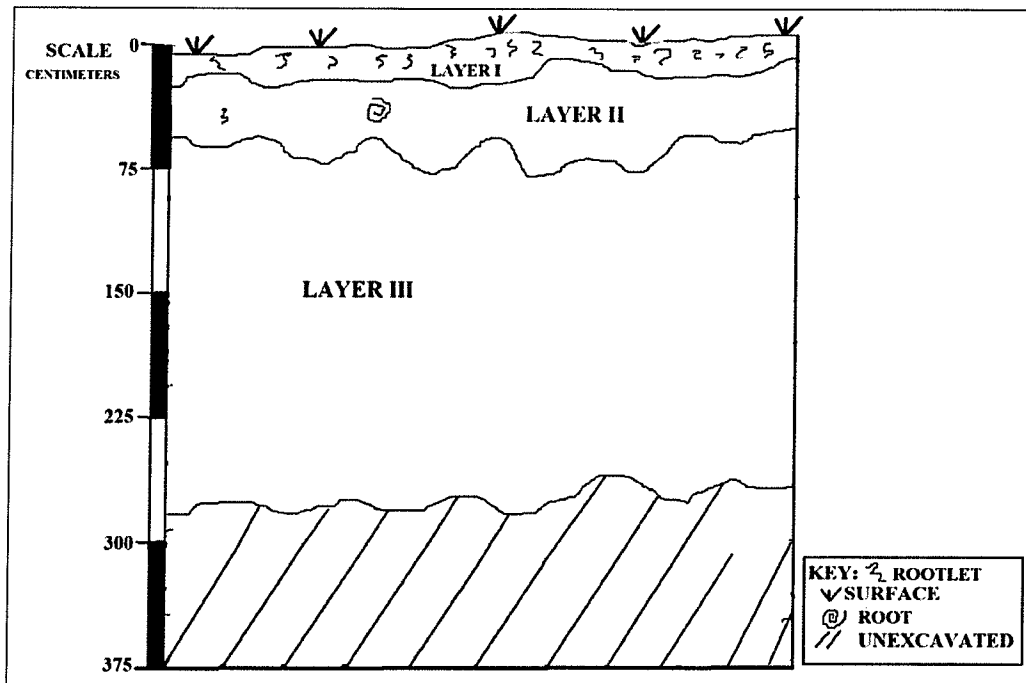


Figure 18: Representative Profile Drawing from BT-14 Northwest Wall.

- |                  |   |
|------------------|---|
| <b>Layer I</b>   | 10YR 5/3, mottled with 10YR 4/3, brown; fine, silty sand texture; moderate, medium, single grain, structure; dry consistency, loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, clear; topography, smooth; inclusions include rootlets, roots and decomposing organic materials; <i>duff</i> layer       |
| <b>Layer II</b>  | 10YR 8/3, very pale brown; lithified sand (soft sandstone cobbles), fine coarse, sand, texture; moderate, coarse, structure; dry consistency, hard compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; rootlets and few roots; inclusions; no cultural material  |
| <b>Layer III</b> | 10YR 8/2, very pale brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure sand occasional compact sandstone (breaks off into sandstone cobbles and boulders); dry consistency, hard and compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; boundary, clear; topography, smooth; no inclusions; no cultural material |

### Backhoe Test Trench #15 (BT-15)

BT-15 was situated in lower eastern section of the subject area, which was previously subject to sand removal and grading (Photos #42-44). BT-15 was oriented 7° north & 187° south, measured 5.8 meters long, 0.72 meters wide and 2.30 meters deep (Figure 19).





**Photo # 40: BT-15 Excavated Trench Overview to South.**



**Photo # 41: West Profile of BT 15.**





Photo # 42: Backfilling BT-15, View to East.

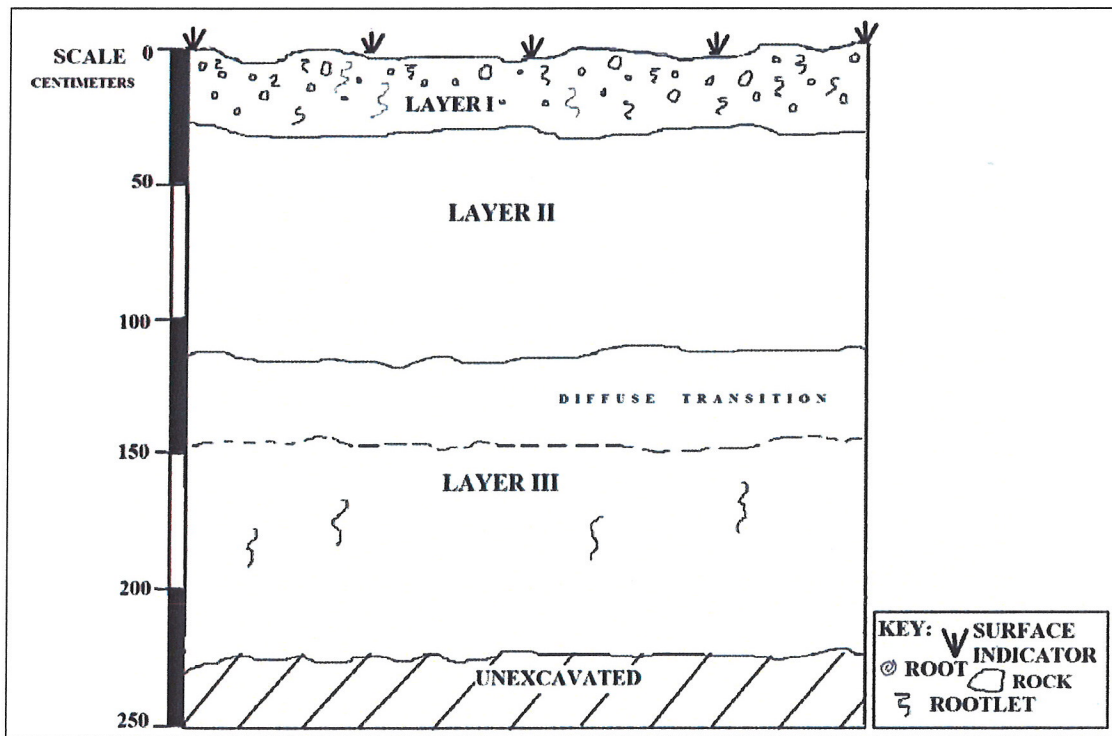


Figure 19: Representative Profile Drawing from BT-15 Northwest Wall.

**Layer I**

10YR 3/3, dark brown; fine, silty sand texture; moderate, medium, single grain, structure; dry consistency, loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, clear;

topography, smooth; inclusions include rootlets, roots and other organic materials, and few cobbles and/or pebbles; thick grass roots and rootlets; no cultural material

**Layer II**

7.5YR 3/3, dark brown; fine coarse, silty sand, texture; moderate, fine, structure; dry consistency, hard compacted; moist consistency, firm; wet consistency, slightly-sticky; plasticity, slightly-plastic; boundary, diffuse (grayish transition approximately 50-60 centimeters thick); topography, smooth; rootlets and few roots; inclusions (root castings); no cultural material

**Layer III**

10YR 5/4 mottled with 10YR 5/6, yellowish brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure sand with some soft sandstone (powdery); dry consistency, extremely hard and very compacted; moist consistency, firm; wet consistency, non-sticky; plasticity, non-plastic; inclusions (root castings); no cultural material

**Backhoe Test Trench #16 (BT-16)**

BT-16 was situated in the lower eastern section of the subject area, east of the graded access road (Photos #45 and 46). BT-16 was oriented 30°/230°, measured 5.6 meters long, 0.75 meters wide and .60 meters deep. The ground was previously grubbed and the sand is lithified in this area. There was no topsoil or *duff* layer. Layer I (10YR5/4 Yellowish Brown) consisted of tan or brown partially lithified sand platelets (0-45 centimeters below existing surface). Layer II consists of hard sandstone (45-maximum depth of 60 centimeters below the existing surface).



**Photo # 43: Overview of BT 16, View to West.**



**Photo # 44: Overview of BT 16 Southwest Wall Profile.**

#### **Backhoe Test Trench #17 (BT-17)**

BT-17 was situated 5 meters southeast of the tested pile of rocks within a small rise (Photos #47-49). BT-17 was oriented 10°/190°; measured 6.5 meters long, 0.72 meters wide and 2.60 meters deep. BT-17 was positioned in order to help determine the nature of the small rise or sand mound adjacent to the surface rock feature. Layer I consisted of previously disturbed co-mingled matrix that out of its natural context. The general area has been mechanically altered and it appears as if the northwestern corner of the subject parcel, adjacent to the residential neighborhood, may have been utilized as a dump site.





**Photo # 45: Pre Excavation Overview of BT-17, View to North.**



**Photo # 46: Overview of Area with BT-17 (machine) from the Corner of Hand-tested Rock Pile (foreground), View to West.**





**Photo # 47: Overview of BT-17, View to North.**



**Photo # 48: West Wall Profile of BT-17.**

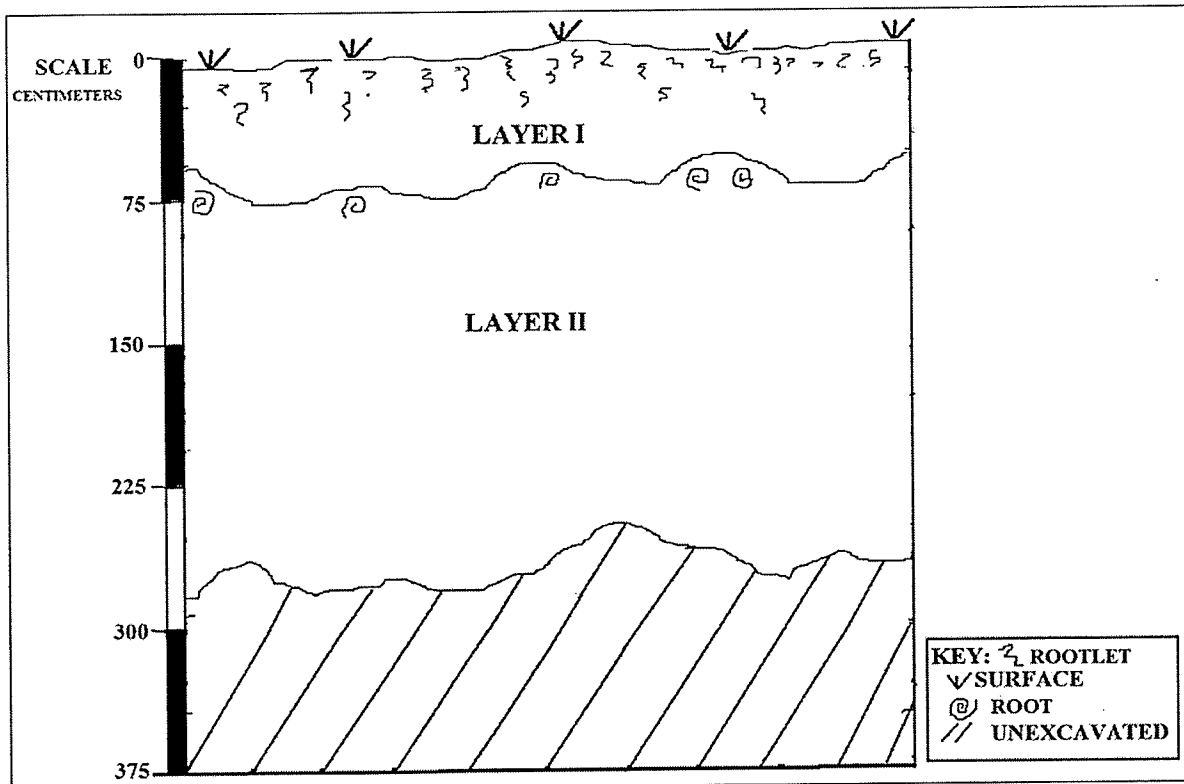


Figure 20: Representative Profile Drawing from BT-17 West Wall.

<b>Layer I</b>	10YR5/4 yellowish brown; fine, smooth silty sand, texture; moderate, fine, single grain, structure; loose to semi-compacted; moist consistency, friable; wet consistency, slightly sticky; plasticity, slight plastic; boundary, diffuse; topography, smooth; abundant rootlets and few roots; inclusions, no cultural remains
<b>Layer II</b>	10YR 6/3 pale brown; medium-coarse, sand, texture; moderate, coarse, single grain, structure; dry consistency, slightly hard or compacted; moist consistency, friable; wet consistency, non-sticky; plasticity, non-plastic; topography, smooth; no cultural remains; note: sandstone boulders and cobbles at base of excavation

The following *Table 2* summarizes the mechanical subsurface test trench results.

**Table 2 . Backhoe Test trench (BT) Summary**

<b>BT#</b>	<b>Orientation</b>	<b>Length</b>	<b>Width</b>	<b>Depth</b>	<b>Additional Comments</b>
1	32°/212°	5.0 m	0.70 m	1.55 m	
2	153°/333°	1.5 m	0.75 m	1.5 m	Extension of BT-1
3	24°/204°	5.0 m	0.70 m	0.60-1.1 m	
4	117°/297°	5.6 m	0.73 m	2.2 m	
5	156°/336°	3.0 m	0.70 m	1.40 m	
6	11°/212°	6.0 m	0.72 m	2.70 m	
7	120°/300°	5.3 m	0.70 m	1.93 m	
8	92°/272°	12.5 m	0.75 m	1.75 m	
9	10°/190°	9.0 m	0.70-1.5 m	3.60 m	
10	N/S	3.0 m	2.00 m	1.20 m	Trench collapsed
11	119°/296°	6.0 m	0.70 m	2.90 m	
12	N/S	6.0 m	0.70 m	3.50 m	
13	60°/240°	6.0 m	0.73 m	3.0 m	
14	88°/268°	6.0 m	0.70 m	2.90 m	
15	07°/187°	5.80 m	0.72 m	2.30 m	Area previously sand mined
16	30°/230°	5.6 m	0.75 m	0.60 m	Area previously grubbed
17	10°/190°	6.5 m	0.72 m	2.6 m	Adjacent to tested rock pile.

## SUMMARY AND CONCLUSIONS

No significant surface or subsurface historic cultural remains were identified during the archaeological assessment survey. Four archaeological manual test areas and seventeen backhoe test trenches were excavated in order to help assess the subsurface conditions throughout the subject parcel. Test results suggest that some portions of the project area have been impacted by former grubbing and grading or filling activities. The majority of the portion of the subject parcel is comprised of a large Aeolian sand dune.

## **PROJECT MITIGATION AND RECOMMENDATIONS**

Given the results of this archaeological survey, no further archaeological work beyond the assessment level is recommended for this approximate 3.1 acre portion of the subject parcel at this time. However, given the location of the project area in the historic Wailuku town and the presence of previously identified significant subsurface historic properties (human burials) on the immediately adjacent properties, precautionary archaeological monitoring is recommended.

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# **APPENDIX E.**

## **Cultural Interviews**

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## PROPOSED H.P. BALDWIN HIGH SCHOOL SOFTBALL FIELD AND RELATED IMPROVEMENTS

**Interview with:** Wallace ("Wally") Fujii  
**Interviewed by:** Erin Mukai, Associate  
Munekiyo & Hiraga, Inc.

It may be safe to say that Mr. Wally Fujii stands as a pillar in Baldwin High School's legacy, teaching and ultimately serving as Principal at the school for over three decades, enough time to span a couple of generations.

The interview with Mr. Wally Fujii took place on November 23, 2010, at the office of Munekiyo & Hiraga, Inc.

Mr. Wally Fujii was born in Lahaina in 1936 to Hisao Fujii and Matsue Fujii. His mother, Matsue Fujii, is 98 years old and impressively lives on her own on the West Side of the island. Mr. Fujii's family was the original owner of Olowalu Store, a landmark on the island. He grew up in Olowalu and attended Lahainaluna High School.

Mr. Fujii began his teaching career in Hana, Maui in 1959. He and his wife moved to the east side of the island and lived there for a period of three (3) years, a time he describes as being like a honeymoon. Soon, his wife became pregnant with their first child and in 1962 moved back to town where he started teaching at H.P. Baldwin High School in Wailuku.

When he first started at Baldwin High School in 1962, Mr. Fujii was a teacher offering business courses to the students. By 1966 Mr. Fujii was the school's Registrar, in charge of the intake and outtake of students' records. He was not only responsible for taking care of students' transcripts but also responsible for setting the school's schedule, and establishing classes and periods, a seemingly daunting task. In 1971, Mr. Fujii left Baldwin High School for training and then returned to Hana High School as Vice Principal. In one or two years, between 1972 to 1974, Mr. Fujii became Principal of the school. He later became Principal of Kula Elementary School from 1974 to 1979, and eventually made his way back to Baldwin High School in 1979 to serve as Principal. He remained at Baldwin

High School until 2001, when he retired. Although Mr. Fujii is now retired, he still remains involved with the schools' athletics program. He enjoys being around students, "they keep me young" he said.

Mr. Fujii's philosophy is simple and true; teachers are there to help the students do well. In the interview he shared a story of a student whose speech touched him. In speaking of Mr. Fujii the student said, when her class first started at Baldwin he was known as "The Terminator" but as time went on he became "Uncle Wally". Mr. Fujii explained, "I treated the kids as relatives." It was his way of reaching the students. They were family.

In speaking of the project site, Mr. Fujii explained that before Baldwin High School occupied the area, the site was undeveloped and filled with kiawe. He does not recall the project site being used for crops, "if anything," he explained, "maybe cattle." He pointed out that the area is full of sand and that it is not good for growing crops, except for maybe corns and beans if watered heavily. He explained that the school had an agricultural program which conducted its classes nearby to the project site. Mr. Fujii also pointed out that the school's rifle team practices near the project site. He explained though, that the team learns safety procedures and that he believed the location of the softball field should be okay.

When asked if he knew of any cultural practices being carried out on or near the property, he said he did not know of any. Mr. Fujii pointed out though, that there may be burials, as Sandhills has always been known for burials.

Mr. Fujii explained he was happy he could be of some help. He believed having the field on campus would be beneficial to the students as they would be able to practice year-round.

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## PROPOSED H.P. BALDWIN HIGH SCHOOL SOFTBALL FIELD AND RELATED IMPROVEMENTS

**Interview with:** Ted Kesaji

**Interviewed by:** Erin Mukai, Associate  
Munekiyo & Hiraga, Inc.

Ted Kesaji was born in Honolulu some 59 years ago. He was adopted 7 months later by his mother, a piano instructor and father, a probation administrator with the courts. Ted is part Native Hawaiian and attended Kamehameha School. He has one sister, who was also adopted and is the same age as Ted. She also attended Kamehameha School.

The interview with Ted Kesaji took place on December 28, 2010 at the office of Munekiyo & Hiraga, Inc. in Wailuku.

Ted Kesaji grew up in Kahului. He attended Kahului Elementary School from Kindergarten through 8<sup>th</sup> grade. He chose to attend Kamehameha School, under the impression that he might escape the strict rules of his probation administrator father. Unfortunately, Ted soon found out that Kamehameha School was a military school, where he would have to wake up at a certain time in the morning, put on his school uniform and march into breakfast. After high school, Ted attended Maui Community College for a couple of years then attended the University of Hawaii for three and a half years. Right after his last exam at the University, Ted flew back home to Maui.

After returning to Maui from the University, Ted became involved with the Young Men's Organization: Jaycee's. Ted explains that the organization, at its earlier stage, was meant for men between the ages of 18 through 36. It was a way of coming together to help the community. Ted recalls the group using the neighboring County fields for the carnival and Miss Maui pageants. Ted goes on to explain that the group has since lost its following and no longer has a strong presence on the island.

For some 30 years, Ted has owned a house on Liholiho Street, near the site of the proposed Baldwin High School softball field. Recently, within the last year, Ted moved to Wailuku, near Wailuku Elementary School.

Recalling his familiarity with the project site, Ted remembers he once took a summer school math class at Baldwin High School after his freshman year. He recollects the campus being a bit smaller than its current size. He remembers that there was a walking path through the project site where students would walk to get to school, leave school (when they were allowed or when they were not allowed) and where they would escape to smoke. The path would lead to the adjacent neighborhood along Liholiho Street, a subdivision that Ted recalls being built in the 1950's or so – around the same time as the Sandhills neighborhood across Kaahumanu Avenue from Baldwin High School. He remembers that the project site was undeveloped and that there were kiawe trees growing about. When asked if he knew if the trail was used for mountain or beach access, he clarified that he believed the trail was only used by students passing through to get to or leave school. Ted does not know of any cultural practices that have been or are being carried out on or near the site as well.

Ted said it is about time the girls get their own practice field. He explains that he was once involved with softball when his daughter played the sport in grade school and he was a softball coach. He then became president of Maui's softball association. He recalls the girls' teams having to fight with the men's teams for playing fields at the time.

He asked that perhaps the school should think about opening up the field for games, but understands that if parking becomes a problem the field should be used for practice only.

Ted also asked that the project team meet with the adjacent neighbors along Liholiho Street. He explained that a few years ago a project to construct a school in a nearby vacant lot was met with neighborhood concern and opposition mostly due to traffic impacts. Ted said he felt that if access through the neighborhood is opened up, the community may have some concerns. He asked that the project team consider meeting with the community at the neighboring Boy Scouts of America office.

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# **APPENDIX F.**

## **Traffic Assessment Letter**





KENNETH K. KUROKAWA, P.E.  
TERRANCE S. ARASHIRO, P.E.  
DONOHUE M. FUJII, P.E.  
STANLEY T. WATANABE  
IVAN K. NAKATSUKA, P.E.  
ADRIENNE W. L. H. WONG, P.E., LEED AP

#10-514

November 9, 2010

Mr. Cheng-Hsin Chang, Project Coordinator  
State of Hawaii  
Department of Education  
Facilities Development Branch  
P.O. Box 2360  
Honolulu, Hawaii 96804

Dear Mr. Chang:

**Subject: Traffic Assessment for the Softball Practice Facilities  
at Henry Perrine Baldwin High School  
TMK: (2) 3-8-007:004  
Wailuku, Maui, Hawaii**

Austin, Tsutsumi & Associates, Inc. (ATA) has conducted a traffic assessment for the proposed development of new softball practice facilities on the existing Henry Perrine Baldwin High School campus located in Wailuku, Maui, Hawaii.

### **Project Description**

Henry Perrine Baldwin High School (HPBHS) is located in Wailuku on the island of Maui. The school campus is further described as TMK: (2) 3-8-007:004. We understand that new practice facilities for softball will be constructed on unused land within the HPBHS campus. These proposed improvements will be referred to as the "Project". The proposed Project will provide an on-campus practice facility as the present softball team currently practices on an off-campus site, Keopuolani Field, approximately one-mile North of the HPBHS campus. According to information provided by HPBHS, there are generally two (2) coaches and approximately 15 to 20 players that attend softball practice.

Construction of the Project will include dugouts, a softball field, a batting cage, a unisex restroom and the net change to on-site parking will the addition of one (1) accessible parking stall. The construction of bleachers, additional parking stalls or additional access driveways are not included as part of this Project.

The most direct access to the Project will be through the existing primary driveway on Kaahumanu Avenue using an existing internal road along the Western side of the campus. The construction of the Project will not facilitate in an increase of the student enrollment and faculty.



Mr. Cheng-Hsin Chang, Project Coordinator  
State of Hawaii  
Department of Education  
Facilities Development Branch

November 9, 2010

### **Study Scope**

The focus of this traffic assessment will be on trip generation potential of the Project to determine whether it meets the minimum trip generation criteria recommended by Institute of Transportation Engineers (ITE). The Manual of Transportation Engineering Studies, dated 2000, published by ITE, states:

*“... in lieu of other locally established thresholds, a traffic access/impact study should be conducted whenever a proposed development will generate 100 or more added (new) peak direction trips to or from the site during the adjacent roadway’s peak hours or the development’s peak hours.”*

### **Existing Roadways**

The primary roads in the immediate vicinity of the Project are Kaahumanu Avenue and Kanaloa Avenue. The section of Kaahumanu Avenue fronting the HPBHS campus is a two-way, divided, four-lane, State arterial road. Kaahumanu Avenue connects Kahului and Wailuku beginning at its intersection with Hana Highway in Kahului and becomes Main Street as it crosses Lower Main Street in Wailuku.

Kanaloa Avenue begins at its intersection with Kaahumanu Avenue directly across Mahalani Street and terminates at its intersection with Kahului Beach Road. Kanaloa Avenue is a two-way, four-lane, undivided County collector road from Kaahumanu Avenue to Mikohu Loop, reducing to a two-lane road to Kahului Beach Road.

The HPBHS campus is located on the North (Makai) side of Kaahumanu Avenue between Kaneloa Avenue and Lunalilo Street. The primary driveway for HPBHS is on Kaahumanu Avenue directly across Maui Lani Parkway forming a four-legged signalized intersection. A secondary driveway that connects to the end of Halia Nakoia Street is on the Eastern boarder of the campus. Halia Nakoia Street provides access to parking areas and various land uses located between HPBHS and Kanaloa Avenue. The HPBHS campus and Project site are shown in Figure 1.

### **Trip Generation**

The Project is a relocation of an existing facility, therefore, additional or new traffic is not anticipated as bleachers and parking (except for a single accessible stall) will not be constructed. The Project will not facilitate an increase in faculty or enrollment, therefore, additional or new traffic generated by the Project is not anticipated as these are generally the primary factors that determine the trips generated by schools.

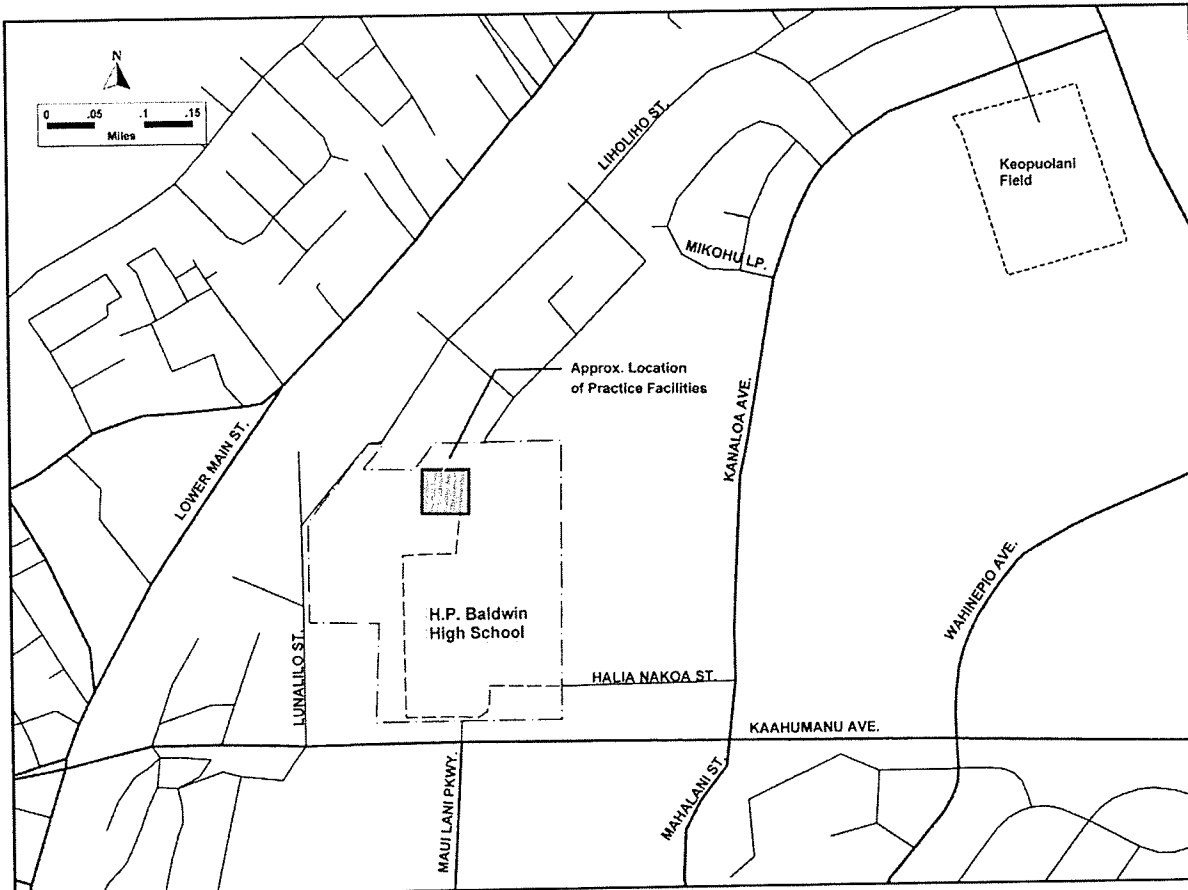


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The current practice facility, Keopuolani Field, is located adjacent to Kanaloa Avenue approximately one-mile north from the campus. The construction of the Project within the HPBHS campus will eliminate off-campus travel to attend softball practice at Keopuolani Field. Other trips associated with the Project will be the diversion of existing trips from Keopuolani Field to the on-campus facility as participants will leave practice from the HPBHS instead of departing from Keopuolani Field. The overall net impact will be the redistribution of existing trips traveling in the vicinity of the Project and Keopuolani Field. The overall magnitude of the diversion will be relatively minor as there are generally two (2) coaches and approximately 15 to 20 players at practices.

**Figure 1**  
**Project Location**





Mr. Cheng-Hsin Chang, Project Coordinator  
State of Hawaii  
Department of Education  
Facilities Development Branch

November 9, 2010

### Conclusions

The preparation of a Traffic Impact Assessment Report **is not required** as the Project **does not meet** the minimum trip generation criteria of 100 new trips in the peak direction which is recommended by ITE regarding the preparation of a Traffic Impact Assessment Report.

- The Project is the relocation of an existing facility, therefore, additional or new traffic is not anticipated as bleachers and the net change to on-site parking will be the addition of one (1) accessible stall.
- The Project will not facilitate in an increase enrollment and faculty which are generally the primary contributing factors to the trips generated by schools.
- The Project eliminates travel from HPBHS to Keopuolani Field to attend practice. The overall net impact will be the redistribution of existing trips as participants will leave practice from the new HPBHS facility instead of departing from Keopuolani Field. The overall magnitude of the diversion will be relatively minor as there are generally two (2) coaches and approximately 15 to 20 players that attend practices.
- The Project will not create or alter access to HPBHS. Project traffic will likely utilize the most direct access which is the existing primary driveway on Kaahumanu Avenue and the existing internal road on the Western side of campus to reach the Project site.

We appreciate the opportunity to prepare this traffic assessment for the Project. Should you require clarification, please call Neal Kasamoto or myself.

Sincerely,

AUSTIN, TSUTSUMI & ASSOCIATES, INC.

By

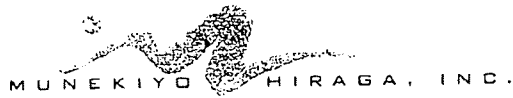
KEITH K. NIIYA, P.E.  
Chief Transportation/Traffic Engineer

KKN:NHK: mt

# **APPENDIX G.**

## **Meeting Memorandum for February 24, 2011 Community Meeting**





MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

## MEETING MEMORANDUM

March 8, 2011

**Date:** February 24, 2011

**Participants:** Gwen Ueoka, Acting Principal, Baldwin High School  
Bruce Anderson, Department of Education (DOE), Maui Complex Area Superintendent  
Joanne Shibuya, DOE, Maui District  
Cheng-Hsin Chang, DOE, Facilities Development Branch  
Susan Kitsu, Director, DOE, Civil Rights Compliance Officer (CRCO)  
Raymond Fujino, DOE, CRCO  
Ricky Shimokawa, DOE, CRCO  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.  
Steve Morton, H.P. Baldwin High School Softball Coach  
Joey Vierra, H.P. Baldwin High School Softball Assistant Coach  
Karlynn Fukuda and Colleen Suyama, Munekiyo & Hiraga, Inc.

**Public Participants:** Richard & Annette Matsushima  
Kevin Fleming  
Robert Hill  
Eric Molina

**From:** Colleen Suyama, Munekiyo & Hiraga, Inc.

**Subject:** H.P. Baldwin High School (BHS) Softball Practice Field and Related Improvements

The purpose of the community meeting was to inform surrounding neighbors and the public of the subject project and solicit comments.

The meeting began approximately at 6:00 p.m. Acting Principal Gwen Ueoka gave a brief introduction.

Karlynn Fukuda presented a PowerPoint presentation overview of the proposed project then opened the meeting to questions and answers from the public.

Kevin Fleming, an adjacent property owner asked several questions concerning the project, as follows:

1. Why Build the Softball Field?

Raymond Fujino responded that in compliance with Title 9, the DOE is providing facilities for girls comparable to facilities provided to boys throughout the State of Hawaii (State). Softball fields are used exclusively by girls and since 2002 the DOE has been upgrading such facilities throughout the schools in the State. Maui High School was the first school to be provided with a softball field on Maui, followed by King Kekaulike and Lahainaluna High Schools.

2. Don't they (girls' softball team) have a practice field?

It was explained that the girls' softball team currently use a County of Maui (County) field through a yearly permit obtained from the County. As such, the BHS team does not have priority use of the field and is in competition with other athletic programs. Also, County sponsored programs take priority over the girls' softball team.

It was further explained by Coach Morton that the team practices at Keopuolani Park Field 3 which is shared with St. Anthony School. The BHS team practices after St. Anthony until around 7:00 p.m.

Acting Principal Ueoka also explained that having an on-campus practice field will provide a safe and secure practice field for the students who will no longer need to travel offsite. Also, the field will be used by their P.E. classes.

3. How much will it cost?

It was explained that the field will cost between \$700,000 to \$1 million to construct.

4. Where is the money coming from?

Susan Kitsu explained the money for the project was earmarked specifically for Title 9 compliance. The project is in the design phase with the next step being construction.

5. Expressed concern of traffic utilizing Leleihoku Street and asked where people using the field would park.

It was explained that Leleihoku Street will only be used a few times a year to maintain the onsite drainage basin and the entrance to the street will be gated.

Parking would be within the school near the practice field. In addition to the ADA parking near the field, the paved area near the wood shop is large enough to accommodate parking as well as picking up the students after practice.



6. Expressed concern that he will be affected by noise from the softball field as well as look at the field every day instead of the kiawe trees. Requested consideration for landscaping such as tall plants to block the noise and view of the field.

In response, the DOE noted that consideration will be given to providing landscaping between the field and the neighboring residences or to potentially leave the approximately 15-20 feet setback area from the property boundary to the beginning of the graded slope undisturbed with the existing vegetation.

7. Asked if the practice field would ever become a game field? K. Fukuda responded that at this point in time, the DOE plans only call for a practice field with no lights or bleachers proposed. It would be hard to say that it would never in the future become a game field.

Robert Hill expressed concern that Leleihoku Street would be used by construction trucks and wondered who would be responsible for repairs to the road. It was explained that all construction vehicles will be coming in from the main entrance to the school on Kaahumanu Avenue. Leleihoku Street would not be used by construction vehicles.

Eric Molina expressed concern from dust during construction and requested that black construction fencing be erected to block the dust. He is currently experiencing dust from the excavation work on the football practice field. Acting Principal Ueoka apologized for the inconvenience he is experiencing. K. Fukuda explained that a 15 ft. high construction fence will be installed around the softball practice field site before construction is initiated. The football field site is a separate project from the softball field.

Coach Morton questioned whether the softball field would be in conformance with regulations. DOE representatives explained that the field will be 200 feet, in compliance with the 180-220 feet standard. However, the field will be used only for practice and not for games. Coach Morton indicated that if the field was used for games his team would not need to travel offsite for games. DOE representatives explained that additional improvements are proposed for the Maui High School Softball field when completed, the Maui High field can be used as the game field for all Maui Interscholastic League Softball games.

It was further explained that the field will have no field lighting. Lighting is limited to one (1) light on the unisex restroom building which will be turned off after practice is over.

Coach Morton requested that the plans use crushed cinder for the infield comparable to the Lahainaluna softball field and turf grass in the outfield.

There being no further business, the meeting was concluded at approximately 6:40 p.m.



Colleen Suyama  
Senior Associate

CS:lh

Cc: Gwen Ueoka, Acting Principal, H.P. Baldwin High School  
Bruce Anderson, DOE, Maui District  
Joanne Shibuya, DOE, Maui District  
Cheng-Hsin Chang, DOE, Facilities Development Branch  
Susan Kitsu, Director, DOE, Civil Rights Compliance Office  
Raymond Fujino, DOE, CRCO  
Ricky Shimokawa, DOE, CRCO  
Garrett Tokuoka, Austin Tsutsumi & Associates, Inc.

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